



BASIC HEALTH RESEARCH

RISKESDAS 2013

INDONESIA AGENCY OF HEALTH RESEARCH AND DEVELOPMENT
MINISTRY OF HEALTH OF REPUBLIC OF INDONESIA
YEAR 2013

FOREWORDS

Assalamu'alaikum wr. wb.

First let's pray to the One and Only God that thanks to His mercy we can complete this Basic Health Research (Riskesdas) 2013 Report. The report depicts the health status development of Indonesian people based on indicators that have been approved to pursue under *Millenium Development Goals* (MDG) both as national and regional priorities as pronounced in the Long Term National and Regional Health Development Plans.

Riskesdas 2013 data have been compiled from May to June 2013 encompassing 33 provinces and 497 regencies/municipalities. National Institute of Health Research and Development (Balitbangkes) has deployed around 10,000 enumerators to such regencies/municipalities. They have been also supported with Balitbangkes' researchers, lectures of Poltekkes (Health Polytechniques), government officials of Province and District/Municipality administration and universities. As to public health, the basic health data are collected from 300,000 sample households. Meanwhile, for biomedical data, urine and blood specimens of 25,000 sample households have been gathered and examined.

Data management process starting from data collection to data entry into computers has been conducted locally, i.e. in the regions concerned with data cleaning carried out in Balitbangkes. This data collection and management is indeed a time, energy and mind consuming process with vibrant dynamics in scientific world.

The Report presents the highlights of Riskesdas and some indicators showing changes of 2007 research results from the 2010's. Riskesdas 2013 Report consists of three books, to wit: 1) Book 1: Riskesdas 2013 Highlights; 2) Book 2: Riskesdas 2013 in Figures; and 3) Book 3: Riskesdas 2013 Biomedics. These three books form a unified document. To acquire comprehensive description of Riskesdas 2013, you can simply read the Book 1. For further information, please see Book 2. As for Biomedical data, just read Book 3. They can be downloaded from Balitbangkes' Website at www.litbang.depkes.go.id

In this great opportunity we would like to extend our high appreciation and sincere gratitude to all researchers, public servant technicians, our counterparts of BPS (Central Bureau of Statistics), university's experts, lecturers of Poltekkes (Health Polytechniques), Operational Person-in-Charge of Province and Regency/Municipality Health Agencies, enumerators and respondents and other parties engaged in Riskesdas. Our deepest sympathy and solemn prayer are for those who suffered accident during their service to this Riskesdas.

Specifically, our gratitude goes to the Minister of Health for her trust to all of us to express our dedication, as a component of nation, to accomplish this work.

Despite our maximum efforts, we do realize of our shortcomings, weaknesses and errors. In light of that, we always invite constructive criticisms, inputs and recommendations for further improvements of the subsequent Riskesdas.

Billahi taufiq wal hidayah, Wassalamu'alaikum Wr. Wb.

Jakarta, 1 December 2013

Head of National Institute of Health Research and Development

Ministry of Health of Republic of Indonesian

Dr. dr. Trihono, MSc



MINISTRY OF HEALTH
OF REPUBLIC OF INDONESIA

MESSAGE
MINISTER OF HEALTH OF REPUBLIC OF INDONESIA

For the last five years, Health Development initiatives have been constantly corroborated with data and information collected from Basic Health Research or Riskesdas. Thus far, three Riskesdas have been carried out in 2007, 2010 and 2013 respectively.

Riskesdas 2013 is a community-based research. It embraces all provinces throughout Indonesia. The compiled data will be rewarding not only for the managers of health development programs but also to the officials who are responsible for the implementation of health development in the field. It is expected that with such Riskesdas data and information, any and all policies and interventions in health sectors be formulated in more guided, effective and efficient manner.

Hence, I encourage all managers and other officials engaged in health development programs to maximize data and information that have been collected from Basic Health Research (Riskesdas) when working out health policies and developing health programs so as to elevate the health status of all people. I also invite all experts from universities and other parties interested in health sector, the researchers of Balitbangkes and members of APKESI (Indonesian Health Research Association) to review the results of Riskesdas 2013. Your inputs are anxiously awaited for health development and National Health system improvements, from which better health management can be developed for the sake of all Indonesian people.

I would also like to express my deep appreciation and congratulation to Balitbangkes researchers, enumerators, technical staff of Balitbangkes, operational officials of Province and Regency/Municipality Health Agencies, experts of universities and BPS and other parties for their participation in this Riskesdas 2013. Your roles and supports are significant in enhancing Health Planning, Implementation and Development of the country.

For Balitbangkes Researchers, I hope all of you to improve your performance and achievements and tirelessly look for research breakthroughs either in community health scope, clinical medicine or biomolecular for further translation into policies (translating research into policy). Last but not least, we must at all time uphold the applicable values, work with high integrity and in solid team, be transparent and accountable in performing our duties and potentials.

Let's make this book meritorious

Good luck.

Jakarta, 1 Desember 2013

MENTERI KESEHATAN RI

dr.Nafsiah Mboi, Sp.A, MPH

SUMMARY

A. Executive Summary

Basic Health Research (Riskesdas) 2013 is a periodic community-based research that has been initiated since 2007. It aims to collect basic data and health indicators depicting the health conditions at nationwide, province and district/municipality levels. The produced indicators include, *inter alia*, health status and health contributing factors based on Henrik Blum's Model. Questions adopted as basis in developing this Riskesdas 2013 include: 1) how is to achieve public health rate at national, province and regency/Municipality scales?; 2) What factors contribute in generating specific health changed in province and regency/municipality?; 3) What factors and how do they contribute in enhancing public health status at national, province and regency/municipality level?; 4) What factors that have contributed in the changes of health issues?; and 5) How health status factors correlate? This report can provide answers for the Questions 1 and 2. For further elaboration, they can be seen in Book 2: "Riskesdas 2013 in Figures". For Questions 3, 4 and 5, they will be reported in 2014 in the form of advanced analysis.

To reply these five Questions, some objectives have been worked out, aiming to provide basic data and health status indications as well as health contributing factors at household and individual level with scopes of: 1) health access and service; 2) pharmacy and traditional health service; 3) environmental health; 4) Settlement and Economy; 5) Contageous Disease; 6) Non Contageous Disease; 7) Injuries; 8) Dental and Oral Care; 9) Dissability; 10) Mental Health; 11) Knowledge, Attitude and Behavior; 12) Health Financing; 13) Health Reproduction; 14) Health for Children; 15) Antropometric Measurement (weight, height/length of body, upper arm circumference, abdominal circumference) and blood pressure; 16) sensory examination of eyes and ears; 17) permanent teeth status check; 18) blood specimen check and iodine concentration in urine, domestic salt and water.

Riskesdas 2013 is designed as descriptive cross-sectional survey. The population of this research covers households in 33 provinces, 497 regencies/municipalies. The sample households and household members have been designed separately from list of sample households and household members for Susenas 2013. Several sampling errors have been adopted including standard error, relative standard error, confidence interval, design effect and weighted samples in every variable estimate.

Riskesdas 2013 managed to visit 11,986 census blocks (BS) of target 12,000 BS (99.9%), 294,959 of 300,000 households (RT) (98.3%) and 1,027,763 household members (93.0%). In addition, Riskesdas 2013 collected 49,931 blood specimens from household members of ≥ 1 year old for hemoglobin test, malaria test, glucose test and clinical chemical test of some parameters. To identify iodine status, a rapid iodine test has been made to all sample domestic salt (294,959); iodine content of salt taken from national sub-samples (11,430 households); water content test to iodine water (3,028 households) and urine iodine test to 5,154 schooled-age children (6-12 years old) and 13,811 women of childberaring age (15-49 years old).

Riskesdas 2013 faces, though, some shortcomings inclusive of: 1) Non Sampling Error: unaccessible census blocks in conflict-torn regions, failure to meet the target households, failure to interview household members until the end of data collection period, 2) inapplicability of some estimated indicators because of too limited samples for analysis.

Nonetheless, the entire results of this basic health research will be undoubtedly meritorious as inputs in planning the subsequent health programs. A slew of 1060 variables have been grouped into two types of questionnaires (RKD13.RT and RKD13.IND). The results of Riskesdas 2013 can be therefore used to observe the trends of some indicators, which are similar to Riskesdas 2007, to further develop researches and analysis, to trace down causal-effect relation and to set statistical modeling.

The research produces some health-related problem mappings and the associated trends from the newborn babies to adult people. Malnutrition prevalence to children under five years of age (Balita) (W/A<-2SD) depicts fluctuative illustration, i.e. from 18.4 percent (2007) to 17.9 percent (2010) and 19.6 percent (2013). Some provinces of Bangka Belitung, East Kalimantan, Central Kalimantan, Central Sulawesi record downward trends in this respect. Meanwhile, other two provinces chalk up exceeding prevalence (>30%), i.e. NTT and West Papua respectively. Two provinces with prevalence <15 percent are Bali and DKI Jakarta. Stunted growth of babies aged less than five years old (stunting) remains serious. At nationwide it reaches 37.2 percent varying from the lowest in Riau Island province, DI Yogyakarta, DKI Jakarta and East Kalimantan (<30%) to the highest (>50%) in NTT. The relatively unchanged nutrition status is more down to the increasing proportion of children < five years of age (Balita) not undergoing weighting for the last six months, i.e. from 25.5 percent (2007) to 34.3 percent (2013). Malnutrition is more identified in < five years-aged babies (Balita), recording 11.9 percent. According to IMT ≥ 25 indicator, it is evident that obesity prevalence to male children records 19.7 percent compared to female children of 32.9 percent.

Reviewed from the weights, the percentage of newborn babies with low weight gain (BBLR) is down from 11.1 percent in 2010 to 10.2 percent in 2013. Variation among the provinces is very significant, i.e. from the lowest in North Sumatra (7.2%) to the highest in Central Sulawesi (16.9%). For the first time, this research 2013 collected data of newborn baby length with nationwide figure recording newborn babies with length <48 cm of 20.2 percent, which vary from the highest in NTT (28.7%) and the lowest in Bali (9.6%).

The coverage of full immunization shows upward trend, from 41.6 percent (2007) to 59.2 percent (2013). However, it means that partial immunization remains high at 32.1 percent with no immunization 8.7 percent. The latter is down to some reasons including afraid of post-immunization fever, no permission of the family, too far immunization points, and business. Child Health Service Program also indicates promising trend. The full neonatal visit (KN) rate is to increase from 31.8 percent (2007) to 39.3 percent (2013). Accordingly, the administration of Vitamin A capsules for children under five years of age (Balita) raises from 71.5 percent in 2007 to 75.5 percent in 2013. Exclusive breastfeeding for the last 24 hours for 6-month babies is to surge up from 15.3 percent (2010) to 30.2 percent (2013). Likewise, early breastfeeding initiation <1 hour increases from 29.3 percent (2010) to 34.5 percent (2013).

Maternal health service of Family Planning (KB) participation at present (both with modern or traditional approaches) records an increase from 55.8 percent (2010) to 59.7 percent (2013) at nationwide with the lowest participation found in Papua (19.8%) and the highest participation in Lampung (70.5%). Of 59.7% KB participants, 51.9 percent use modern method, i.e. hormonal with the other 7.5 percent adopt non-hormonal way. Long-Term Contraception Method (MKJP) reaches 10.2 percent with the other 49.1 percent preferring to non-MKJP method. Apart from Family Planning (KB) participation, health care data covering pregnancy, childbirth and postnatal care are also collected.

Communicable Disease mapping indicates a decrease in diarrhea period prevalence, i.e. from 9.0 percent in 2007 to 3.5 percent in 2013. It is worthwhile noting here that this lower prevalence is under assumptions that in 2007 the relevant data were not compiled simultaneously meanwhile in 2013 the same data were gathered simultaneously in May-June. Upward trend is also observed for pneumonia period prevalence in all age groups, i.e. from 2.1 percent (2007) to 2.7 percent (2013). Pulmonary TB prevalence relatively remains unchanged for 2007 and 2013 (0.4%).

As to hepatitis, its prevalence is to rise in all age groups from 0.6 percent in 2007 to 1.2 percent in 2013.

Hypertension prevalence based on blood pressure measurement indicates a decrease from 31.7 percent in 2007 to 25.8 percent in 2013. Assumptions underlying this decrease are varying, which include the use of different blood pressure gauges and more people visiting health facilities for health treatment. However, according to the interview results (asking whether the respondents visit healthcare facilities for diagnosis or take hypertension drugs) this hypertension prevalence shows an increase from 7.6 percent in 2007 to 9.5 percent in 2013. The identical results are found for stroke prevalence based on interviews to the respondents who were asked whether they had been diagnosed in healthcare facilities of bearing stroke symptom. The stroke prevalence rises from 8.3 per-1000 (2007) to 12.1 per-1000 (2013). Likewise, diabetes mellitus prevalence, which according to the interviews, is also to go up from 1.1 percent (2007) to 2.4 percent (2013).

Blindness prevalence of population aged ≥ 6 years is to drop from 0.9 percent (2007) to 0.4 percent (2013). Meanwhile, cataract prevalence for all age groups in 2013 reaches 1.8 percent, corneal turbidity prevalence 5.5 percent and pterygium prevalence 8.3 percent. With regard to hearing disorder, its prevalence records 2.6 percent of population aged ≥ 5 years with the lowest prevalence found in DKI Jakarta province and the highest rate in NTT (3.7%).

Emotional disorder prevalence is also to decline from 11.6 percent (2007) to 6.0 percent (2013). Accordingly, disability also records lower prevalence in 2013 compared to 2007 for 11 items of disability. The national disability prevalence in 2013 is 11 percent with the lowest in West Papua (4.6%) and the highest in South Sulawesi (23.8%). As to injuries, the prevalence is to increase from 7.5 percent (2007) to 8.2 percent (2013) with relatively wide disparities of provinces, i.e. the lowest found in Jambi, South Sumatra, and Lampung ($\geq 4.5\%$) to the highest in NTT, DI Yogyakarta and South Sulawesi ($>12\%$).

Smoking behaviors of population aged 15 years and above record no decrease from 2007 to 2013. Instead, it indicates upward trend, i.e. from 34.2 percent in 2007 to 36.3 percent in 2013. It is identified that 64.9 percent of male population and 2.1 percent of female population smoke cigarettes in 2013. Of them, 1.4 percent are smokers of 10-14 years old and the other 9.9 percent are from unemployed population and 32.3 percent of the lowest wealth quintile index. On average they smoke 12.3 pieces of cigarettes, which vary from the lowest of 10 pieces in DI Yogyakarta and the highest in Bangka Belitung (18.3 pieces). The proportion of households introducing hygienic and healthy living behaviors records a decrease from 38.7 percent in 2007 to 32.9 percent in 2013.

For sanitation, it indicates upward trend, i.e. more households accessing improved drinking water sources, i.e. from 62.0 percent in 2007 to 66.8 percent in 2013 with relatively great disparity of provinces from the lowest in Riau Island (24.0%) and the highest in Bali and DI Yogyakarta ($>80\%$). Meanwhile, number of households with access to "improved" sanitation facilities is also to rise, i.e. from 40.3 percent (2007) to 59.8 percent (2013) despite 30.3 percent in some provinces (NTT and Papua).

Urinary iodine excretion depicts iodine consumption. The results of urinary iodine excretion examinations to school-aged children, women of childbearing age (WUS), pregnant women and lactating women show that around 15 – 25 percent of them are vulnerable to iodine deficiency risk. However, on the other side, 40 percent of these four population groups are detected of experiencing excessive iodine consumption.

Riskesdas is an important instrument capable of providing the most up-to-date information of public health and nutrition status and therefore this kind of research should be performed in consistent manner and on periodic basis. Monitoring and evaluation in all health program lines should be further intensified starting from local level so that every region can focus its health program priorities, for which capacity building to deal with the encountered problems will be paramount.

RESULT SUMMARY

Healthcare Service Access

Healthcare service access detailed in this Riskesdas 2013 relates to the knowledge of households about the nearest healthcare facilities to their residence. In this case, healthcare services asked to the respondents concern with eight items: (1) government hospitals; (2) private hospitals; (3) healthcare unit or secondary healthcare unit (*Puskesmas/Pustu*); (4) doctor practices or clinics; (5) midwife practices or maternity hospitals; (6) Integrated Health Posts (*Posyandu*); (7) Rural Health Posts (*Poskesdes*) or Health Posts in Islamic Boarding Schools (*Poskestren*); and (8) Rural Clinics (*Polindes*). The accessibility of people to these healthcare facilities is also identified by transport modes, journey time and costs.

At national level, the proportion of households knowing the operation of government hospitals records 69.6 percent. Meanwhile, the other 53.9 percent admit knowing private hospitals. The highest proportion of households knowing government hospital is found in Bali (88.6%) with the lowest in NTT (39.6%). As to private hospitals, 82.4% households in DI Yogyakarta are familiar with these hospitals run by private parties with the least households knowing private hospital are detected in West Sulawesi (15.1%). Households knowing the practices of midwives or the operation of maternal hospitals reach 66.3 percent at nationwide with the highest proportion in Bali (85.2%) and the lowest in Papua (9.9%). As to households familiar to the operation of Posyandu (Integrated Health Posts), they record 65.2 percent with the highest in West Java (78.2%) and the lowest in Bengkulu (26.0%).

Households using motorcycles to reach government hospitals in urban areas are to record 52.6 percent and 46.5 percent in rural areas. For those who must take public transport modes, in urban areas, they reach 28.0 percent compared to 35.5 percent in rural areas. Households admitting that they take more than one transport mode to access government hospitals are 8.5 percent in urban areas and 11.4 percent in rural areas.

For government hospital facilities, 18.5 percent households say that they need more than 60 minutes to reach these government-operated hospitals. Meanwhile, 12.4 percent households tell that the same time is necessary to access private hospitals. However, time necessary to reach other healthcare facilities of *Puskesmas* (Healthcare Unit) or *Pustu* (Secondary Healthcare Unit), *Poskesdes* (Rural Healthcare Posts) or *Poskestren* (Healthcare Posts in Islamic Boarding School), *Polindes* (Rural Polyclinics) or *Posyandu* (Integrated Health Posts) is just 15 minutes or less.

Transportation expense to reach healthcare facilities is maximum Rp10,000 to Government Hospitals (63.6%), Private Hospital (71.6%), Puskesmas or Pustu (91.3%), Doctor practices or Clinics (90.5%) and Midwife practices or Maternal Hospitals (95.2%). This is also true for transportation fees to Poskesdes or Poskestren (97.4%), Polindes (97.8%) and Posyandu (97.8%).

Pharmacy and Traditional Health Service

Discussion of pharmacy and traditional health service aims to identify the proportion of households keeping drugs for self-help medication, proportion of households who correctly understand of generic drugs and information sources of generic drugs and types and reasons of taking traditional health service for the last one year.

The results, 103,860 or 35.2 percent of 294,959 households throughout Indonesia keep drugs for self-help medication purposes with the highest proportion in DKI Jakarta (56.4%) and the lowest in NTT (17.2%). On the average they keep 3 kinds of drugs at home. Of 35.2 percent households keeping drugs, 35.7 percent store prescription drugs and the other 27.8 percent admit of keeping antibiotics. Keeping prescription drugs and antibiotics for self-help medication indicates irrational drug administration. 81.9 percent households say that they get these prescription drugs without prescriptions. Accordingly, 81.6 percent households also access antibiotics without prescriptions. If the drugs are classified into "for ongoing medication", "for preparation in case of illness" and "residual drugs", then 32.1 percent households say that their drugs are for "ongoing medication". The other 47.0 percent households inform that the drugs consist of residual drugs and 42.2 percent households claim

that their drugs are for preparation in case of illness. The residual drugs consist of untaken drugs from doctor's prescription. Nonetheless, these residual prescription drugs should not be stored since this practice may lead to drug misuse or damaged/expired drug administration.

At nationwide, 31.9 percent households admit that they hear or know of Generic Drugs. Eighty two percent (82%) households surmise Generic Drugs as affordable drugs with the other 71.9 percent considering Generic Drugs as drugs provided by the Government and 42.9 percent say that Generic Drugs have equal efficacy to brand drugs. Meanwhile, 21.0 percent regard Generic Drugs as drugs without trademark. Information sources of Generic Drugs for both urban and rural respondents were from healthcare professionals (63.1%). In light of that, promotion of Generic Drugs must be intensified in strategic manner especially under the current National Health Insurance program.

Traditional health service consists of 4 types, namely, with medicinal herb, tradisional health skills with tools, without tools and mind power skills. Of 294,962 household respondents, 89,753 (30.4%) households in Indonesia admitted of using traditional health service for the last 1 year with the highest proportion in South Kalimantan (63.1%) and the lowest in West Papua (5.9%). Most households preferred to use traditional health service without tool (77.8%) with the other 49.0% households more like to medicinal herbs. The main reason of using traditional health service is to maintain health/fitness. It indicates relatively rational preference to traditional health service. Some households admit that their preference to traditional health service with mind power is because of tradition/belief.

Environmental Health

Drinking Water

The proportion of Households with access to improved water sources in Indonesia records 66.8 percent (Urban: 64.3%; Rural: 69.4%). Five provinces with the highest proportion of households accessing improved water sources are: Bali (82.0%), DI Yogyakarta (81.7%), East Java (77.9%), Central Java (77.8%) and North Maluku (75.3%); for five provinces with the lowest proportion, they include Riau Island (24.0%), East Kalimantan (35.2%), Bangka Belitung (44.3%), Riau (45.5%) and Papua (45.7%).

By sex, household members that usually taking water in Indonesia are adult males and females (59.5% and 38.4% respectively). Yet, occasionally male and female children under 12 years old are tasked to collect domestic drinking water. Their proportions are 1.0% and 1.1% respectively.

In terms of physical quality, some households remain to consume low quality drinking water, i.e. turbid water (3.3%), color water (1.6%), tasteful water (2.6%), foamed water (0.5%) and odor water (1.4%). By province, Papua is the province with the highest proportion of households consuming turbid water (15.7%) and color water (6.6%). In South Kalimantan, 9.1% households consume tasteful water and in Aceh, they have to drink of foamed or odor water (1.2% and 3.8% respectively).

The proportion of households boiling the water before consumed in Indonesia reaches 70.1 percent. Of this 70.1 percent, 96.5 percent process the water by boiling. Other methods include drying up under sun shines or solar disinfection (2.3%), adding alum (0.2%), filtered or adding alum (0.2%) and just filtered (0.8%).

Sewage Disposal

The proportion of households in Indonesia having private toilet reaches 76.2 percent, collective toilet 6.7 percent and public facility 4.2 percent. Households without toilet or excretion in open space record 12.9 percent. Five provinces with the highest proportion of households without toilet or excretion in open space are West Sulawesi (34.4%), NTB (29.3%), Central Sulawesi (28.2%), Papua (27.9%) and Gorontalo (24.1%).

Proportion of households with access to improved sanitation facilities (JMP WHO-Unicef criteria) in Indonesia records 58.9 percent. Five provinces with the highest proportion of households with access to improved sanitation facilities are DKI Jakarta (78.2%), Riau Island (74.8%), East Kalimantan (74.1%), Bangka Belitung (73.9%) and Bali (75.5%).

To collect domestic wastewater, normally this liquid waste is directly drained to sewers (46.7%). It is found, however, that 15.5 percent households operate closed tanks buried in the yards complete with SPAL (sewerage system) with the other 13.2 percent collecting this waste in open space in the yard and 7.4 percent disposing it outside their yards. As to solid waste management, the majority of households burn their garbage (50.1%), or collected by cleaning operators (24.9%). The other methods include of burying the waste beneath the soils, processed into compost or disposed to rivers/drains/seas or in open space. Five provinces with the highest proportion of households adopting burning method in managing their solid waste are Gorontalo (79.5%), Aceh (70.6%), Lampung (69.9%), Riau (66.4%) and West Kalimantan (64.3%).

Housing

Based on property ownership status, the majority of households in Indonesia live in their private houses (81.4%). The remaining proportions either stay in contract houses, in the same houses of families/parents/siblings or official houses. As to occupation density, 13.4 percent houses reach 8 m² per person density (dense). With regard to the inner conditions of houses, the majority of houses have segmented rooms. In terms of hygiene, around three fourth of households have bedrooms, living rooms and kitchens in clean conditions with sufficient illumination. Houses with adequate ventilation just reach less than 50 percent. These houses have windows and opened every day.

As to fuel consumption for domestic purposes, 64.1 percent households use same fuels (electricity, gas/LPG). Higher proportion (90.0%) is found in urban areas than in rural areas (51.7%). To prevent mosquito bites most households use mosquito coils (48.4%) followed with screens (25.9%), repellent (16.9%), insecticide (12.2%) and mosquito nets (8.0%). Around 20 percent of households in Indonesia keep/use pesticide/insecticide/chemical fertilizer in their houses.

Communicable Disease

Communicable Disease data collected in this Riskesdas 2013 are based on transmission media, i.e. 1) air (acute respiratory infections/ISPA, pneumonia, and Pulmonary TB); (2) foods, water or otherwise (hepatitis, diarrhea); (3) vector (malaria). The information is compiled from interviews using questionnaires with clinically structured questions.

Transmitted by Air

The period prevalence of Acute Respiratory Infections (ISPA) based on diagnosis by healthcare professionals and complaints addressed by the communities reaches 25.0 percent. Five provinces with the highest ISPA prevalence are NTT, NTB and East Java respectively. In Riskesdas 2007, NTT was also recorded as a province with the highest ISPA prevalence.

Pneumonia incidents and prevalence in Indonesia in 2013 record respectively 1.8 percent and 4.5 percent. Five provinces with the highest pneumonia incidents and prevalence include NTT, Papua, Central Sulawesi, West Sulawesi and South Sulawesi.

The prevalence of Indonesian people diagnosed TB by healthcare professionals in 2007 and 2013 remains unchanged (0.4%). Five provinces with the highest TB prevalence are West Java, Papua, DKI Jakarta, Gorontalo, Banten, and West Papua. Of population diagnosed TB by healthcare professionals, 44.4 percent are cared with OTC drugs.

Transmitted by Foods, Water or Otherwise

Hepatitis prevalence in 2013 (1.2%) is doubled to compare with its prevalence in 2007. Five provinces with the highest hepatitis prevalence include NTT, Papua, South Sulawesi, Central Sulawesi and Maluku. Riskesdas 2007 recorded NTT as one of provinces with highest hepatitis prevalence.

Diarrhea incidents and period prevalence for all age groups in Indonesia reach 3.5 percent and 7.0

percent respectively. Five provinces with the highest diarrhea incidents and period prevalence are Papua, South Sulawesi, Aceh, West Sulawesi, and Central Sulawesi. Diarrhea incidents at children under five years in Indonesia are at 10.2 percent. Five provinces with the highest diarrhea incidents are Aceh, Papua, DKI Jakarta, South Sulawesi and Banten.

Transmitted by Vectors

Malaria incidents in Indonesia for 2007 recorded 2.9 percent and 1.9 percent in 2013. Malaria prevalence in 2013 is 6.0 percent. Five provinces with the highest malaria incidents and prevalence are Papua, NTT, West Papua, Central Sulawesi dan Maluku.

Non Communicable Disease

Non Communicable Disease refers to chronic disease that are not transmitted from human-to-human. Data of non Communicable Disease in Riskesdas 2013 include: (1) asthma; (2) chronic obstructed lungs; (3) cancer; (4) DM; (5) hypertiroid; (6) hypertension; (7) coronary heart; (8) heart failure; (9) stroke; (10) chronic renal failure; (11) kidney stones; and (12) joint/rheumatic pains. Data of asthma/cough/wheezing and cancer are collected from respondents at all age groups. As for Chronic Obstructed Lungs, the data are from respondents of ≥ 30 years old. Data of DM, hypertiroid, hypertension/high blood pressure, coronary heart disease, heart failure, renal disease, joint/rheumatic pains and strokes are taken from respondents of ≥ 15 years old.

Disease prevalence data are acquired from interviews of various diseases used to be diagnosed by doctors/healthcare professionals or cases with non Communicable Disease symptoms (based on diagnosis or symptoms). The prevalence of cancer, chronic renal failure and kidney stones is determined based on diagnosis made by doctors only. For hypertension prevalent, in addition to interviews, blood pressure measurement results are also referred to.

Prevalence rates of asthma, chronic obstructed lungs and cancer determined from the results of interviews throughout Indonesia record respectively 4.5 per mile, 3.7 per mile and 1.4 per mile. Higher prevalence of Chronic Obstructed Lungs is more found in male population.

The prevalence rates of DM and hypertiroid in Indonesia based on diagnosis made by doctors record 1.5 percent and 0.4 percent respectively. DM prevalence based on diagnosis or symptom reaches 2.1 percent. Hypertension prevalence of population aged ≥ 18 years in Indonesia based on diagnosis made by healthcare professionals is that of 9.4 percent. Meanwhile, its prevalence according to diagnosis of healthcare professionals or private hypertension drug administration records 9.5 percent. Thus, there is 0.1 percent population who consumes hypertension drugs privately without diagnosis in healthcare facilities. Hypertension prevalence in Indonesia based on measurement results to population aged ≥ 18 years is 25.8 percent. In light of that, the service coverage of healthcare facilities is to reach 36.8 percent only. The majority of hypertension cases (63.2%) is not diagnosed. Prevalence rates of DM, hypertiroid and hypertension in female population are relatively higher than those in male population.

The prevalence of coronary heart disease based on diagnosis by doctors across Indonesia is identified to record 0.5 percent and 1.5 percent based on doctor's diagnosis or symptom. Heart failure prevalence by doctor diagnosis at nationwide is to reach 0.13 percent and 0.3 percent based on doctor diagnosis or symptom. Stroke prevalence in Indonesia according to diagnosis made by healthcare professionals is to record 0.3 percent. Meanwhile, stroke prevalence in Indonesia based on diagnosis by healthcare professionals is 7.0 per mile or 12.1 per mile according to diagnosis of healthcare professionals and symptom. Thus, 57.9 percent of stroke disease has been diagnosed in healthcare facilities. The prevalence rates of coronary heart disease, heart failure and stroke show upward trends in line with the increasing ages of respondents. Stroke prevalence of male and female population is relatively tantamount.

Chronic renal failure prevalence according to diagnosis by doctors throughout Indonesia is 0.2 percent with 0.6 percent for kidney stones. As to joint/rheumatic pains, its prevalence based on diagnosis by healthcare facilities across Indonesia reaches 11.9 percent or 24.7 percent according to diagnosis or symptom.

Injuries

The nationwide injury prevalence reaches 8.2 percent with the highest prevalence in South Sulawesi (12.8%) and the lowest in Jambi (4.5%). Compared to Riskesdas 2007, the current Riskesdas 2013 indicates upward injury prevalence from 7.5 percent to 8.2 percent.

The contributing factors are mainly falls (40.9%) and motorcycle accidents (40.6%). The highest proportion is recorded in NTT (55.5%) and the lowest in Bengkulu (26.6%). Compared to Riskesdas 2007, this Riskesdas 2013 shows downward trend for “falls” factor from 58 percent to 40.9 percent. By respondent characteristics, “falls” factor causing injuries is particularly experienced by population aged < 1 year, females, pre-schools, not employed, in rural areas and at the lowest quintile.

The highest injuries due to motorcycle accidents are found in Bengkulu (56.4%) and the lowest in Papua (19.4%). This accident is commonly suffered by population aged 15-24 years, males, senior high school graduates, employed and at the highest quintile. Compared to Riskesdas 2003, the present Riskesdas 2013 reflects increase of land transportation accidents (motorcycles and other vehicles) from 25.9 percent to 47.7 percent.

The three highest injuries suffered by the victims are generally scratched/bruised (70.9%), dislocate (27.5%) and cuts (23.2%). The accidents frequently took place at highways (42.8%), houses (36.5%), farming areas (6.9%) and schools (5.4%) respectively.

Dental and Oral Care

To identify the issue of dental and oral healthcare it is necessary to carry out a nationwide measurement. Through Riskesdas 2013, data of various indicators relating to dental and oral healthcare have been collected from the respondents through interviews and observation using handheld instruments (mouth mirrors) and sun shines or flashlight. Interviews were made to all respondents with various age groups with total samples hitting 1,027,763 persons. The data to be collected included respondents experiencing dental and oral problems, clinical measures received from dental and oral medical operators and effective medical demand (EMD). Meanwhile, dental and oral health maintenance behaviors are surveyed from (age ≥ 10 years) 835,256 samples of respondents and dental examination as well as dental and oral condition examination (age ≥ 12 years) with total samples of 789,771 respondents.

At national scale, dental and oral disorder prevalence records 25.9 percent. Fourteen (14) provinces experience dental and oral prevalence higher than the nationwide average. In general, capacity to access medical services from dentists reaches 8.1 percent (EMD). It is identified that EMS of population aged 12 years records 7.0, EMD in urban areas 8.6 which exceeds EMD in rural areas at 7.5. This EMD tends to increase in higher economic status (the highest EMD 9.0). National prevalence of teeth brushing practice is found at 94.2 percent. However, 15 provinces remain below this national prevalence.

With regard to correct teeth brushing practices by sexes, economy and regions, it is detected that the majority of Indonesian people brush their teeth when taking bath in the morning and evening. Teeth brushing practices after breakfast and dinner are only conducted by 2.3 percent of Indonesian population.

DMF-T Index illustrates the severity of dental decay. DMF-T index is the sum of D-T, M-T and F-T indices. DMF-T index will be higher in line with age increase. National prevalence for DMF-T is 4.5. A slew of 15 provinces record prevalence higher than national rate. Higher DMF-T index is found in women (5.0) than men (4.1). However, for wealth quintile index, the higher quintile, the lower DMF-T index will be. It is evident from the lowest wealth quintile index of 5.1%. Meanwhile, the highest quintile, the DMF-T index reaches 3.9%.

Disabilities

Discussion on disabilities is aimed at building whole comprehension about the life of people suffering disabilities because of diseases or injuries. Every person has his/her unique role, such as working and performing other routine activities as necessary. Disability questionnaires developed by WHO are to collect information of how someone can play his/her domestic roles at home, work place, schools or other social areas. What they can't do or what difficulties they encounter in performing their routine activities (WHO, 2010). Information of disability-related issues can be used in setting priorities and evaluate the effectiveness and efficiency of health program performance.

Riskesdas 2013 shows that 83 percent of Indonesian people are disability free. Other interpretation indicates that Indonesian people tend to disregard minor obstacles hampering their routine activities as serious hardships. Disability status is proportional to the age. However, it is inversely proportional to wealth quintile index. Fishermen and non-employed people are groups of people with the highest disability. South Sulawesi is the province with the highest disability prevalence with DI Yogyakarta as the lowest province in this respect.

Sanity

Serious mental disorder prevalence of Indonesian people records 1.7 per mile. This mental disorder is mostly found in DI Yogyakarta, Aceh, South Sulawesi, Bali and Central Java. Proportion of households chained their insane members reaches 14.3 percent. Most of them live in rural areas (18.2%) and fall in population category at the lowest wealth quintile index (19.5%). Emotional disorder prevalence to Indonesian people is 6.0 percent. Provinces with the highest emotional disorder prevalence include Central Sulawesi, South Sulawesi, West Java, DI Yogyakarta and NTT.

Knowledge, Attitude and Behavior

Data on the Knowledge, attitude and behaviors of people are collected from age group of 10 years and above with total respondents 835,258 persons.

According to trend analysis, on nationwide average, the proportion of population practicing hand washing in correct way in 2013 reaches 47.0% to compare 23.2% in 2007. Accordingly, more people practice proper excretion i.e. from 71.1 percent to 82.6 percent. The highest proportion of population practicing hand washing is detected in Bangka Belitung, i.e. to increase by 35.0% (from 20.6% in 2007 to 55.6% in 2013). As to hygienic excretion practices, the highest proportion is found in West Sumatra at 14.8 percent.

On average, smokers of ≥ 10 years old in Indonesia consume 12.3 pieces (equal to one pack of cigarettes). Bangka Belitung is the province with the highest average of smoked cigarettes (18 pieces). The highest proportion of active smokers is at 30-34 years old population group. Male smokers outnumber female smokers (47.5% to 1.1 % respectively). By types of livelihoods, farmers/fishermen/workers are active smokers with the largest proportion (44.5%). The proportion of smokers seems to decline at higher wealth quintile index.

The proportion of Indonesian people at age ≥ 15 years who smoke or chew tobacco tends to rise, i.e. 34.2% in Riskesdas 2007, 34.7% in Riskesdas 2010 and 36.3% in Riskesdas 2013. The highest proportion in 2013 is in NTT (55.6%). According to Global Adults Tobacco Survey (GATS) to population group ≥ 15 years, the proportion of male smokers records 67.0 percent and in Riskesdas 2013 it reaches 64.9 percent. As for female smokers, GATS indicated 2.7 percent, meanwhile Riskesdas 2013 recorded 2.1 percent. For tobacco chewing, GATS 2011 notes 1.5 percent for male and 2.7 percent for females. Meanwhile, Riskesdas 2013 shows proportion of males to females chewing tobacco at 3.9 percent to 4.8 percent respectively.

Generally speaking, the proportion of inactive physical activities is 26.1 percent. Twenty two (22) provinces record higher percentage than the national rate in respect of inactive physical activities. The proportion of sedentary population ≥ 6 hours per day reaches 24.1 percent. Five provinces recording higher rate than national average include Riau (39.1%), North Maluku (34.5), East Java (33.9%), West

Java (33.0%) and Gorontalo (31.5%).

National average for behaviors of consuming less vegetables and or fruits records 93.5 percent, which is relatively unchanged to 2007. As to behaviors of consuming certain foods of population at age of ≥ 10 years old, most of respondents consume seasonings (77.3%) followed with sweet foods and drinks (53.1%) and fat foods (40.7%).

One of ten population consumes instant noodles ≥ 1 time per day. Provinces consuming instant noodles above national average are South East Sulawesi (18.4%), South Sumatra (18.2%), South Sulawesi (16.9%), Papua (15.9%), Central Kalimantan (15.6%), Maluku (14.8%) and West Kalimantan (14.8%).

Clean and Hygienic Behavior (CHB) analysis covers 294,959 households as respondents (of them 220,895 households without children under five of age with the other 74,064 households raising children under five of age). At nationwide, the proportion of households introducing good CHB practices reaches 32.3 percent with the highest proportion found in DKI Jakarta (56.8%) and the lowest in Papua (16.4%). Twenty (20) provinces are identified of having PHBS rate below national average. The national proportion for CHB in 2007 was 38.7 percent.

Financing

Healthcare Insurance Participation

At nationwide, 50.5 percent of Indonesian people have yet to participate in healthcare insurance. Only around 6 percent of total population in this country are registered as participants of Askes/ASABRI healthcare program. The other 4.4 percent follow Jamsostek program or otherwise buy private health insurance or receive health allowance from the companies. They reach respectively 1.7 percent. Healthcare insurance is dominated by Jamkesmas (28.9%) and Jamkesda (9.6%).

Aceh is recorded as the province with the highest healthcare insurance coverage compared with other provinces at 96.6 percent or in other words only 3.4 percent of Acehnese people have no insurance of any sort. In contrast, DKI Jakarta is the province with the lowest healthcare insurance coverage. Of total population, 69.1 percent have no insurance.

By wealth quintile index, Jamkesmas is more taken out by the lowest community groups, followed by low - middle class and middle class at respectively 50.3 percent, 43.0 percent and 32.1 percent. However, some middle-upper class and upper class also buy this healthcare insurance at respectively 18.8% and 8.9%.

No Doctor Prescription Medication

The proportion of Indonesian people who takes medication without doctor prescription for the last month by privately buying drugs to drug stores or small shops reaches 26.4 percent. For this kind of self-help medication practice they spend money Rp5,000 on average. Gorontalo is the province with the highest proportion (38.1%) with expense Rp2,000 on average. Meanwhile, Papua is the province with the lowest proportion (8.7%) with expense Rp20,000.

Out Patient Treatment

A slew of 10.4 percent of Indonesia people undergo out-patient treatment in the last one month at expense Rp35,000 on average. DI Yogyakarta is the province with the highest out-patient treatment (16.3%) with expense Rp35,000 on average. Bengkulu is the province with the lowest proportion of population using out-patient facility (3.5%) with expense Rp35,000 on average. The largest average expense for out-patient treatment is found in Papua at Rp100,000.

The financing sources of out-patient treatment in Indonesia are dominated with private financial sources of patients or families (out of pocket) at 67.9% and followed by respectively Jamkesmas (14.2%) and Jamkesda (5.8%). The lowest proportion of this financing is from private insurance (0.7%). Financing sources of out-patient treatment from Askes/ASABRI insurance record 3.2 percent, Jamsostek 2.0 percent, health allowance of company 1.8 percent, miscellaneous sources 3.3 percent

and the other 1.1 percent from more than one financing source.

In Patient Treatment

For the last one year, 2.3 percent of Indonesian people undergo in-patient treatment with expense Rp1,700,000 on average. Not only for out-patient treatment, DI Yogyakarta is also recorded as the province with the highest proportion of population taking in-patient treatment facility at 4.4 percent with expense Rp2,000,000 on average followed by South Sulawesi (3.4%) with expense Rp800,000. Bengkulu, Lampung and West Kalimantan are three provinces with the lowest proportion of population who take in-patient treatment facility at 0.9 percent. As to the expense, they record different amounts, to wit, Rp1,000,000 for Bengkulu, Rp2,000,000 for Lampung, and Rp1,450,000 for West Kalimantan. The largest expense for in-patient treatment is spent by DKI Jakarta population at Rp5,000,000.

The financing sources for in-patient treatment at all healthcare facilities in Indonesia are still dominated by private sources (out of pocket) at 53.5 percent followed by respectively Jamkesmas at 15.6 percent, Jamkesda 6.4 percent, and Askes/ASABRI 5.4 percent. Around 4.9 percent of Indonesian people need more than one source to finance their in-patient treatment expenses. Other financing sources include Jamsostek for 3.5 percent, private healthcare insurance for 1.8 percent and health allowance of companies for 4.0 percent.

Reproductive Health

Reproductive Health blocks are collected to provide information with regard to the maternal health service coverage in relation to MGD indicators, i.e. Family Planning (FP) service, health service during childbearing period to postnatal period.

The pregnancy rate of female population aged 10-54 years is 2.68 percent. Despite miniscule rate (0.02%) some young girls of less than 15 years old bear children. Adolescent pregnancy (15 – 19 years old) reaches 1.97 percent. Unless pregnancy control measures are taken with family planning program, fertility rate of this nation will change.

Today, family planning program is introduced with the use of contraception. The adoption of modern family planning tools expressed with modern CPR to women of childbearing age (married women at age of 15-49 years) is one of universal indicators for reproductive health access. Riskesdas 2013 indicates the use of family planning contraception in Indonesia recording 59.7 percent and modern CPR of 59.3 percent. Out of those using modern family planning, the majority of participants prefer to take injection method for family planning (34.3%). They constitute the largest contributor for Non MKJP group and hormonal type. Family Planning service in Indonesia is mainly provided by midwives (76.6%) at private healthcare facilities, i.e. the practice venues of midwives (54.6%).

Every woman who bear child will pose to fatal risk. To reduce maternal mortality rate, the health of women bearing children must be enhanced until childbirth. This service must be provided from childbearing period until postnatal period. For Riskesdas 2013 indicator of service to maternal women until postnatal period is acquired from the pregnancy history information based on childbirth taking place from 1 January 2010 to interview.

Pregnancy check is important for all women bearing children to detect the growth of fetus and the health of mothers. Nearly all pregnant women in Indonesia (95.4%) undergo pregnancy check (K1). Of them, 83.5 percent take minimum 4 times during pregnancy period. Meanwhile, the first pregnancy check during the first trimester reaches 81.6 percent and ANC 1-1-2 check or K4 (minimum 1 time during the first trimester, minimum 1 time in the second trimester and minimum 2 times in the third trimester) is 70.4%. ANC service is mostly provided by midwives (88%) and takes place at the practice venue of midwives (52.5%). Iron consumption during pregnancy is to record 89.1 percent.

Some childbirth processes face critical conditions, for which emergency childbirth must be carried out in health facilities. Riskesdas 2013 indicates that childbirth in health facilities record 70.4 percent and the other 29.6 percent taking place at home/other places. Childbirth process is conducted by healthcare professionals (doctors specialized in pregnancy and childbirth, general doctors and midwives) that reach 87.1 percent. However, it varies from one province to another.

Healthcare service during postnatal period starts from 6 hours to 42 days after childbirth. As many as 81.9 percent of women bearing children receive this postnatal service from 6 hours to 3 days after their childbirth (KF1). The other 51.9 percent receive this service from 7 to 28 days after childbirth (KF2), and 43.4 percent from 29 to 42 days after childbirth (KF3). However, at nationwide scale, full postnatal service is just to reach 32.1 percent. Pregnant women receiving family planning service after childbirth record 59.6 percent.

Child Health

For child health, the coverage of full basic immunization shows upward trend from 2007, 2010 and 2013, i.e. 58.9 percent in 2013. The highest percentage is found in DI Yogyakarta (83.1%) and the lowest in Papua (29.2%). The distribution of vitamin A capsules with high dose is also to increase from 71.5 percent (2007) to 75.5 percent (2013). The highest percentage is in NTB (89.2%) and the lowest in North Sumatra (52.3%).

Neonatal visit at the first 6-48 hours (KN1) has been made for 71.3 percent of babies born. This is relatively equivalent to the results of Riskesdas 2010 (71.4%). While KN 1 is higher than 2010 (31.8%), full neonatal visit until 28 days is just made for 30.3 percent of babies born.

Information of birth weight and birth length of children under five years old is collected from documents/records held by the household members (KIA, KMS or other child health records). Of total respondents, 52.6 percent keep records of their birth weight data and the other 45 percent have birth length records for their children under five of age. The information revealed that 10.2 percent babies suffer low birth weight (BBLR), i.e. less than 2,500 gram. This percentage reflects a decrease if compared with Riskesdas 2010 (11.1%). The percentage of babies with shorter birth length (<48 cm) is relatively high, i.e. 20.2 percent. If BBLR is combined with low birth length then the highest prevalence is found in Papua (7.6%) and the lowest in Maluku (0.8%).

Monthly monitoring to the growth of children under five of age indicate that the percentage of children aged 6-59 months never taking weighing for the last six months records upward trend from 25.5 percent (2007), 23.8 percent (2010) and 34.3 percent (2013).

The percentage of exclusive breastfeeding for the last 24 hours without other foods and drinks for 6-month babies is 30.2 percent. Early breastfeeding initiation less than one hour after childbirth is that of 34.5 percent, with the highest percentage in NTB at 52.9 percent and the lowest in West Papua (21.7%).

Riskesdas 2013 presents information of disability prevalence to children of 24-59 months old. In this case, the disability is the observable handicap including those as a result of disease or trauma/accident. The data show that the percentage of children suffering speech impairment and blind is nearly to double compared with Riskesdas 2010.

The percentage of uncared umbilical cord for children of 0 – 59 months old is to double from 11.6% in 2010 to 24.1 percent in 2013. Nonetheless, practice of caring umbilical cords with betadine/alcohol remain higher (68.9%). Genital circumcision to female children of 0 – 11 years old reaches 51.2 percent, with the highest in Gorontalo (83.7%) and the lowest in NTT (2.7%).

Sensory Health

The nationwide blindness prevalence is to record 0.4 percent, which is smaller than its prevalence in 2007 (0.9%). The highest blindness prevalence to population aged 6 years and above is found in Gorontalo (1.1%) followed by NTT (1.0%), South Sulawesi and Bangka Belitung (respectively 0.1%) and NTB and DI Yogyakarta (at 0.2% respectively).

Severe low vision prevalence at nationwide for population of 6 years old and above records 0.9 percent. The highest prevalence is found in Lampung (1.7%) followed by NTT and West Kalimantan (at 1.6% respectively). Provinces with the lowest severe low vision prevalence include DI Yogyakarta (0.3%), West Papua and Papua (0.4% respectively).

National prevalences for pterygium, corneal turbidity and cataract are respectively 8.3 percent, 5.5 percent and 1.8 percent. The highest pterygium prevalence is found in Bali (25.2%) followed by Maluku (18.0%) and NTT (17.0%). DKI Jakarta records the lowest pterygium prevalence at 3.7 percent followed by Banten at 3.9 percent.

The highest corneal turbidity prevalence is also found in Bali (11.0%) followed by DI Yogyakarta (10.2%) and South Sulawesi (9.4%). Meanwhile, the lowest corneal turbidity prevalence is reported in West Papua (2.0%) followed by DKI Jakarta (3.1%).

The highest cataract prevalence is detected in North Sulawesi (3.7%) followed by Jambi (2.8%) and Bali (2.7%). The lowest cataract prevalence is in DKI Jakarta (0.9%) and West Sulawesi (11.1%). Three contributing factors of no cataract surgery include no information (51.6%), lack of finance (11.6%) and lack of courage to take surgery (8.1%).

Deafness prevalence in Indonesia is 0.09 percent with the highest prevalence in Maluku (0.45%) and the lowest in East Kalimantan (0.03%). At nationwide, hearing deficiency is to reach 2.6 percent with the highest prevalence in NTT (3.7%) and the Lowest in Banten (1.6%).

Biomedics

Biomedical specimen test has objective of identifying iodine status and confirming contagious or non communicable disease. Iodine status is determined from iodine content in drinking water and domestic salt and urine of children 6-12 years old and women of childbearing age (15-49 years old).

The proportion of domestic drinking water sources with iodine deficiency reaches 40.1 percent. The other 52.0 percent contain iodine and of them 0.4 percent have high iodine content. The proportion of domestic iodized salt based on non iodized titration method is 1.0 percent. The other 50.8 percent contain lack of iodine content. Meanwhile salt containing excessive iodine records 5.0 percent. The proportion of households consuming iodized salt is that of 77.1 percent with the other 14.8 percent and 8.1 percent taking salt with low iodine content or no iodine content.

In children of 6-12 years old, the urinary iodine excretion values show that risk of iodine deficiency records 14.9 percent, sufficient iodine 29.9 percent and more than enough iodine 30.4 percent and excessive iodine 30.4 percent. In women of childbearing age, risk of lack iodine reaches 22.1 percent, sufficient iodine 30.6 percent, more than enough iodine 17.6 percent and excessive iodine 21.3 percent. As to lactating mothers, the risk of lack iodine records 23.9 percent, sufficient iodine 36.9 percent, more than enough iodine 21.1 percent and excessive iodine 18.1 percent.

Iron deficiency anemia remains the most significant contributing factor for low public health with its prevalence to children under five hitting 28.1 percent, children 5 – 12 years old at 29 percent, pregnant women at 37.1 percent, female teenagers 13-18 years old and women of childbearing age at 22.7 percent respectively.

The proportion of population aged ≥ 15 years suffering diabetes mellitus (DM) records 6.9 percent. At nationwide, anemia proportion to children aged 12 – 59 months is 28.1 percent, and pregnant women of 37.1 percent. Malaria prevalence to population ≥ 1 year old with RDT test records 1.3 percent dominated by *P. falciparum* infection compared to other species.

At population ≥ 15 years old, total abnormal cholesterol in borderline category 200 – 239 mg/dl and higher category ≥ 240 mg/ml is at 35.9 percent, low HDL 22.9 percent, non optimum LDL with mixed category of near optimal – high borderline category 60.3 percent and high and very high category 15.9 percent, abnormal triglyceride with high borderline category 13.0 percent and high and very high category 11.9 percent and abnormal creatinine serum 6.0 percent. The results of other biomedical tests are reported in national Biomedical Riskesdas 2013 report.

TABLE OF CONTENTS

FOREWORDS.....	i
SUMMARY	3
RESULT SUMMARY.....	6
TABLE OF CONTENTS	16
LIST OF TABLES	19
LIST OF FIGURES.....	23
CHAPTER 1. INTRODUCTION.....	33
1.1. Background.....	33
1.2. The Scope of Riskesdas 2013.....	34
1.3. Questions for the Research	34
1.4. The Objectives of Riskesdas 2013	34
1.5. Framework	35
1.6. Riskesdas 2013 Flow Chart.....	36
1.7. Riskesdas 2013 Organization.....	38
1.8. The Advantages of Riskesdas 2013.....	38
1.9. Ethical Consent of Riskesdas 2013.....	39
CHAPTER 2. METHODOLOGY.....	40
2.1. Sampling Method	40
2.2. Population and Samples.....	42
2.3. Data Quality Assurance of Riskesdas 2013	47
2.4. Variables	54
2.5. Data Collection Instruments and Methods.....	55
2.6. Data Management	56
2.7. Limitations.....	58
2.8. Data Processing and Analysis	58
2.9. Sampling Error	58
2.10. Wealth Quantile Index Development	59
CHAPTER 3. ACCESS AND HEALTH SERVICES	64
3.1. Health Service Existence	64
3.2. Health Facility Accessibility	66
CHAPTER 4. PHARMACY AND TRADITIONAL HEALTH SERVICES	71

4.2. Knowledge of Households on Generic Drugs.....	75
4.3. The Use of Traditional Health Service	78
CHAPTER 5. ENVIRONMENTAL HEALTH.....	82
5.1. <i>Drinking Water</i>	82
5.2. <i>Sanitation</i>	87
5.3. <i>Housing</i>	91
CHAPTER 6. COMMUNICABLE DISEASE	97
6.1. <i>Transmitted by Air</i>	97
6.3. <i>Transmitted by Vectors (Malaria)</i>	112
CHAPTER 7. NON COMMUNICABLE DISEASE (NCD).....	118
7.1. <i>Asthma</i>	120
7.2. <i>Chronic Obstruction Pulmonary Disease (COPD)</i>	120
7.3. <i>Cancer</i>	120
7.4. <i>Diabetes Mellitus</i>	122
7.5. <i>Hyperthyroid</i>	123
7.6. <i>Hypertension</i>	123
7.7. <i>Heart Disease</i>	126
7.8. <i>Stroke</i>	126
7.9. <i>Kidney Disease</i>	129
7.10. <i>Joint/Rheumatic/Arthritic Disease</i>	129
7.11. <i>NCD Trends 2007 – 2013</i>	132
CHAPTER 8. INJURIES	136
8.1. <i>Injury Prevalence and the Causes</i>	137
8.2. <i>Types of Injuries</i>	140
8.3. <i>The Scene</i>	143
CHAPTER 9. DENTAL AND ORAL CARE	147
9.1. <i>Effective Medical Demand</i>	147
9.2. <i>Toothbrushing Habits of Population ≥ 10 Years Old</i>	151
CHAPTER 10. DISABILITY STATUS	158
CHAPTER 11. MENTAL HEALTH.....	163
11.1. <i>Severe Mental Disorder</i>	163
11.2. <i>Emotional Mental Disorder</i>	165
CHAPTER 12. KNOWLEDGE, ATTITUDE AND BEHAVIOR	168
12.1. <i>Hygienic Behavior</i>	168
12.2. <i>Tobacco Consumption</i>	170

12.3. <i>Physical Activities</i>	176
12.4. <i>Fruit and Vegetable Consumption</i>	179
12.5. <i>Particular Dietary Pattern</i>	180
12.6. <i>Processed Foods Made of Wheat Flour</i>	183
12.7. <i>Clean and Hygienic Behavior (CHB)</i>	184
CHAPTER 13. HEALTH FINANCING	189
13.2 <i>Self-Medication</i>	192
13.5 <i>Financing Sources</i>	197
CHAPTER 14. REPRODUCTIVE HEALTH	203
CHAPTER 15. CHILD HEALTH	225
1. 15.1. <i>Weight and Length at Birth</i>	225
15.2. <i>Disabilities</i>	231
15.3. <i>Immunization Status</i>	232
15.4. <i>Neonatal Visits</i>	239
15.5. <i>Umbilical Cord Treatment</i>	243
15.6. <i>Breastfeeding Pattern</i>	244
15.7. <i>Vitamin A Capsule Distribution Coverage</i>	247
15.8. <i>Growth Monitoring</i>	248
15.9. <i>Female Genetical Mutilation (FGM)</i>	249
CHAPTER 16. NUTRITION STATUS	252
CHAPTER 17. SENSORY HEALTH	271
CHAPTER 18. BIOMEDICAL EXAMINATION	288
ANNEXES	303

LIST OF TABLES

Table 2.1 Response Rate by Province, Indonesia 2013	43
Table 2.2 Distribution of Samples by Age Groups and Sexes, Indonesia 2013	44
Table 2.3 Number of Samples for Iodine Examination, Indonesia 2013	46
Table 2.4 Household Variable Validation	53
Table 2.5 Individual Variable Validation	53
Table 2.6 Measurement and Examination Process Validation	54
Table 2.7 Wealth Variables of Riskesdas 2013 Data	60
Table 2.8 Wealth Quantile Index by Province, Indonesia 2013	61
Table 2.9 Economic Status by Residence, Indonesia 2013	62
Table 2.10 The Percentage of Households being the Beneficiaries of Free Health Service by Quantile Classes	62
Table 2.11 Households Receiving Raskin Program by Quantile Classes	63
Table 4.1 Proportion of households storing drugs and average number of drugs stored by province, Indonesia 2013	72
Table 4.2 Proportion of households storing drugs by kinds and characteristics, Indonesia 2013 ..	73
Table 4.3 Proportion of Households Keeping Prescription drugs and Antibiotics without Prescription by Province, Indonesia 2013	74
Table 4.4 Proportion of Households Keeping Drugs by Sources and Characteristics, Indonesia 2013	75
Table 4.5 Proportion of Households Keeping the Drugs by Characteristics, Indonesia 2013	75
Table 4.6 Proportion of Households Knowing and Having Proper Knowledge of Generic Drugs by Province, Indonesia 2013	76
Table 4.7 Proportion of Households Knowing and Having Proper Knowledge of Generic Drugs by Characteristics, Indonesia 2013	77
Table 4.8 Proportion of Households by Perceptions of Generic Drugs and by Characteristics, Indonesia 2013	77
Table 4.9 Proportion of Households by Information Sources on Generic Drugs by Characteristics, Indonesia 2013	78
Table 4.10 Proportion of Households Taking Traditional Health Service for the last one year and types of traditional health service used by province, Indonesia 2013	79
Table 4.11 Proportion of households taking traditional health service for the last one year and types of traditional health service used by respondent characteristics, Indonesia 2013	80
Table 4.12 Proportion of households by reasons of taking traditional health service, Indonesia 2013	80
Table 6.1 URI and Pneumonia Period prevalence, Pneumonia Prevalence and Pneumonia Period Prevalence for < 5 Years Old Children by Province, Indonesia 2013	101
Table 6.2 URI, Pneumonia period prevalence, pneumonia prevalence and pneumonia period prevalence of < 5 years old children by characteristics, Indonesia 2013	103
Table 6.3 Pulmonary Tuberculosis prevalence based diagnosis and symptoms by province, Indonesia 2013	104
Table 6.4 Pulmonary TB Prevalence based on Diagnosis and Symptoms by Characteristics	105
Table 6.5 Hepatitis prevalence, diarrhea incidents and diarrhea period prevalence and diarrhea incidents to <5 years old Children by Province, Indonesia 2013	108
Table 6.6 Hepatitis Prevalence, Diarrhea Incidents and Diarrhea Period Prevalence and Diarrhea Incidents to <5 years old Children by Characteristics, Indonesia 2013	109
Table 6.7 Hepatitis Type Proportions by Province, Indonesia 2013	110

Table 6.8 The Administration of Oralites and Zinc to < 5 years old Children suffering Diarrhea by Province, Indonesia 2013	111
Table 6.9 Malaria Incidents and Prevalence by Province, Indonesia 2013	113
Table 6.10 Malaria Incidents and Prevalence by Characteristics, Indonesia 2013	114
Table 6.11 Proportion of Malaria Patients Healed Under Program and Self-Medication by Province, Indonesia 2013	115
Table 6.12 Proportion of Malaria Patients Treated under Program by Characteristics, Indonesia 2013	116
Table 7.1 Asthma, COPD and Cancer Prevalence Rates by Province, Indonesia 2013	121
Table 7.2 Asthma, COPD and Cancer Prevalence by Characteristics, Indonesia 2013	122
Table 7.3 Diabetes, Hyperthyroid Prevalence Rates of Population ≥15 Years Old and Hypertension Prevalence Rate of Population ≥18 Years Old by Province, Indonesia 2013	124
Table 7.4 Diabetes, Hyperthyroid, Hypertension Prevalence Rates by Characteristics, Indonesia 2013	125
Table 7.5 Coronary Heart, Heart Failure and Stroke Prevalence of Population ≥15 years old by Province, Indonesia 2013	127
Table 7.6 Coronary Heart Disease, Heart Failure and Stroke Prevalence of Population ≥15 Years Old by Characteristics, Indonesia 2013	128
Table 7.7 Chronic Kidney Failure, Kidney Stone and Joint Disease Prevalence Rates at Population of ≥15 Years Old by Province, Indonesia 2013	130
Table 7.8 Chronic Kidney Failure, Kidney Stone and Joint Disease Prevalence at Population ≥15 Years Old by Characteristics, Indonesia 2013	131
Table 8.1 Injury Prevalence and the Causes by Province, Indonesia 2013	138
Table 8.2 Injury Prevalence and the Causes by Respondent Characteristics, Indonesia 2013 ..	139
Table 8.3 Proportion of Injury Types by Province, Indonesia 2013	141
Table 8.4 Proportion of Injury Types by Respondent Characteristics, Indonesia 2013	142
Table 8.5 Proportion of Injury Scenes by Province, Indonesia 2013	144
Table 8.6 Proportion of Injury Scenes by Respondent Characteristics, Indonesia 2013	145
Table 9.1 Dental and Oral Trouble Prevalence for the Last 12 Months according to Effective Medical Demand by Province, Indonesia 2013	148
Table 9.2 Proportion of Population with Dental and Oral Troubles for the Last 12 Months by Respondent Characteristics, Indonesia 2013	149
Table 9.3 Proportion of Population Taking Dentist Services by Dental Medical Personnel by Province, Indonesia 2013	151
Table 9.4 The Percentage of Population ≥ 10 Years Old with Proper Toothbrushing Technique by Province, Indonesia 2013	153
Table 9.5 Percentage of Population ≥10 Years Old Who Brush Their Teeth Everyday with Proper Toothbrushing Techniques by Respondent Characteristics, Indonesia 2013	154
Table 9.6 D, M, F Components, and DMF-T Index by Province, Indonesia 2013	155
Table 9.7 D, M, F Components and DMF-T Index by Respondent Characteristics, Indonesia 2013	156
Table 10.1 Proportion of Population Experiencing Difficulty by Disability Component, Indonesia 2013	158
Table 10.2 WHODAS 2 Scoring Percentile	159
Table 10.3 Prevalence Trend of Population by Disability Components, Riskesdas 2007 and 2013	160
Table 10.4 Disability Indicators by Province, Indonesia 2013	161
Table 10.5 Disability Indicators by Respondent Characteristics, Indonesia 2013	162
Table 11.1 Severe Mental Disorder Prevalence by Province, Indonesia 2013	164

Table 11.2 Proportion of Households with Members Suffering Sever Mental Disorder with Pemasungan (Chained) History by Residence and Wealth Quantile Index, Indonesia	165
Table 11.3 Emotional Mental Disorder Prevalence to Population aged ≥ 15 Years based on Self Reporting Questionnaire-20*) by Province, Indonesia 2013	166
Table 12.1 Proportion of Population Aged ≥ 10 Years Practicing Appropriate Excretion and Handwashing by Province, Indonesia 2013	168
Table 12.2 Proportion of Population Aged ≥ 10 Years by Smoking Habits and Province, Indonesia 2013	171
Table 12.3 Proportion of Population ≥ 10 Years by Smoking Habits and Characteristics, Indonesia 2013	172
Table 12.4 Cigarette Consumption of Population Aged ≥ 10 Years by Province, Indonesia 2013	173
Table 12.5 Proportion of Population Aged ≥ 10 Years with Chewing Habits by Province, Indonesia 2013	174
Table 12.6 Proportion of Population Aged ≥ 10 Years by Physical Activities and Province, Indonesia 2013	177
Table 12.7 Proportion of Population ≥ 10 Years Old Performing Sedentary Activities by Province, Indonesia 2013	178
Table 12.8 Proportion of Population ≥ 10 Years Old Performing Sedentary Activities by Respondent Characters, Indonesia 2013	179
Table 12.9 Proportion of Population aged ≥ 10 Years Consuming Certain Foods ≥ 1 times a day by Province, Indonesia 2013	181
Table 12.10 Proportion of Population Aged ≥ 10 Years Consuming Wheat Flour-Based Processed Foods ≥ 1 time per day by Province, Indonesia 2013	184
Table 13.1 Proportion of Population by Health Insurance Program and Province, Indonesia 2013	190
Table 13.2 Proportion of Population by Health Insurance Program and Respondent Characteristics, Indonesia 2013	191
Table 13.3 Proportion of Population Taking Self-Medication for the Last One Month and the Costs by Respondent Characteristics, Indonesia 2013	192
Table 13.4 Proportion of Population Utilizing Outpatient Treatment and the Costs Incurred (Rp) by Respondent Characteristics, Indonesia 2013	195
Table 13.5 Proportion of Populations Utilizing Inpatient Treatment and the Costs Incurred (Rp) by Respondent Characteristics, Indonesia 2013	197
Table 13.6 Proportion of Population by Outpatient Financing Sources and Characteristics, Indonesia 2013	201
Table 13.7 Financing Sources for Inpatient Treatment by Characteristics, Indonesia 2013	202
Table 14.1 Main Indicators, Analysis Unit and Total Samples for Reproductive Health Block, Riskesdas 2013	203
Table 15.1 Number of Samples and Indicators of Child Health, Indonesia 2013	225
Table 15.2 Weight at Birth of Children 0-59 Months of Age by Characteristics, Indonesia 2013	227
Table 15.3 The Percentage of Length at Birth for Childrent 0-59 Months of Age, by Province, Indonesia 2013	228
Table 15.4 Proportion of Length at Birth of Children 0-59 Months of Age by Characteristics, Indonesia 2013	229
Table 15.5 Proportion of Basic Immunizations to Children 12-23 Months of Age by Province, Indonesia 2013	234
Table 15.6 Proportion of Basic Immunizations to Children 12-23 Months of Age by Respondent Characteristics, Indonesia 2013	235
Table 15.7 Proportion of Complete Basic Immunizations to Children 12-23 Months of Age by Province, Indonesia 2013	236

Table 15.8 Proportion of Complete Basic Immunizations for Children 12-23 Months of Age by Respondent Characteristics, Indonesia 2013	237
Table 15.9 Proportion of Reasons for Immunizations Refusal to Children 12-23 Months of Age by Characteristics, Indonesia 2013 *).....	238
Table 15.10 Proportion of Neonatal Visits to Children 0-59 Months of Age by Characteristics, Indonesia 2013.....	241
Table 15.11 Proportion of Neonatal Visits to Children 0-59 Months of Age by Characteristics, Indonesia 2013.....	243
Table 15.12 Proportion of Umbilical Cord Treatment Methods to Children 0-59 Months of Age by Province, Indonesia 2013	244
Table 15.13 Percentage of the process starts to breastfed at children aged 0-23 months by province, Indonesia 2013	246
Table 17.1 Refraction Correction Proportion and Severe Low Vision and Blindness Prevalence to Population Aged ≥ 6 Years with/without Optimum Correction by Respondent Characteristics, Indonesia 2013.....	277
Table 17.2 Refraction Correction Proportions and Severe Low Vision and Blindness Prevalence to Population Aged ≥ 6 Years with/without Optimum Correction by Province, Indonesia 2013.....	278
Table 17.3 Pterygium and Corneal Turbidity Prevalence to Population of All Ages by Characteristics, Indonesia 2013	280
Table 17.4 Cataract Prevalence and Three Main Reasons Not Taking Cataract Surgery by Population at All Ages by Province, Indonesia 2013	282
Table 17.5 Hearing Disorder and Deafness Prevalence of Population Aged ≥ 5 Years according to Conversation Test by Characteristics, Indonesia 2013.....	284
Table 18.1 The Proportion of Households Consuming Iodized Salt according to Rapid Test by Province, Indonesia 2013	291
Table 18.2 Proportion of Households Consuming Iodized Salt according to Rapid Test Results by Respondent Characteristics, Riskesdas 2007 and 2013	292
Table 18.3 Iodine Concentration Trend (ppm KIO ₃) in Domestic Salt according to Titration Method, Riskesdas 2007 and 2013	293
Table 18.4 Proportion of Iodine Concentration in Domestic Drinking Water Sources by Residence, Indonesia 2013.....	294
Table 18.5 DM Proportion in Population Aged ≥ 15 Years by Characteristics, Indonesia 2013 ..	295
Table 18.6 Proportion of IFG to Population of ≥ 15 Years Old based on ADA Criteria by Characteristics, Indonesia 2013	296
Table 18.7 TGT Proportions to Population aged ≥ 15 years by Characteristics, Indonesia 2013	296
Table 18.8 DM Proportion to Population Aged ≥ 15 Years Diagnosed by Healthcare Professionals by Characteristics. Indonesia 2013	296
Table 18.9 Anemia Prevalence by Characteristics, Indonesia 2013	297
Table 18.10 Malaria Proportion Based on RDT by Characteristics, Indonesia 2013.....	298
Table 18.11 Malaria Proportion based on RDT by Parasite Species and Characteristics Indonesia 2013	298

LIST OF FIGURES

Figure 0.1 Riskesdas 2013 Framework developed by combining WHO Health System and BLUM Model Concept	35
Figure 0.2 Riskesdas 2013 Flow Chart.....	37
Figure 2.1 Sample Household Range per Regency/Municipality by Province, Indonesia 2013	45
Figure 2.2 Sample Household Member (ART) Range per Regency/Municipality by Province, Indonesia 2013.....	45
Figure 2.3 The number of sample specimen blood, Indonesia 2013	46
Figure 2.4 Water, Salt and Urine Sampling for Iodine Status Test, Indonesia 2013	47
Figure 3.1 Proportion of households knowing the existence of government hospitals and private hospitals by province, Indonesia 2013.....	64
Figure 3.2 Proportion of households knowing the existence of midwife practices or maternity hospitals by province, Indonesia 2013.....	65
Figure 3.3 Proportion of households knowing the existence of Posyandu by province, Indonesia 2013	65
Figure 3.4 Proportion of transport modes used to access government hospitals by characteristics, Indonesia 2013.....	66
Figure 3.5 Proportion of transport modes to Puskesmas by characteristics, Indonesia 2013	67
Figure 3.6 Traveling time to the nearest health facilities by the knowledge of households, Indonesia 2013	67
Figure 3.7 Traveling time to government hospitals by characteristics, Indonesia 2013	68
Figure 3.8 Transport fees to the nearest health facilities, Indonesia 2013	68
Figure 3.9 Transportation fees to reach the nearest Community-Based Health Facilities (UKBM), Indonesia 2013.....	69
Figure 4.1 Proportion of households keeping drugs and their kinds, Indonesia 2013.....	71
Figure 4.2 Proportion of Households Using Traditional Health Service for the Last one Year and Types of Traditional Health Services used, Indonesia 2013	78
Figure 5.1 Proportion of households with accessibility to improved drinking water sources by characteristics, Indonesia 2013	83
Figure 5.2 Proportion Trends of Households with Accessibility to Improved Drinking Water Sources by Province,	84
Figure 5.3 Proportion of Households Members Tasked to Collect Water, Indonesia 2013	84
Figure 5.4 Proportion of household members usually taking water by respondent characteristics, Indonesia 2013.....	85
Figure 5.5 Proportion of households consuming drinking water by physical quality and respondent characteristics, Indonesia 2013	86
Figure 5.6 Proportion of households treating the water before consumed by province, Indonesia 2013	86
Figure 5.7 Proportion of households by water treatment methods before consumption, Indonesia 2013	87
Figure 5.8 Proportion of Households by Final Human Waste Disposal Facilities and by Province, Indonesia 2013.....	88
Figure 5.9 The proportion trends of households with access to improved sanitation by province, Indonesia 2007, 2010, and 2013	89
Figure 5.10 Proportion of households with access to improved sanitation facilities by characteristics, Indonesia 2013.....	89
Figure 5.11 Proportion of households in discharging wastewater by media, 2013	90
Figure 5.12 Proportion of households by solid waste management methods, Indonesia 2013	90
Figure 5.13 Proportion of households by solid waste management with burning method by province, Indonesia 2013.....	91

Figure 5.14 Proportion of households by residential title status, Indonesia 2013	92
Figure 5.15 Proportion of households by home occupancy density by province, Indonesia 2013 ..	92
Figure 5.16 Proportion of households by ceilings, brick walls and tiled floors, Indonesia 2013	93
Figure 5.17 Proportion of households by bedrooms, living rooms and kitchen in clean conditions, with windows, ventilation and natural lights	93
Figure 5.18 Proportion of households by lighting sources, Indonesia 2013	94
Figure 5.19 Proportion of households using non-electric illumination by province, Indonesia 2013	94
Figure 5.20 Proportion of households by types of fuels/energy, Indonesia 2013	95
Figure 5.21 Proportion of households by habits in mosquito bites prevention, Indonesia 2013	95
Figure 5.22 Proportion of households using or storing pesticides/insecticides/chemical fertilizers, Indonesia 2013	96
Figure 6.1 URI period prevalence by province, Riskesdas 2007 and 2013	98
Figure 6.2 Pneumonia Period Prevalence by Province, Riskesdas 2007 and 2013	102
Figure 6.3 Pneumonia period prevalence per 1000 children by age groups, Indonesia 2013	102
Figure 6.4 Pulmonary Tuberculosis by Province, Riskesdas 2007 and 2013	106
Figure 6.5 Hepatitis Prevalence by Province, Riskesdas 2007 and 2013	106
Figure 6.6 Diarrhea Period Prevalence by Province, Riskesdas 2007 and 2013	107
Figure 6.7 Malaria Incidents by Province, Riskesdas 2007 and 2013	112
Figure 7.1 Samples used for NCD analysis	118
Figure 7.2 DM Prevalence Trend Based on Interviews to Population ≥ 15 Years Old by Province, Riskesdas 2007 and 2013	132
Figure 7.3 Hypertension Prevalence Trend Based on Interviews to Population ≥ 18 Years Old by Province, Riskesdas 2007 and 2013	133
Figure 7.4 Hypertension Prevalence Trend Based on Measurement to Population ≥ 18 Years Old by Province, Riskesdas 2007 and 2013	133
Figure 7.5 Stroke Prevalence Trends per Mile to Population ≥ 15 Years Old by Province, Riskesdas 2007 and 2013	134
Figure 7.6 Joint/Rheumatic/Arthritic Disease Prevalence Trends based on Interviews to Population ≥ 15 Years Old by Province, Riskesdas 2007 and 2013	134
Figure 8.1 Injury Prevalence Trend and the Proportion of Causes, Riskesdas 2007 and 2013	140
Figure 9.1 Proportion of Population at Any Age Group Experiencing Dental and Oral Troubles and Those Receiving Cares and EMD, Indonesia 2013	147
Figure 9.2 The Trends of Population with Dental and Oral Troubles, Those Who Receive Treatment from Healthcare Professionals and EMD in Riskesdas 2007 and 2013	150
Figure 10.1 Disability Scoring Percentile	159
Figure 10.2 Prevalence Trends by Disability Components, Riskesdas 2007 and 2013	160
Figure 12.1 Proportion Trend of Population Aged ≥ 10 Years Practicing Handwashing in Correct Manner by Province, Riskesdas 2007 and 2013	169
Figure 12.2 The Proportion Trend of Population Aged ≥ 10 Years Practicing Appropriate Excretion by Province, Riskesdas 2007 and 2013	170
Figure 12.3 The Proportion Trend of Population Aged ≥ 15 Years with Smoking and Chewing Tobacco Habits by Province, Riskesdas 2007, 2010 and 2013	175
Figure 12.4 The Proportion Trend of Smokers Aged ≥ 15 Years Based on GATS 2011 and Riskesdas 2013	175
Figure 12.5 The Proportion Trend of Population Aged ≥ 15 Years Chewing Tobacco According to GATS 2011 and Riskesdas 2013	176
Figure 12.6 Proportion Trend of Population ≥ 10 Years Old Consuming Insufficient Fruits and Vegetables by Province, Riskesdas 2007 dan 2013	180
Figure 12.7 Proportion (%) of Population ≥ 10 Years Old Consuming Certain Foods ≥ 1 time per day, 2013	182
Figure 12.8 The Trend of Population Aged ≥ 10 Years in the Consumption of Certain Foods ≥ 1 times, Indonesia 2007 and 2013	182

Figure 12.9 Proportion of Population Aged ≥ 10 Years Old by Frequency of Consuming Wheat Flour-Based Foods ≥ 1 time/day	183
Figure 12.10 Proportion of Households Introducing CHB based on 10 Indicators, 2013	187
Figure 12.11 Proportion of Households Complying With Clean and Hygienic Behavior Criteria by Province, Indonesia 2013	187
Figure 12.12 Proportion of Households Complying with Clean and Hygienic Behavior (CHB) Criteria by Respondent Characteristics, Indonesia 2013	188
Figure 13.1 Proportion of Population Taking Self-Medication for the Last One Month and the Costs Incurred by Province, Indonesia 2013	193
Figure 13.2 Proportion of Outpatient Treatment and the Costs Spent (Rp) by Province, Indonesia 2013	194
Figure 13.3 Proportion of Population Utilizing Inpatient Treatment and the Costs Incurred (Rp) by Province, Indonesia 2013	196
Figure 13.4 Financing Sources for Outpatient Treatment, Indonesia 2013	198
Figure 13.5 Financing Sources used for inpatient treatment, Indonesia 2013	201
Figure 14.1 Proportion of Pregnant Female Population by Age Group and Residence, Indonesia 2013	204
Figure 14.2 FP Participation at Present by Province, Riskesdas 2010 and 2013	205
Figure 14.3 Proportion of FP Device/Method Currently Used by Women of Childbearing Age with married status by age group, Indonesia 2013	205
Figure 14.4 Proportion of Women of Childbearing Age with Married Status Participating in FP by Device/Method, Indonesia 2013	206
Figure 14.5 Proportion of Women of Childbearing Age Using Modern Devices/Methods for Birth Control by Hormonal Content and Province, Indonesia 2013	207
Figure 14.6 Proportion of Women of Childbearing Age with Married Status, Using Modern Birth Control Devices/Methods by Effective Periods and Province, Indonesia 2013	207
Figure 14.7 Proportion of Population Using FP Services by Places and Healthcare Professionals, Indonesia 2013	208
Figure 14.8 Proportion of Main Reasons Not Using Control Birth Devices/Methods for Women of Childbearing Age with Married Status both Who Never Participate in FP Program Before and Former FP Participants, Indonesia 2013	209
Figure 14.9 ANC K1 and ANC Min. 4 times Indicators by Province, Indonesia 2013	211
Figure 14.10 ANC K2 Ideal and ANC K4 (ANC 1-1-2) Indicators by Province, Indonesia 2013	212
Figure 14.11 Proportion of Pregnancy Checks by Healthcare Professionals and Places of Receiving ANC Service, Indonesia 2013	212
Figure 14.12 Proportion of Iron (Fe) Consumption and Total Iron Consumption Days, Indonesia 2013	213
Figure 14.13 Proportion of Respondents with KIA Books and 5 P4K Components based on Observation to "Pregnancy Message" sheet of KIA Book Presented by Respondents, Indonesia 2013	214
Figure 14.14 Proportion of Caesarean Delivery by Province, Indonesia 2013	215
Figure 14.15 Proportion of Caesarean Delivery by Respondent Characteristics, Indonesia 2013	216
Figure 14.16 Proportion of Delivery Helpers by Highest Qualification and Lowest Qualification, Indonesia 2013	217
Figure 14.17 Proportion of delivery places by province, Indonesia 2013	218
Figure 14.18 Proportion of Delivery Places by Respondent Characteristics, Indonesia 2013	219
Figure 14.19 Proportion of Postnatal Health Services by Mother Contact, Indonesia 2013	220
Figure 14.20 Postnatal Service 6 hours – 3 days after Childbirth by province, Indonesia 2013	221
Figure 14.21 Postnatal Service 6 Hours – 3 Days after Childbirth by Respondent Characteristics, Indonesia 2013	222
Figure 14.22 Proportion of Postpartum FP Service by Province, Indonesia 2013	223
Figure 15.1 Low Birth Weight Trends to Children < Five Years of Age, Indonesia, 2010 and 2013	226

Figure 15.2 Proportion of Children 0-59 Months of Age with Low Birth Weight (<2500 grams) and Short at Birth (<48 cm) by Province, Indonesia 2013	230
Figure 15.3 Proportion of Children with Weight at Birth <2500 grams and Length at Birth <48 cm by Characteristics, Indonesia 2013	230
Figure 15.4 Proportion Trends of Children 24-59 Months of Age with Disability, Indonesia 2010 and 2013	232
Figure 15.5 Basic Immunization Trends to Children 12-23 Months Of age, Indonesia 2007, 2010, and 2013	233
Figure 15.6 Proportion of Associated Events Following Immunization (KIPI) to Children 12-23 Months Of age, Indonesia 2013	239
Figure 15.7 Complete Neonatal Visit Trends, Indonesia 2010 and 2013	239
Figure 15.8 KN1 Trends by Province, Indonesia 2010 and 2013	240
Figure 15.9 Complete Neonatal Visit Trends by Province, Indonesia 2010 and 2013	242
Figure 15.10 Early Breastfeeding Initiation Trends to Children 0-23 Months of Age, Indonesia 2010 and 2013	245
Figure 15.11 Exclusive Breastfeeding for the Last 24 Hours by Age	247
Figure 15.12 Vitamin A Capsule Distribution Trends to Children 6-59 Months of Age, Indonesia 2007 and 2013	247
Figure 15.13 Growth Monitoring Frequency Trends to Children 6-59 Months of Age for the Last Six Months, Indonesia 2007 and 2013	248
Figure 15.14 Growth Monitoring Frequency Trends to Children Under Five Years of Age for ≥ 4 Times in the Last 6 Months, by Province, Indonesia 2007 and 2013	249
Figure 15.15 Proportion of Circumcised Female Children 0-11 Years of Age and the Age When Circumcised, Indonesia 2013	250
Figure 15.16 Proportion of Circumcised Female Children 0-11 Years of Age by Province, Indonesia 2013	250
Figure 15.17 The Percentage of Circumcised Female Children 0-11 Years of Age by Characteristics, Indonesia 2013	251
Figure 16.1 Prevalence Trends of Nutrition Status by WB/A <-2SD by Province, Indonesia 2007, 2010, and 2013	255
Figure 16.2 The Prevalence Trends of Nutrition Status by HB/A <-2SD by Province, Indonesia 2007, 2010, and 2013	256
Figure 16.3 Prevalence Trends of Nutrition Status by WB/HB <-2SD by Province, Indonesia 2007, 2010, and 2013	257
Figure 16.4 Malnourished, Stunting, Wasting and Obesity Prevalence Trends of Children under Five Years of Age, Indonesia 2007, 2010, and 2013	258
Figure 16.5 Prevalence Trends of Nutrition Status of Children under Five Years of Age by Combined Indicator HB/A and WB/HB, Indonesia 2007, 2010, and 2013	259
Figure 16.6 Stunting Prevalence of Children 5-18 Years of Age by Sexes, Indonesia 2013	260
Figure 16.7 Stunting Prevalence of Children 5 – 12 Years of Age by Province, Indonesia 2013 ..	260
Figure 16.8 Wasting Prevalence (BMI/A) of Children 5 – 12 Years of Age by Province, Indonesia 2013	259
Figure 16.9 Overweight and Obesity Prevalence of Children 5-12 Years of Age by Province, Indonesia 2013	259
Figure 16.10 Stunting Prevalence of Adolescent 13-15 Years of Age by Province, Indonesia 2013	260
Figure 16.11 Wasting Prevalence (BMI/A) of Adolescent 13-15 Years of Age by Province, Indonesia 2013	261
Figure 16.12 Overweight and Obesity Prevalence (BMI/A) of Adolescent 13-15 Years of Age by Province, Indonesia 2013	261
Figure 16.13 Stunting Prevalence (HB/A) of Adolescent 16-18 Years of Age by Province, Indonesia 2013	262

Figure 16.14 Wasting Prevalence (BMI/A) of Adolescent 16-18 years of age by province, Indonesia 2013	262
Figure 16.15 Obesity Prevalence (BMI/A) of Adolescent 16-18 Years of Age by Province, Indonesia 2013	263
Figure 16.16 Nutrition Status (BMI/A) Trend of Adolescent 16-18 Years of Age, Indonesia 2010 and 2013	263
Figure 16.17 Thin, Overweight and Obesity Prevalence to Adult Population (> 18 years) by province, Indonesia 2013	264
Figure 16.18 Obesity Prevalence Trend (BMI $\geq$ 25) to Male Population aged > 18 years, Indonesia 2007, 2010, and 2013	265
Figure 16.19 Obesity Prevalence Trend (BMI $\geq$ 25) of Female Adult Population Aged > 18 Years based on Riskesdas 2007, 2010 and 2013 Data	266
Figure 16.20 Nutrition Status Trend of Adult Population (> 18 Years) by Composite Height and BMI Indicators, Indonesia 2010 -2013	266
Figure 16.21 Central Obesity Prevalence Trend of Population Aged $\geq$ 15 Years Old by Province, Indonesia 2007 and 2013	267
Figure 16.22 CED Risk Prevalence to Pregnant Women Aged 15-49 Years Old by Province, Indonesia 2013.....	268
Figure 16.23 CED Risk Prevalence of Women at Childbearing Age (15-49 Years Old) by Province, Indonesia 2013.....	268
Figure 16.24 CED Risk Prevalence to Women of Childbearing Age by Age Groups, Indonesia 2007 and 2013	269
Figure 16.25 Women with High-Risk Pregnancy Prevalence (Height of Body < 150 cm) by Province, Indonesia 2013.....	269
Figure 17.1 Blindness Prevalence of Respondents $\geq$ 6 Years Old with/without Optimum Correction by Province, Indonesia 2007-2013	273
Figure 17.2 Prevalence of Glasses/Contact Lenses Wears, Severe Low Vision and Blindness by Age Groups, Indonesia 2013.....	273
Figure 17.3 Prevalence of Glasses/Contact Lenses Wears, Severe Low Vision and Blindness by Education, Indonesia 2013	274
Figure 17.4 Prevalence of Glasses/Contact Lenses Wears, Severe Low Vision and Blindness by Wealth Quantile Index, Indonesia 2013	275
Figure 17.5 Prevalence of Glasses/Contact Lenses Wears, Severe Low Vision and Blindness by Residence, Indonesia 2013	275
Figure 17.6 Pterygium and Corneal Turbidity Prevalence by Province, Indonesia 2013.....	279
Figure 17.7 Three Main Reasons of Cataracts Patients Not Taking Surgery by Province, Indonesia 2013	281
Figure 17.8 Hearing Disorder Prevalence of Population Aged $\geq$ 5 Years According to Conversation Test by Province, Indonesia 2013	285
Figure 17.9 Deafness Prevalence of Population $\geq$ 5 Years Old According to Conversation Test by Province, Indonesia 2013	285
Figure 18.1 Water, Salt and Urine Sample Recruitment, Indonesia 2013.....	289
Figure 18.2 Blood Specimen Recruitment, Indonesia 2013.....	290
Figure 18.3 The Trends of Households in Iodized Salt Consumption according to Rapid Test by Province, Riskesdas 2007 and 2013	292
Figure 18.4 Median UIE Value in Urines ($\mu\text{g/L}$) in Children, Women of Childbearing Age, Pregnant Women and Lactating women, Indonesia 2013.....	293
Figure 18.5 Urine Iodine Secretion Proportion of Urines from Children 6-12 Years of Age, Women of Childbearing Age, Pregnant Women and Lactating Women by UIE Categories, Indonesia 2013	294
Figure 18.6 Proportion of Total Blood Cholesterol of Population $\geq$ 15 Years Old by Characteristics, Indonesia 2013.....	299

Figure 18.7 Proportion of Low HDL of Population $\geq$ 15 Years Old by Characteristics, Indonesia 2013	300
Figure 18.8 Proportion of Abnormal LDL of Population $\geq$ 15 Years Old by Characteristics, Indonesia 2013	301
Figure 18.9 Proportion of Abnormal Triglyceride of Population $\geq$ 15 Years Old by Characteristics, Indonesia 2013.....	301
Figure 18.10 The Proportion of Population $\geq$ 15 Years Old with Abnormal Creatinine by Characteristics, Indonesia 2013	301

ABBREVIATIONS

µg/L	: microgram per Liter
ACT	: Artemisinin-based combination therapy
ADA	: American Diabetes Association
Amanat Persalinan	: Menyambut Persalinan Agar Aman dan Selamat
ANC	: Antenatal care
ANC 4x +	: proporsi kelahiran yang mendapat pelayanan kesehatan ibu hamil minimal 4 kali tanpa memperhitungkan periode waktu pemeriksaan.
APN	: Asuhan Persalinan Normal
ART	: Anggota Rumah Tangga
Asabri	: Asuransi Sosial Angkatan Bersenjata Republik Indonesia
ASI	: Air Susu Ibu
Askes	: Asuransi kesehatan
BAB	: Buang air besar
Babel	: Bangka Belitung
Badan Litbangkes	: Badan Penelitian dan Pengembangan Kesehatan
Balita	: Bawah lima tahun
BB	: Berat Badan
BB/TB	: Berat badan/Tinggi Badan
BB/U	: Berat badan/umur
BBLR	: Berat Badan Lahir Rendah
BP	: Balai Pengobatan
BPS	: Badan Pusat Statistik
BS	: Blok Sensus
Buku KIA	: Buku Kesehatan Ibu dan Anak
CPR	: <i>Contraceptive Prevalence Rate</i>
D	: Diagnosis dokter/tenaga kesehatan
D1	: Diploma 1
D3	: Diploma 3
DG	: Diagnosis atau gejala
Dinkes	: Dinas Kesehatan
DIY	: Daerah Istimewa Yogyakarta
DKI	: Daerah Khusus Ibukota
DM	: Diabetes Mellitus
DO	: Diagnosis tenaga kesehatan atau minum obat sendiri
EIU	: Eksresi Iodium Urin
EKG	: Elektro Kardio Gram
EMD	: <i>Effective Medical Demand</i>
FKM	: Fakultas Kesehatan Masyarakat
G	: Gejala klinis spesifik penyakit
GAKI	: Gangguan Akibat Kekurangan Iodium
GATS	: <i>Global Adults Tobacco Survey</i>
GDP	: Glukosa Darah Puasa
GDPP	: Glukosa Darah Pasca Pembebanan
GDS	: Glukosa Darah Sewaktu
GGK	: Gagal ginjal kronik
Hb	: Hemoglobin
HDL	: High-Density Lipoprotein
HIV/ AIDS	: Human Immunodeficiency Virus Infection / Acquired Immunodeficiency Syndrome
ICCIDD	: International Council for Control of Iodine Deficiency Disorders

ICF	: <i>International Classification of Functioning</i>
IFCC	: International Federation of Clinical Chemistry
IMD	: Inisiasi Menyusu Dini
IMT	: Indeks Massa Tubuh
Indeks DMF-T	: Penjumlahan dari <i>D(Decay)</i> , <i>M(Missing)</i> , <i>F(Filling)</i> - <i>T (teeth)</i>
IPKM	: Indeks Pembangunan Kesehatan Masyarakat
ISPA	: Infeksi Saluran Pernapasan Akut
IU	: International Unit
IUD	: Intra Uterine Device
Jabar	: Jawa Barat
Jamkesda	: Jaminan Kesehatan Daerah
Jamkesmas	: Jaminan Kesehatan Masyarakat
Jamsostek	: Jaminan Sosial Tenaga Kerja
Jateng	: Jawa Tengah
Jatim	: Jawa Timur
JMP	: Joint Monitoring Programme
JNC	: Joint National Committee
JPK	: Jaminan Pemeliharaan Kesehatan
K1	: Proporsi kelahiran yang mendapat pelayanan kesehatan ibu hamil minimal 1 kali tanpa memperhitungkan periode waktu pemeriksaan
K1 ideal	: Proporsi kelahiran yang mendapat pelayanan kesehatan ibu hamil pertama kali pada trimester 1
K4	: Proporsi kelahiran yang mendapat pelayanan kesehatan ibu hamil selama 4 kali dan memenuhi kriteria 1-1-2 yaitu minimal 1 kali pada trimester 1, minimal 1 kali pada trimester 2 dan minimal 2 kali pada trimester 3.
Kadinkes	: Kepala Dinas Kesehatan
Kalbar	: Kalimantan Barat
Kalsel	: Kalimantan Selatan
Kalteng	: Kalimantan Tengah
Kaltim	: Kalimantan Timur
Kasie litbang	: Kepala Seksi Penelitian dan Pengembangan
Kasie Litbangda	: Kepala Seksi Penelitian dan Pengembangan Daerah
Kasie puldata	: Kepala Seksi Pengumpulan Data
Kasubdin	: Kepala Sub Dinas
Katim	: Ketua Tim
KB	: Keluarga Berencana
KDRT	: Kekerasan Dalam Rumah Tangga
KEK	: Kurang Energi Kronis
Kep. Riau	: Kepulauan Riau
KEPK	: Komisi Etik Penelitian Kesehatan
Kepmenkes	: Keputusan Menteri Kesehatan
Kespro	: Kesehatan Reproduksi
KF	: Pelayanan kesehatan yang diberikan pada ibu selama periode 6 jam sampai 42 hari setelah melahirkan.
KIA	: Kesehatan Ibu dan Anak
KIO3	: Kalium Iodat
KIPI	: Kejadian Ikutan Pasca Imunisasi
KK	: Kepala Keluarga
KLB	: Kejadian Luar Biasa
KMS	: Kartu Menuju Sehat
KN	: Kunjungan Neonatal
Korwil	: Koordinator Wilayah

Lansia	: Lanjut usia
LDL	: Low-Density Lipoprotein
LH	: Lahir Hidup
LiLA	: Lingkar Lengan Atas
Linakes	: Persalinan yang ditolong oleh tenaga kesehatan (dokter spesialis kebidanan dan kandungan, dokter umum dan bidan)
LM	: Lahir Mati
LN	: Luar Negeri
LP	: Lingkar Perut
Malut	: Maluku Utara
MDGs	: <i>Millennium Development Goals</i>
Menkes	: Menteri Kesehatan
MI	: Missing Indeks
MKJP	: Metode Kontrasepsi Jangka Panjang
MPASI	: Makanan Pendamping Air Susu Ibu
Nakes	: Tenaga Kesehatan
NCEP-ATP III	: <i>National Cholesterol Education Program- Adult Treatment Panel III</i>
NLIS	: <i>Nutrition Landscape Information System</i>
Non MKJP	: Non Metode Kontrasepsi Jangka Panjang
NTB	: Nusa Tenggara Barat
NTT	: Nusa Tenggara Timur
OAT	: Obat Anti Tuberkulosis
OG	: Obat Generik
OT	: Obat Tradisional
P4K	: Program Perencanaan Persalinan dan Pencegahan Komplikasi
Pabar	: Papua Barat
PB	: Panjang Badan
PBTDK	: Pusat Biomedis dan Teknologi Dasar Kesehatan
PCA	: <i>Principal Component Analysis</i>
PD3I	: Penyakit yang Dapat Dicegah Dengan Imunisasi
PDBK	: Penanggulangan Daerah Bermasalah Kesehatan
PERDAMI	: Persatuan Dokter Spesialis Mata Indonesia
PERHATI	: Perhimpunan Dokter Spesialis Telinga Hidung Tenggorok Indonesia
Permenkes	: Peraturan Menteri Kesehatan
Perpres	: Peraturan Presiden
PHBS	: Perilaku Hidup Bersih dan Sehat
PJK	: Penyakit Jantung Koroner
PM	: Penyakit Menular
PMT	: Pemberian Makanan Tambahan
PNS	: Pegawai Negeri Sipil
Polindes	: Pondok Bersalin Desa
Poltekkes	: Politeknik Kesehatan
Poskesdes	: Pos Kesehatan Desa
Poskestren	: Pos Kesehatan Pesantren
Posyandu	: Pos Pelayanan Terpadu
PPI	: Program Pengembangan Imunisasi
Ppm	: <i>Part per million</i>
PPS	: <i>Probability Proportional To Size</i>
PPOK	: Penyakit Paru Obstruksi Kronis
PSU	: <i>Primary Sampling Unit</i>
PT	: Perguruan Tinggi
PTI	: Performance Treatment Index
PTM	: Penyakit Tidak Menular

PUS	: Pasangan Usia Subur
Puskesmas	: Pusat Kesehatan Masyarakat
Pustu	: Puskesmas Pembantu
PWS KIA	: Pemantauan Wilayah Setempat Kesehatan Ibu dan Anak
RB	: Rumah Bersalin
RDT	: <i>Rapid Diagnostic Test</i>
RI	: Republik Indonesia
Riskesdas	: Riset Kesehatan Dasar
RKD	: Riskesdas
RPJMN	: Rencana Pembangunan Jangka Menengah Nasional
RS	: Rumah Sakit
RT	: Rumah Tangga
RTI	: Required Treatment Index
SD/MI	: Sekolah Dasar/Madrasah Ibtidaiyah
SDM	: Sumber Daya Manusia
SKN	: Sistem Kesehatan Nasional
SKRT	: Survei Kesehatan Rumah Tangga
SLTA	: Sekolah Lanjutan Tingkat Pertama
SLTP	: Sekolah Lanjutan Tingkat Pertama
SMA/MA	: Sekolah Menengah Atas/Madrasah Aliyah
SMP/MTS	: Sekolah Menengah Pertama/Madrasah Tsanawiyah
SP 2010	: Sensus Penduduk 2010
SPK	: Standar Pelayanan Kebidanan
SRQ	: <i>Self Reporting Questionnaire</i>
STIKES	: Sekolah Tinggi Ilmu Kesehatan
Sulbar	: Sulawesi Barat
Sulsel	: Sulawesi Selatan
Sulteng	: Sulawesi Tengah
Sultra	: Sulawesi Tenggara
Sulut	: Sulawesi Utara
Sumbar	: Sumatera Barat
Sumsel	: Sumatera Selatan
Sumut	: Sumatera Utara
Susenas	: Survei Sosial Ekonomi Nasional
TB	: Tinggi Badan
TB	: Tuberkulosis
TB/U	: Tinggi badan/Umur
TGT	: Toleransi Glukosa Terganggu
TKP	: Tempat Kejadian Perkara
TNI/Polri	: Tentara Nasional Indonesia/ Kepolisian RI
U	: Ukur
UI	: Universitas Indonesia
UKBM	: Upaya kesehatan Bersumberdaya Masyarakat
UNAIR	: Universitas Airlangga
UNHAS	: Universitas Hasanuddin
UNICEF	: <i>United Nations Children's Fund</i>
USI	: <i>Universal Salt Iodization</i>
UU	: Undang – Undang
WG	: <i>Washington Group</i>
WHO	: <i>World Health Organization</i>
WHODAS 2	: <i>WHO Disability Assessment Schedule 2</i>
WUS	: Wanita Usia Subur
Yankestrad	: Pelayanan Kesehatan Tradisional

CHAPTER 1. INTRODUCTION

1.1. Background

The vision of National Long-Term Development Plan 2005-2025 is to achieve modern, just and prosperous Indonesia. The vision is realized with four development missions. Health development missions for 2010-2014 are to enhance the health status of people through community empowerment with the participation of all components inclusive of private sectors and civil society; to protect public health with complete, broad, quality and impartial health initiatives; to assure the provision and distribution of health resources; and to introduce good corporate governance. National health system 2012 has included research and development as a sub-system of seven sub-systems (Law No. 17 of 2007).

To pursue the foregoing vision and missions, one strategy taken by the Ministry of Health is to “intensify health services in prevailed, affordable, quality and equitable manner concentrating on promotive and preventive measures”. This strategy will, of course, need nationwide health data based on facilities and communities collected on regular basis and in reliable manner (SKN, PP Number 72 of 2012).

To provide regular health data, National Institute of Health Research And Development (Balitbangkes) of the Ministry of Health has conducted Basic Health Research (Riskesdas). This community-based health research is designed at nationwide, province and district/Municipality scale. Riskesdas is carried out on periodic basis to evaluate the realization of health programs and at the same time to provide inputs in health planning.

In 2007, Riskesdas was conducted for the first time covering primary health indicators, namely: health status (death contributing factors, morbidity rate, accident rate, disability rate and nutrition status), environmental health, domestic nutrition consumption, Knowledge-attitude-behavior (Avian Influenza, HIV/AIDS, hygienic behaviors, tobacco consumption, alcohol drinks, physical activities, food consumption behavior) and other aspects relating to health service (access, coverage, service quality, health financing) as well as blood samples of household members (not including babies) in sub-urban sample regions (Balitbangkes, 2007).

The results of Riskesdas 2007 have been widely used by decision makers and executives engaged in health programs of the Government and regions. They have been also adopted in National Mid-Term Development Plan 2010-2014 preparation or used as basis in setting Community Health Development Index (IPKM) (Balitbangkes, 2010), which are proved very helpful to rank district/regencies/municipalities based on their health development performance as well as in mapping Health Problem Stricken Regions (Permenkes No 27 Tahun 2012).

In 2013 another Riskesdas similar to the one in 2007 is carried out with sample representatives until regency/municipality level. For dental and oral healthcare, the representatives reach province level only. As to biomedical samples their representatives are at nationwide scale.

Riskesdas 2013 has been prepared one year before, i.e. in 2012. It was initiated with the review of health indicators collected in Riskesdas 2007 to enhance data quality. Thereafter some indicators were added inclusive of Settlement and Economy, Pharmacy and Traditional Health Service, Mental Health, which covers severe mental disorder and *pasung* (chained to wooden blocks), Reproductive Health, Frequency of Consuming Processed Foods from Wheat Flours, Auditory Health, Iodine Water Test, Urinary Iodine Test to Women at Childbearing Age. Economic Status indicators have been further expanded from composite asset variables, which are included in Settlement and Economy Block. To respond polemic of Female Genetical Mutilation (FGM), Riskesdas 2013 has added data of this issue. On the other side, one indicator of domestic nutrition consumption has been disregarded in Riskesdas 2013. This indicator will be investigated in a separate survey. Some variables not collected include health service response, knowledge of HIV/AIDS, alcohol consumption habits, knowledge of Avian Influenza, Noise in the surroundings of residence and factors contributing the death.

1.2. The Scope of Riskesdas 2013

As previously noted, Riskesdas 2013 is more focused on community-based data collection to evaluate health status changes at regency/Municipality, province as well as nationwide scale including IPKM (Community Health Development Index) and MDGs indicators in health sector.

1.3. Questions for the Research

Research questions proposed for Riskesdas 2013 include:

- 1) How is the realization of public health status at national, province and district/regency/Municipality level in 2013?
- 2) Is there any specific change in health issues experienced by province and district/regency/ Municipality?
- 3) What factors and how will they have influence over public health status at national, province and regency Municipality level?
- 4) What factors contribute the changing health issues?
- 5) What is the correlation of such factors to health status?

This report is just able to respond the questions 1 and 2. For questions 3, 4 and 5, they will be reported in 2014 consisting of advanced analysis.

1.4. The Objectives of Riskesdas 2013

General:

Provide information based on evidence for health policy formulation at various administration tiers.

Specific:

- 1) Provide information for health planning including resources allocation for various administration tiers.
- 2) Provide maps indicating health status and the associated problems at national, province and regency/Municipality level in 2013.
- 3) Provide information relating to changes in public health status from 2007 to 2013.
- 4) Review the regency/Municipality disparity using IPKM index.
- 5) Review factors causing the changes of health status.

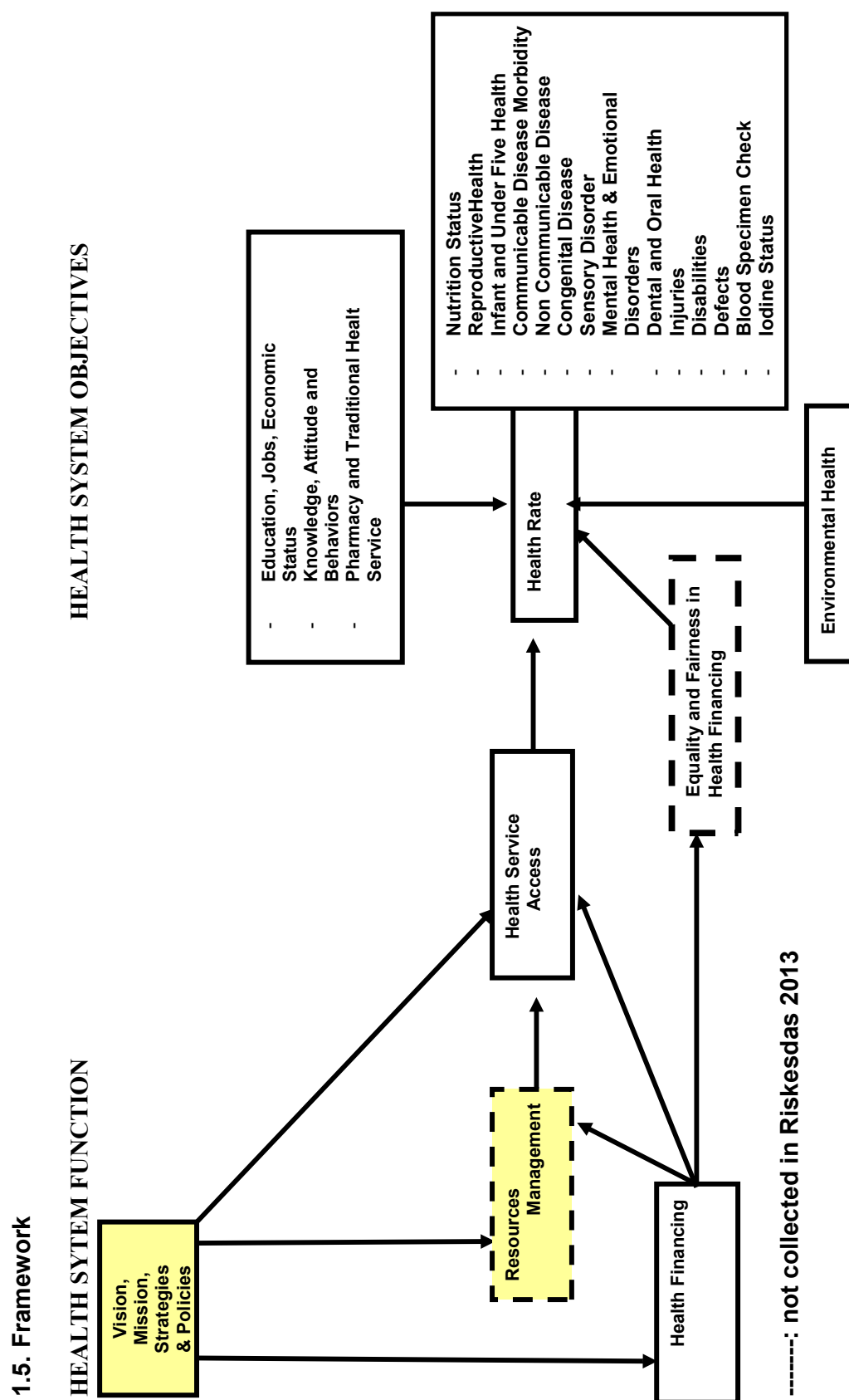
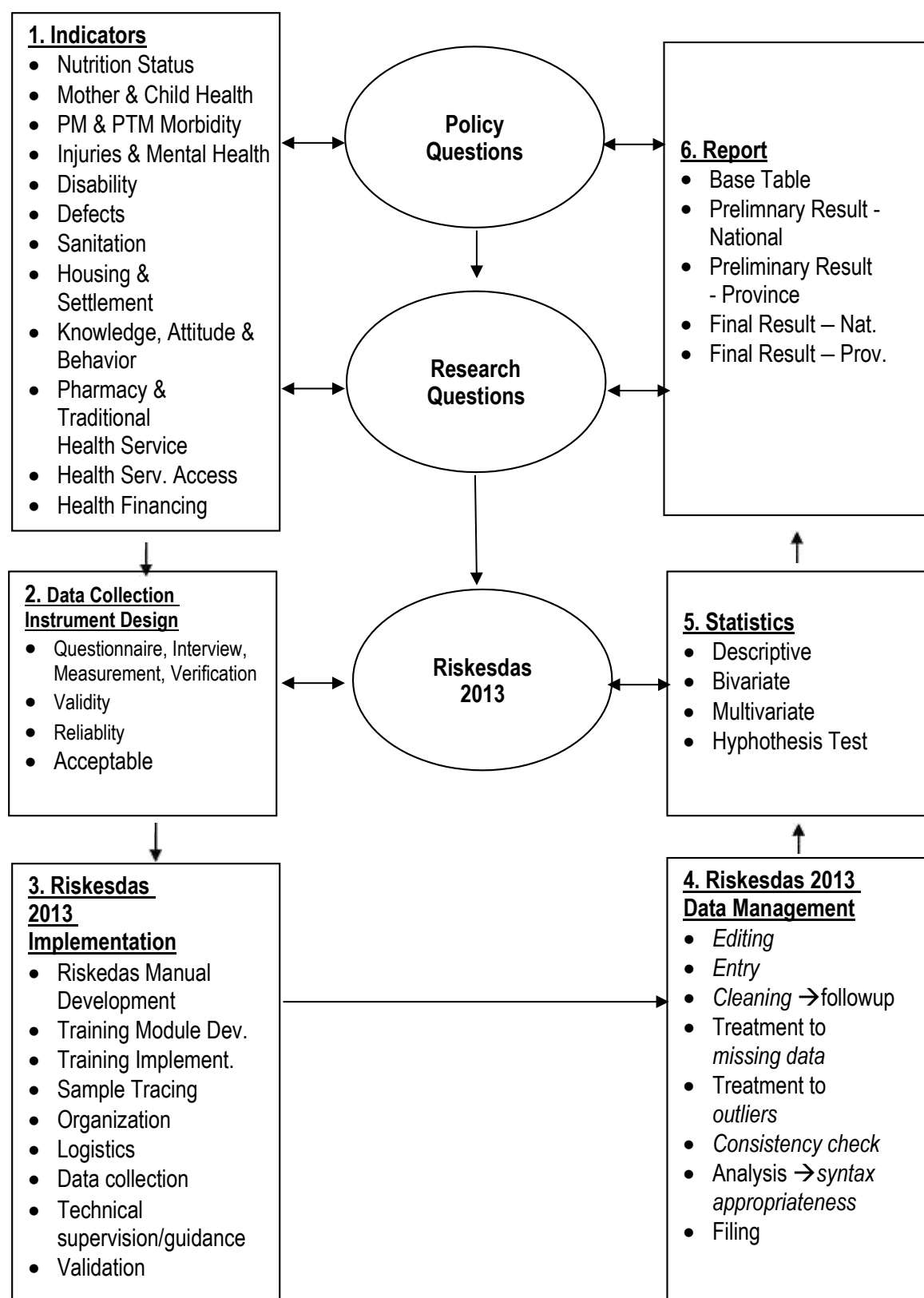


Figure 0.1 Riskesdas 2013 Framework developed by combining WHO Health System and BLUM Model Concept

1.6. Riskesdas 2013 Flow Chart

This flow chart (Figure 1.2) systematically depicts six important stages of Riskesdas 2007 and 2013. These six stages have close relation with the basic idea of Riskesdas so as to provide health data, which are valid, accurate and comparable and to produce estimates that can represent households and individuals until regency/municipality, province and nationwide scale. The cycle, which is started from Stage 1 to Stage 6 illustrates systematic and sustainable thinking pattern. This Riskesdas 2013 is demanded not only capable of responding policy questions but also giving directions for the subsequent policy development.

To ascertain the provision of valid, accurate and reliable health data, tight quality assurance measures have been taken for every stage of Riskesdas 2013. The substances of Questions, measurements and examinations in Riskesdas 2013 cover health data, which are partially adapted to World Health Survey 2002 (WHO, 2002) developed by World Health Organization that have been referred to by 70 countries across the world.



1.7. Riskesdas 2013 Organization

Legal basis for Riskesdas 2013 preparation is Decree of the Minister of Health Number 113/MENKES/SK/III/2012 concerning Community-Based National Health Research Team 2012-2014. The implementing organization of Riskesdas 2013 was set under Decree of Head of National Institute of Health Research And Development (Balitbangkes) No. HK.02.04/I.4/15/2013, of 2 January 2013 concerning Basic Health Research Team of 2013.

Riskesdas 2013 data collection is organized as follows:

1. At central level, Advisory Team, Steering Team, Expert Team, Technical Team, Management Team and Central Implementing Team have been established:
 - Advisory Team consists of the Minister of Health and BPS Head and Officials Echelon I of the Ministry of Health.
 - Steering Team consists of Heads of Body, Officials Echelon I and the related sectors.
 - Expert Team consists of experts in their respective fields.
 - Technical Team consists of Officials Echelon II, Researchers of Balitbangkes.
 - Management Team consists of Officials Echelon II, Echelon III and Staff of Balitbangkes
 - Central Implementing Team sets up Regional Coordinators (Korwil). A Korwil will coordinate some provinces.
2. At province level, Provincial Riskesdas Implementing Team has been established:
 - Implementing Team at province is chaired by Head of Province Health Agency, Head of Programming Sub Agency, Researchers of Balitbangkes and Head of R&D Section/Head of Data Collection Section of Province Health Agency.
3. At regency/Municipality level, Regency/Municipality Riskesdas Implementing Team has been established:
 - Implementing Team at regency/Municipality level is chaired by Head of Regency/Municipality Health Agency, Head of Regency/Municipality Programming Sub Agency, Researchers of Balitbangkes, Health Polytechnique and Head of R&D Section of Regency/Municipality Health Agency.

Data collection and management team is set out at regency/Municipality level. This team is responsible for 6 BS (Census Blocks) 150 households. Each data collection team consists of 5 persons chaired by a Team Leader. Qualifications of data collection and management team including the Team Leader must hold at least D3 degree in Health.

Data collection and management personnel are recruited from Health Polytechnique, STIKES, Universities (Medicine Faculty, Public Health Faculty, Nursing Faculty, Dentistry Faculty), etc. Some regions with lack of data collection and management personnel will recruit staff of health agency subject to consent of section heads and they must be freed from routine activities.

1.8. The Advantages of Riskesdas 2013

Research Advantages

For Regency/Municipality:

- a. Able to prepare program planning in more accurate manner according to the latest issues of health sector for the last six years.
- b. Provide evidence-based advocacy materials.
- c. Able to plan and implement further health survey.

2. For Province and the Government:
 - a. Able to map the changes in health issues and refine health development reviews by regions.
 - b. Have evidence-based advocacy materials.
 - c. Able to plan further research according to the latest health issues.
3. For Researchers
 - a. As data sources for further analysis.
 - b. As data sources for health index development.
4. For Education Institutes
 - a. As data sources for final assignment preparation
 - b. As data source for further analysis correlated with other data sources.

1.9. Ethical Consent of Riskesdas 2013

The implementation of Riskesdas 2013 has received ethical consent of Health Research Ethics Commission (KEPK), National Institute of Health Research And Development (Balitbangkes) of Health Ministry Number LB.02.01/5.2/KE.006/2013. This ethical consent, elucidation and informed consent form can be seen in the Annex.

CHAPTER 2. METHODOLOGY

*Atmarita, Julianty Pradono, Dewi Permaesih, Purnawan Junadi, Poerwanto, Dwi Hapsari
Tjandrarini, Wahyu Pudji Nugraheni, Rofingatul Mubasyiroh, and Sri Poedji Hastuti*

2.1. Sampling Method

Riskesdas is a cross sectional designed survey. Riskesdas 2013 aims to describe health problems encountered by Indonesian people in the entire regions of the country. In this case, the population is represented at national, province and regency/municipality level. Considering the parameters collected in Riskesdas 2013, this basis health research is differentiated into 3 modules, i.e. Regency Module, Province Module and National Module.

- 1) Regency Module is designed to present data at regency/municipality level to develop Public Health Development Index (IPKM)
- 2) Province Module is designed to present data at province level as sub sample of Regency Module.
- 3) National Module is designed to present data at nationwide especially for biomedical samples as sub sample of Province Module.

a. Sampling Frames

The sampling frame consists of two types, i.e. sampling frame stage one and sampling frame stage two.

- Sampling Frame Stage One contains list of primary sampling unit (PSU) of a sample master. The number of PSU in sample master reaches 30,000 selected on *probability proportional to size (PPS)* basis to the total households of population census 2010. PSU is a merger of several census blocks being the work areas of SP2010 enumerator teams. PSU also contains information of household heads, address, education level of household head by region classification (urban/rural).
- Sampling Frame Stage Two covers the entire census building in which ordinary households, not included institutional households (orphanage, police/military barrack, jails, etc.), are listed based on the results of complete enumeration of SP2010 (SP2010-C1). The selected census building and households within the selected census building must be first updated. The update will be made by Riskesdas 2013 enumerators before proceeding any interview.

b. Sample Design

1) Regency/Municipality Estimate

The sampling method is to take samples in three strata stages that can be further pointed out as follows:

- First Stage is to select a number of PSU taken from the list of PSU systematically selected in every regency/municipality according to the allocated domain.
- Second Stage, of the selected PUS, 2 BS (Census Block) are then selected on PPS basis to the number of households of Population Census 2010 – Household Recapitulation of SP2010 – RBL1 for regency/municipality per domain allocation. Thereafter, one block is selected randomly for Riskesdas and one census block for Susenas.
- Third Stage, from Riskesdas Census Block, a number of census buildings ($m = 25$) will be selected systematically based on census buildings of SP2010-C1.

- Fourth Stage, the selected census building will undergo on-the-spot check to assure its existence. One (1) household will be selected randomly as sample. Household list in census building must be updated first.

2) Province Estimate

Sampling method to estimate the province consists of two strata stages and constitutes sub sample of regency/municipality estimate. The stages can be explained as follows:

- First Stage, choose some BS (Census Block) on random from the selected BS of regency/municipality estimate per domain allocation of the regency/municipality concerned.
- Second Stage, of the selected BS, several census buildings ($m=25$) are selected in systematic manner based from census buildings of SP2010-C1.
- Third Stage, of the selected census building, their existence must be verified in the field. Thereafter, 1 (one) household is taken as sample in random. Households in census building must be first updated.

3) National Estimate

The sampling Method consists of two strata sampling stages and constitutes sub sample of province estimate. The stages can be detailed as follows:

- The first stage is to select 250 regencies/municipalities on *probability proportional to size with replacement* (PPS WR) basis. This method is to maximize information of households per regency/municipality from SP2010 as sample size. From this sampling, a slew of 177 regencies/municipalities are taken as effective sample size.
- In the second stage, of the selected regencies/municipalities, Census Blocks (BS) are selected on systematic sample basis taken from sample Riskesdas BS in MFG's Module. Thus, the selected BS of Biomedical Module will constitute sub sample of BS in Province Module reaching 1000 BS. Households selected as samples in Biomedical Module Riskesdas consist of 25 households. They are selected from Province Module, i.e. sample BS of Biomedical Module.

4) The Importance of Sample Validation for Riskesdas 2013

To maintain the quality of samples taken in Riskesdas, sample validation has been made by three university: Indonesia University, Hasanudin University and Airlangga University. The samples are taken from national sub samples consisting of 150 BS in 33 provinces.

c. Number of Sample Census Blocks and Households

As previously noted, the number of sample BS and households refer to several estimate domain as follows:

- Regency/Municipality Estimate: means minimum samples for regency estimate with total household samples 300,000 households (of 12,000 BS). BS samples are allocated by region classification, i.e. urban and rural areas.
- Province Estimate: reflects the minimum samples for province estimate with total household samples 75,000 households (3,000 BS). Census block samples are allocated by region classification (urban/rural areas).
- National Estimate: constitutes the minimum samples for national estimate with total household samples 25,000 households (1000 BS). Census block samples are allocated by region classification, i.e. urban and rural areas.
- Validation Sample: is minimum sample of national sub sample (150 BS) allocated by urban area and rural area.

2.2. Population and Samples

Population in Riskesdas 2013 covers the entire ordinary households representing 33 provinces. Household samples of Riskesdas 2013 are selected from Population Census Listing (SP) 2010. Household sampling process is conducted by BPS (Central Bureau of Statistics). The latter furnishes list of the selected census buildings taken from the selected Census Blocks in stages as previously pointed out. Below is short description of household sampling process.

Household Sampling Process

As previously noted, BPS selects Census Blocks (BS) for Riskesdas 2013 based on sampling frame SP 2010. The list includes 12,000 BS and 300,000 census building complete with the names of household heads taken from SP 2010. The names of household heads have been updated by enumerators before proceeding any enumeration process. Some notes to household selection and updating process from the selected BS and Census Buildings are as follows:

- 4) Some census blocks are no longer existent because of natural disasters (e.g. floods, landslides, earthquake) as found in Mentawai and some regencies in Kalimantan.
- 5) Census blocks located in conflict-torn regions and having difficult access as found in Papua.
- 6) Census building not found because of function change, no longer ordinary households.

For the foregoing cases, they have been reported to BPS for BS re-sampling and the associated census buildings.

Response Rates

Of 12,000 BS selected for Riskesdas 2013 samples, 11,986 BS (99.9%) have been found and visited. They are distributed in 33 provinces, 497 regencies/municipalities. Fourteen (14) BS, i.e. 12 BS in Papua, 1 BS in West Papua and 1 BS in DKI Jakarta are not visited because of difficult accessibility and rejection of local residents.

The number of households records 294,959 of 300,000 target households (98.3%) with household members 1,027,763 persons. According to SP2010, with household member 3.8 persons on average, then in terms of household members, it reaches 93 percent. Of 294,959 households, no information is collected from 77,830 household members. They are absent during data collection for Riskesdas 2013. The number of samples including for regency/municipality estimate, province estimate and national (biomedical) estimate is subject to their Census Blocks.

Table 2.1 shows the distribution of Census Block (BS), Households (RI) and Household Members (ART) by province. Table 2.2 indicates the distribution of samples by age group and sex. Age groups have been classified specifically for parameter analysis of Riskesdas 2013.

Table 2.1 Response Rate by Province, Indonesia 2013

Code	Province	BS		Households		Household Members			
		Visited	Response Rate (%)	Sample	Visited	Response Rate (%)	Sample	Data Collected	Response Rate (%)
11	Aceh	467	100,0	11.675	11.617	99,5	44.368	40,951	92,3
12	North Sumatera	756	100,0	18.900	18.693	98,9	75.547	72,935	96,5
13	West Sumatera	407	100,0	10.175	10.023	98,5	38.913	36,955	95,0
14	Riau	305	100,0	7.625	7.520	98,6	29.621	28,017	94,6
15	Jambi	250	100,0	6.250	6.189	99,0	23.056	22,605	98,0
16	South Sumatera	383	100,0	9.575	9.549	99,7	38.089	37,393	98,2
17	Bengkulu	204	100,0	5.100	5.072	99,5	18.897	18,154	96,1
18	Lampung	373	100,0	9.325	9.268	99,4	33.440	32,745	97,9
19	Bangka Belitung	144	100,0	3.600	3.569	99,1	12.759	11,765	92,2
21	Riau Island	145	100,0	3.625	3.546	97,8	12.837	11,844	92,3
31	DKI Jakarta	208	99,5	5.225	4.684	89,6	16.343	13,766	84,2
32	West Java	958	100,0	23.950	23.694	98,9	83.522	77,701	93,0
33	Central Java	1.098	100,0	27.450	27.255	99,3	93.650	85,310	91,1
34	DI Jogjakarta	150	100,0	3.750	3.704	98,8	12.100	11,104	91,8
35	East Java	1.197	100,0	29.925	29.717	99,3	104.483	97,339	93,2
36	Banten	271	100,0	6.775	6.679	98,6	26.277	24,247	92,3
51	Bali	231	100,0	5.775	5.761	99,8	21.508	20,403	94,9
52	West Nusa Tenggara	254	100,0	6.350	6.339	99,8	23.486	22,256	94,8
53	East Nusa Tenggara	436	100,0	10.900	10.747	98,6	46.206	43,732	94,6
61	West Kalimantan	324	100,0	8.100	8.000	98,8	30.670	29,050	94,7
62	Central Kalimantan	277	100,0	6.925	6.773	97,8	24.021	22,284	92,8
63	South Kalimantan	300	100,0	7.500	7.298	97,3	26.248	24,532	93,5
64	East Kalimantan	293	100,0	7.325	6.950	94,9	25.747	23,931	92,9
71	North Sulawesi	298	100,0	7.450	7.395	99,3	25.293	24,047	95,1
72	Central Sulawesi	240	100,0	6.000	5.800	96,7	23.185	21,128	91,1
73	South Sulawesi	553	100,0	13.825	13.598	98,4	52.425	48,129	91,8
74	South-east Sulawesi	237	100,0	5.925	5.908	99,7	24.387	22,766	93,4
75	Gorontalo	122	100,0	3.050	3.029	99,3	12.029	11,242	93,5
76	West Sulawesi	106	100,0	2.650	2.628	99,2	10.817	9,952	92,0
81	Maluku	199	100,0	4.975	4.945	99,4	22.301	19,665	88,2
82	North Maluku	161	100,0	4.025	3.913	97,2	17.301	15,755	91,1
91	West Papua	160	99,4	4.025	3.836	95,3	15.288	13,046	85,3
94	Papua	479	97,6	12.275	11.260	91,7	40.779	33,014	81,0
Indonesia		11.986	99,9	300.000	294.959	98,3	1.105.593	1.027.763	93,0

Table 2.2 Distribution of Samples by Age Groups and Sexes, Indonesia 2013

Riskesdas 2013 Samples	Male		Female		Male + Female
	N	%	N	%	
Under Five Years Old (months)					
0 - 5	3.801	51.3	3.613	48.7	7.414
6 -11	3.818	50.6	3.724	49.4	7.542
12 -23	8.086	50.6	7.891	49.4	15.977
24 - 35	8.043	50.7	7.831	49.3	15.874
36 - 47	9.009	51.5	8.484	48.5	17.493
48 - 60	9.470	51.6	8.896	48.4	18.366
Total	42.227	51.1	40.439	48.9	82.666
School Age (Years)					
5	10.618	52.3	9.699	47.7	20.317
6	11.679	52.5	10.556	47.5	22.235
7	11.315	52.7	10.171	47.3	21.486
8	11.457	51.4	10.842	48.6	22.299
9	12.088	51.4	11.416	48.6	23.504
10	12.164	51.8	11.328	48.2	23.492
11	11.451	52.1	10.542	47.9	21.993
12	12.144	51.5	11.454	48.5	23.598
13	12.211	51.6	11.465	48.4	23.676
14	10.232	50.7	9.936	49.3	20.168
15	9.898	50.7	9.611	49.3	19.509
16	9.487	50.8	9.197	49.2	18.684
17	9.317	51.1	8.899	48.9	18.216
18	8.450	51.9	7.845	48.1	16.295
Total	152.511	51.6	142.961	48.4	295.472
Adult Age (Years)					
19	7.122	52.7	6.396	47.3	13.518
20-24	31.796	50.6	31.082	49.4	62.878
25-29	29.497	45.5	35.402	54.5	64.899
30-34	35.303	45.2	42.723	54.8	78.026
35-39	36.807	46.2	42.924	53.8	79.731
40-44	38.811	48.0	42.107	52.0	80.918
45-49	33.626	48.0	36.370	52.0	69.996
50-54	30.452	49.9	30.549	50.1	61.001
55-59	23.504	49.5	23.965	50.5	47.469
;60-64	17.406	50.6	17.000	49.4	34.406
65-69	10.400	47.8	11.358	52.2	21.758
70-74	8.418	47.9	9.173	52.1	17.591
75+	7.529	43.2	9.905	56.8	17.434
Total	310.671	47.8	338.954	52.2	649.625
Total	505.409	49.2	522.354	50.8	1.027.763

Figure 2.1 and Figure 2.2 illustrate the average number of sample Households (RT) and Household Members (ART) by Regency/Municipality in 33 provinces. Subject to the number of population, sample RT and sample ART vary from one regency/municipality to another. For example, sample households in DKI Jakarta are varying from 249 RT in Seribu Island to 1,125 RT in East Jakarta. Accordingly the number of household members (ART) also varies from 822 persons in Seribu island to 3,338 persons in West Jakarta.

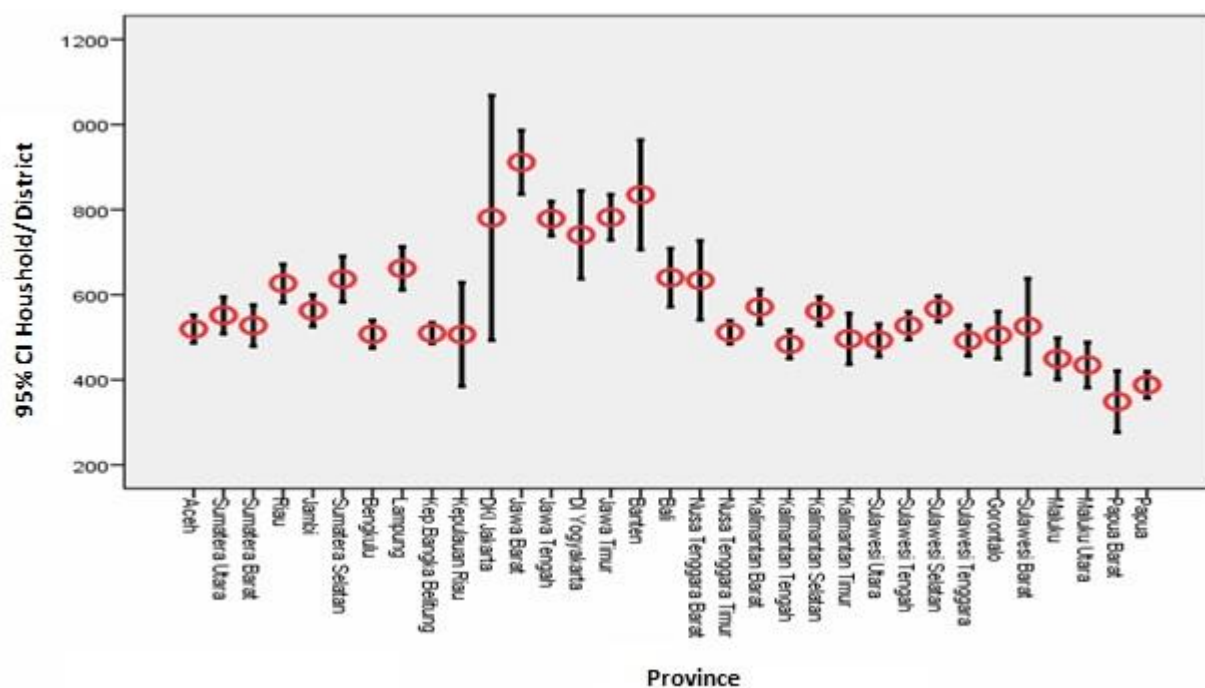


Figure 2.1 Sample Household Range per Regency/Municipality by Province, Indonesia 2013

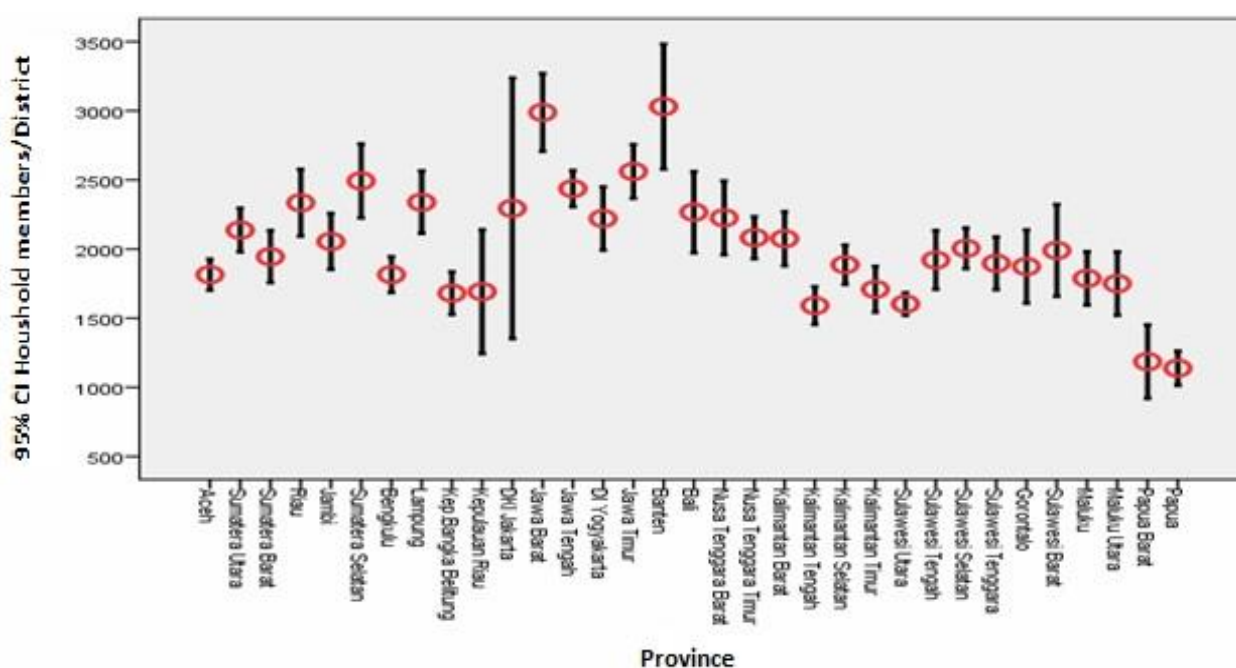


Figure 2.2 Sample Household Member (ART) Range per Regency/Municipality by Province, Indonesia 2013

Biomedical Samples

Samples for biomedical measurement are sub samples of 3,000 BS representing province or equivalent to 1,000 BS. In BS selected for biomedical measurement, in addition to public health variable collected from the households and household members, blood and urine specimens are also taken. The former is collected from the samples aged ≥ 1 year for malaria, anemia, diabetes mellitus, cholesterol and creatinine tests. As to urine, it is focused to assess the iodine status of sample children of 6-12 years old, and women of childbearing age (WUS) (15-49 years old) including pregnant and lactating women. Apart from urine, salt and water samples are taken for domestic iodine test.

With regard to blood specimen test, the number of samples aged ≥ 1 year is expected to reach 92,000 persons from 1,000 BS. However, due to some reasons of afraid or ill, the samples only reach 49,931 persons. The blood specimen from such samples has been used for analysis as indicated in Figure 2.3 that follows.

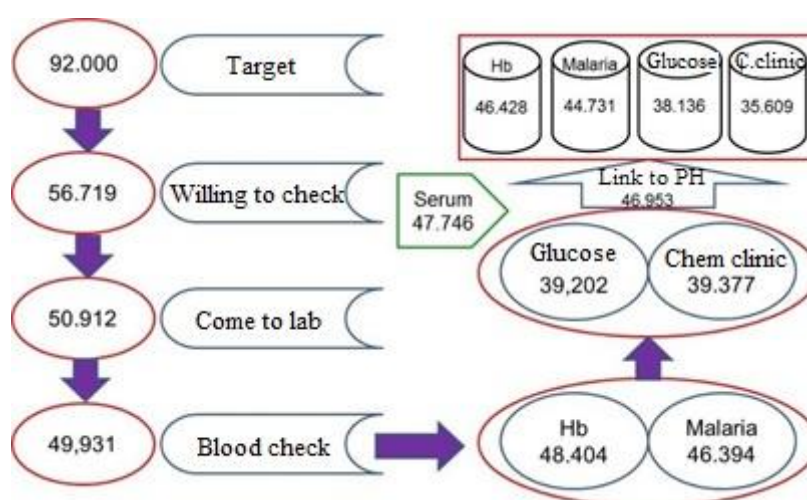


Figure 2.3 The number of sample specimen blood, Indonesia 2013

The number of samples for iodine status test can be seen in Table 2.3 that follows.

Table 2.3 Number of Samples for Iodine Examination, Indonesia 2013

Samples		Respondents	
Salt	Quick Test	All household samples (294.959 RT)	Regency/Municipality
	Iodine Titration in Laboratory	11.430 RT	National
Urine	Urinary Iodine Excretion Test in Laboratory	WUS 15-49 years old (13,811 samples); Children 6-12 years old (6,154 samples)	National
Water	Water iodine test in Laboratory	3,028 RT	National

Details of sample recruitment for iodine status in urine, salt and water sampling process can be seen in Figure 2.4.

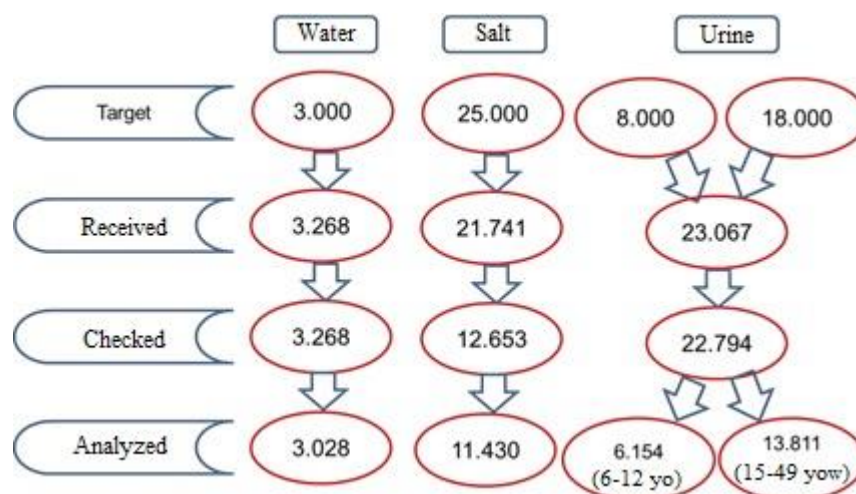


Figure 2.4 Water, Salt and Urine Sampling for Iodine Status Test, Indonesia 2013

2.3. Data Quality Assurance of Riskesdas 2013

The quality of evidence-based data of Riskesdas 2013 must be maintained. Some measures that can be taken to assure the quality of Riskesdas 2013 data include instrument tryout and data validation. The tryout is made by researchers of Balitbangkes, academicians and profession organizations. Data validation has been conducted by university team (University of Indonesia, Airlangga University and Hasanuddin University).

2.3.1. Tryout

Tryout aims to assess the validity of instruments, i.e. to get questionnaires suitable to the objectives of Riskesdas, to determine the feasibility of equipment to be used and data collection management. Some tryouts that have been conducted include:

- Tryout to questionnaires used to collect public health data so that the respondents will understand the substance of questionnaires and questions in each block to avoid any error in completing and selecting the contents of questionnaires.
- Tryout in blood specimen, urine and salt samples collection.
- Tryout to equipment used for public health data collection and biomedical test in terms of feasibility and validity of the equipment.
- Tryout in data entry process.
- Management and organization in the field including administration and logistics.

For this Riskesdas, two full tryouts have been made. The first tryout is in North Sumatra. To illustrate urban situations and nearly inaccessible rural areas, Pematang Siantar city and South Nias district have been selected as sample locations. In these selected locations, the data are collected from two census blocks (BS). For South Nias district, the selected BS are Pasar Pulau Tello village and Bawinofoso village. Meanwhile, in Kota Pematang Siantar, BS of Kelurahan Bantan and Simarito are selected. Data are collected by enumerators recruited by local Health Agency. The selected enumerators are (honorarium) staff of Health Agency attached to local Puskesmas (Village Health Centers). Data collection in these four BS is made by four teams. Each team consists of five persons. Special for Kota Pematang Siantar, biomedical data are also gathered.

Before deployed to the field for data collection, enumerators must take preliminary training provided by Riskesdas' technical team. The training continues for seven days in Medan. During the training, they receive explanation of questionnaires to be proposed to respondents and how to make measurement and take biomedical samples. After the training, these enumerators are fielded to collect data from the specified BS.

Households per BS for visits reach 25 for interviews, observation, measurement and examination. Tryout to questionnaires for Riskesdas 2013 consist of 12 questionnaire blocks as follows:

Block I. Site Visit

Block II. Household Information

Block III. Data Enumerators

Block IV. Household Member Information

Blok V. Health Access and Services

Block VI. Pharmacy and Traditional Health Service

Block VII. Severe Mental Disorders in Households

Block VIII. Program Policy and Community Empowerment

Block IX. Environmental Health and Food Sanitation

Block X. Household Expenses

Block XI. Individual Interview Information

Block XII. Individual Information

- a. Communicable Disease
- b. Non Communicable Disease
- c. Genetics and Family History
- d. Injury
- e. Sensory Health
- f. Dental and Oral Health
- g. Disability
- h. Mental Health
- i. Knowledge, Attitude and Behavior
- j. Health Financing
- k. Mother Health
- l. Child Health and immunization
- m. Measurement and examination
- n. Eye examination
- o. Ear Nose and Throat examination
- p. Permanent teeth status examination
- q. Blood Specimen and Sample Urine Collection
- r. Electrocardiogram
- s. Spirometric
- t. Food consumption

The tryouts provide description of time necessary to collect data from one BS, i.e. eight days. During data collection, many obstacles are encountered including too long interview because of too many questions of questionnaires. Some questions such as individual food consumption, responsiveness to health services and program policy and community empowerment are difficult to understand both for enumerators and respondents. Some tests of ECG, spirometry and water pH are also difficult to carry out in the field due to limited equipment and human resources.

Laboratory tests are to collect urine samples. Theoretically, urine to be used for iodine test is that of random urine. However for sodium test, the sample urine to collect is 24-hours fasting urine. This condition is impossible to meet in the field. Given that, the analysis only observes sample random urine and sample 24-hour fasting urine. The results of analysis to sodium content in these limited samples show no discrepancy ($p>0.05$). Thus, it is decided that sample urine for iodine test and sodium test is to use random urine.

Upon evaluation to the results of tryouts it is agreed to reduce the questions of Riskesdas instrument. Based on the first tryout, variables in Riskesdas 2013 are as follows:

Block I. Site Visit

Block II. Household Information

Block III. Data Enumerators

Block IV. Household Member Information

Block V. Access and Health Service

Block VI. Pharmacy & Traditional Health Service

Block VII. Severe Mental Disorder in Household

Block VIII. Environmental Health Block IX.

Settlement and Economy

Block X. Individual Interview

Block XI. Individual Information

- a. Communicable disease
- b. Non Communicable disease
- c. Injury
- d. Dental and Oral Health
- e. Disability
- f. Mental Health
- g. Knowledge Attitude and Behavior
- h. Health Financing
- i. ReproductiveHealth
- j. Child Health and Immunization
- k. Measurement and Examination
- l. Eye Examination
- m. Hearing Examination
- n. Permanent Teeth Status Examination
- o. Blood Specimen and Sample Urine Collection

In addition, from the results of questionnaire tryout it is agreed to contain the selected questions. Questionnaires are prepared under discussion with the related experts for all topics covered in Riskesdas 2013.

Instruments used for measurement and examination during Riskesdas 2013 tryouts are as follows:

1. Body Weight Scales
2. Body Height Scales
3. Abdominal Circumference and Upper Arm Circumference Measuring Tool
4. Tensimeter IA1
5. Loop, flashlight, pinhole, measuring tape 6 m, snellenchart
6. Speculum
7. Mouth mirror, antiseptics, tissue paper, gloves, maskers
8. Spirometer
9. Food scales
10. pH Meter
11. Biomedical (blood, urine, water and salt) specimen collection and delivery tools
12. Laptop for paperless data entry

The instruments for tryouts are particularly for anthropometric measurement, i.e. height measuring tools and body weight scales and tensimeter to measure blood pressure. Based on previous Riskesdas, it is difficult for enumerators to bring body height measuring tools made of fiber glass because of their heavy weight. Thus, it is decided to use measuring tool made of aluminum material to measure body heights.

The weight of body is measured with digital scales having precision 0.1 kg. For this tryout, scales with different brands have been selected (e.g. Fesco, Camry and AND). The brand selection is made based on accuracy and precision, durability of scales, weight of scales and price of the products. Finally, it is decided to use digital scale with Fesco brand.

To decide equipment for blood pressure measurement, some tryouts have been made to several tensimeters such as digital tensimeter Omron type IA2 and mercury tensimeter Nova. The tryouts aim to get correction factor of the equipment to the prescribed standard quality. Another equipment to test includes spirometer to complete Chronic Obstructive Pulmonary Disease (COPD) for respondents aged 30 years old and above.

Based on the above tryouts, it is decided that the instruments to be used in Riskesdas 2013 are:

1. Body Weight Scale Fesco
2. Body Height Scale made of Aluminum material
3. Abdominal Circuference and Upper Arm Circumference Measuring Tool
4. Tensimeter Omron type IA1
5. Loop, flashlight, pinhole, measuring tape 6 m, tumbling E
6. Ear speculum
7. Mouth mirror, anticeptics, tissue papers, gloves and maskers
8. Biomedical (blood, urine, water and salt) specimen collection and delivery tools

For these tryouts, data entry is made in the field. Data are recorded in two ways, i.e. paperless (without questionnaires, data directly entered with the pre-prepared software by team) and manually with questionnaires. Data must be edited and entered after interviews.

The observation results show that paperless method is difficult to apply in the field because of some obstacles including varying skills of enumerators, longer data collection time, and technical issues for computerized data processing. In view of such barriers, data for Riskerdas 2013 are collected manually with questionnaires and then edited and entered in the field.

Data collection and biomedical tests are made in the laboratory of local General Hospitals (RSUD) and private laboratories in Pematang Siantar. Some biomedical tests are made in field laboratories that may consist of laboratories in Puskesmas, hospitals or other facilities if possible.

The repaired instruments must be tested again before finally operated. The second tryout takes place in Cisarua of West Java with the stages of enumerator training adjusted to the results of the first tryout. Two enumerator teams are established to collect data in two Census Blocks (BS). Enumerators are the alumni of Poltekkes (Health Polytechniques) in West Java. They are recruited by West Java Health Agency. The second tryout more focuses on Riskesdas management ranging from preparation process in the field to data entry and online data sending, blood specimens and sample urine collection and delivery. Time necessary to deliver specimens from field laboratory to Banlitbankes' laboratory and potential damage to the specimens because of field conditions have been also regarded.

Based on the results of the second tryout, complete instruments and measuring tools to be used, data and specimen collection mechanism, biomedical form completion and questionnaires completion manual and data collection management manual for Riskesdas are then prepared.

2.3.2 Validation

Riskesdas 2013 validation means re-visit Riskesdas 2013 sub samples as part of quality assurance. It aims to assure the quality of Riskesdas 2013 data. The validation is carried out by independent team with the members from Public Health Faculties of Indonesia University, Airlangga University and Hasanuddin University.

i. Methodology

Validation starts from pre-survey, i.e. validation with qualitative design and participative observation in the preparation of survey officials at Central and Province level. Post-survey validation follows Riskesdas 2013 design, i.e. cross sectional survey.

Population for this validation covers the entire households throughout Indonesia selected for Riskesdas 2013 validation in 150 BS (sub samples of 1000 national BS samples in Riskesdas 2013). Samples are selected on PPS basis in view of the number of BS in the province and urban and rural areas. From the selected BS, 10 of 25 households are taken randomly for visit by Riskesdas 2013 enumerators.

ii. Validation Components and the Variables

The validated Riskesdas 2013 components include the overall processes in Riskesdas from pre-survey, during the survey to post survey (process validation and content/substance validation). Variables selected for Riskesdas 2013 validation are those indicated household questionnaires and individual questionnaires with regard to the objectives of Riskesdas and assessed relatively stable for 1 – 2 weeks after the visit of Riskesdas 2013 enumerators. Fifty percent (50%) of household variables and 30 percent of individual variables are used in validation survey to evaluate the reliability of such variables. For biomedical variables and measurement variables of anthropometric, sightability and hearing capabilities only process validation has been made. Thus, process validation is to ascertain whether the data of respondents have been collected, and whether they have been measured and data collection process has been made in compliance with the manual.

iii. Data Management

The data is taken by validation team of Public Health Faculties of Indonesia University, Airlangga University and Hasanuddin University while taken distance and the size of BS to the locations of validation institutes into account. The collected data are then input in Database Centers of the universities concerned using web-based program under coordination of Public Health Faculty of Airlangga University.

iv. Data Processing and Analysis

✓ Process Validation Analysis

To validate the implementation process, the analysis is simple, i.e. percentage analysis with scoring system as follows: >90 percent means very valid; 80-90 percent is valid; 60-80 percent indicates lack of validity; <60 percent implies validity problem.

✓ Content Validity Analysis

Two analyses have been used, to wit:

- Agreement coefficient with Kappa statistics. Alpha < 0.05 means that the variables have good reliability.
- The suitability percentage between the results of study-based validity measurement and the results of Riskesdas 2013 validity measurement is also calculated. The scores: >90 percent means very good; 80 – 90 percent is good; 60 – 80 refers to lack of validity; and <60 implies problems in reliability issue.

v. Conclusions

The results of pre-survey validation on the preparation of survey officials at central and province level show that Riskesdas 2013 has met the expected objectives. The officials have been prepared in sound manner so that capable of performing the given tasks as facilitators/supervisors during enumerator training. The majority of these officials managed to grasp the materials contained in curriculum for the preparation of survey officials at central and province. However, there is minor note of laboratory. Practice capability in class and field is a bit unsatisfactory because not all participants have opportunities to demonstrate their practice skills.

The management/organization for the preparation of survey officials at central and province has been soundly performed in terms of services or facilities. Nonetheless, materials and evaluation need further improvements.

Process and content validation of Riskesdas 2013 is carried out after the completion of data collection by Riskesdas enumerator teams. First, the validation team is to check the quality of interviews for Riskesdas 2013 covering: 1) time suitability for interview, 2) problems with respondents, 3) data collection process, 4) attitude and behavior of data enumerators, and 5) perception of respondents to the capability of enumerators in presenting the interview. These five aspects receive score good (80.9%). Second, the results of household variable validation are as presented in Table 2.4.

Variables of site visit are used to identify samples for validation. Group II, i.e. household information records poor score in process validation, and problems in reliability. It means that the preparation of questionnaires must be improved. On the other side, variables of household member information are relatively good. They can be used to improve variables of household information. As to other variable groups, such as Group V to IX, the validation indicates lack of validity and reliability. Some variables categorized in knowledge of generic drugs and environmental health reveal problems in reliability issue causing average score < 80 percent.

Table 2.4 Household Variable Validation

Variable Group	Validation		Conclusion	Remarks
	Process	Content		
I.Site Visit		NA		For data collection
II.Household Information	74,4	*	Lack of reliability	
III.Data Enumerator Information		NA		For data collection
IV.Household Member Information	77,5	83,1	valid and reliable	
V.Access and Health Service	79,0	73,2	valid but lack of reliability	
VI.Pharmacy and Traditional Health Service				
VI.B Knowledge on Generic Drugs	70,3	66,2	Lack of validity and reliability	Some variables have lack of reliability
VIII.Environmental Health	60,0	78,2	Lack of validity	Some variables have lack of validity and reliability
IX.Settlement and Economy	75,0		Lack of validity	

Third, validation to individual variable groups can be seen in Table 2.5. Variable of health insurance participation, Family Planning contraception and method, pregnancy, childbirth and postnatal history have very good reliability, i.e. higher than 90. Variable group of communicable disease, non communicable disease, injury, mental health and baby and child health have good reliability. The other variable groups show lack of reliability.

Table 2.5 Individual Variable Validation

Variable Group	Content	Conclusion	Remarks
X.Interview Information	NA		For data collection
XI. Individual Interview Information	NA		For data collection
A.Communicable Disease	87,6	Good Reliability	
B.Non Communicable Disease	88,8	Good Reliability	Problems in the reality of asthma and cancer measurement
C.Injury	87,9	Good Reliability	
D.Dental and Oral Health	68,4	Lack of Reliability	
E.Disability	72,7	Lack of Reliability	
F.Mental Health	83,3	Good Reliability	
G.Knowledge Attitude and Behaviors	68,5	Lack of Reliability	Problems in the reliability of hygienic behavior and tobacco consumption
H.Health Financing			
Ha.Health Insurance Participation	94,1	Very Good Reliability	
I. Reproductive Health			
Ia.Family Planning contrac/method	94,3	Very Good Reliability	
Ic.Pregnancy Childbirth and Postnatal History	94,8	Very Good Reliability	Some variables have problems in reliability
J.Child Health			
Ja.Baby < 5 Yrs of Age Health	85,4	Good Reliability	
Jb.Breastfeeding and MS Breastfeeding	70,0	Lack of Reliability	Some variables have problems in

Some notes to consider include several variables having some reliability problems, i.e. with regard to asthma, cancer, injury, hygienic behavior, tobacco consumption and pregnancy check.

Fourth, validation to measurement and examination variables as pointed out in Table 2.6 indicates that in general the process validation of such variables can be assessed of lack of validity and otherwise highly valid with some notes. The first note relates to body weighting of babies performed by the mothers. This practice is not in conformity with the specified SOP. The second note, similar to the first note, while the process validation to height measurement of children under five years old has been assessed excellent, however some irregularities to the prescribed SOP are found that in turn make this variable lack of validity. The third note concerns with some deviations from SOP in Upper Arm Circumference measurement, blood pressure measurement and nose ear and throat examination. Nonetheless, process validation to laboratory preparation is relatively excellent.

Table 2.6 Measurement and Examination Process Validation

Variable Group	Process	Conclusion	Remarks
K. Measurement and Examination			
Weights of Children	98,9	Highly valid	
Weights of Toddlers	79,8	Valid	Non conformity to SOP
Heights of Children	98,1	Highly Valid	
Lengths of Children	72,7	Not Valid	Non conformity to SOP
Upper Arm Circumference	78,8	Valid	Non conformity to SOP
Abdominal Circumference	79,5	Valid	
Blood Pressure	89,8	Valid	Non conformity to SOP
L. Eye Examination	81,7	Valid	
M. Nose Ears Throat Examination	74,2	Not Valid	Non conformity to SOP
N. Permanent Teeth Status Examination			
O. Blood Specimen & Urine Sample Collection			
Venous Blood	96,9	Highly valid	
Capillary Blood	91,6	Highly valid	
Urine	83,9	Highly valid	
LL: Laboratory Examination Preparation	94,7	Excellent	

2.4. Variables

For Riskesdas 2013, around 1,060 variables are identified and classified into 2 (two) questionnaires (see the files attached) with details as follows:

- 1) Household Questionnaires (RKD13.RT) consisting of 160 variables:
 - a. Block I – Site Visit;
 - b. Block II – Household Information;
 - c. Block III – Data Enumerator Information;
 - d. Block IV – Household Member Information;
 - e. Block V – Access and Health Service;
 - f. Block VI – Pharmacy and Traditional Health Service;
 - g. Block VII – Severe Mental Disorder in the Household;
 - h. Block VIII – Environmental Health;
 - i. Block IX – Settlement and Economy.
- 2) Individual Questionnaires (RKD13.IND) consisting of 900 variables:

- a. Block X – Individual Interview/Identification
- b. Block XI – Respondent Identification classified into:
 - i. Block XI-A of Communicable Disease: Upper Respiratory Infections (ISPA), diarrhea, pneumonia, malaria, TB and hepatitis;
 - ii. Block XI-B of Non Communicable Disease: asthma and chronic obstructed pulmonary disease (COPD), cancer, diabetes mellitus, hyperthyroid, hypertension, coronary heart disease, heart failure, kidney illness, rheumatic and stroke;
 - iii. Block XI-C of injury;
 - iv. Block XI-D of dental and oral health;
 - v. Block XI-E of disability;
 - vi. Block XI-F of mental health;
 - vii. Block XI-G of knowledge, attitude and behavior: hygienic behavior, tobacco consumption, physical activities, fruit and vegetable consumption behavior, behavior of consuming risk foods, processed foods made of wheat flour;
 - viii. Block XI-H of health financing: health insurance participation, out-patient treatment and in-patient treatment;
 - ix. Block XI-I of reproductive health: Family Planning contraceptions/methods, pregnancy, childbirth and postnatal history;
 - x. Block XI-J of child health: infant and children under five years old, breastfeeding and female genital mutilation (FGM);
 - xi. Block XI-K of weigh and height/length measurement of body, upper arm circumference, abdominal circumference, blood pressure, and
 - xii. Block XI-L of eye examination;
 - xiii. Block XI-M of ear examination;
 - xiv. Block XI-N of permanent teeth status examination;
 - xv. Block XI-O of blood specimens, urine, salt and water sample collection (iodine status)

2.5. Data Collection Instruments and Methods

For Riskesdas 2013, the data are collected with the instruments as follows:

- 3) Household data collection with interview technique using questionnaire RKD13.RT and questionnaire completion manual:
 - a. Respondents for questionnaires RKD13.RT are household heads or housewives or other household members capable of furnishing information.
 - b. Questionnaires RKD13.RT contain information indicating whether the respondents are personally interviewed, accompanied, represented or otherwise not interviewed.
- 4) Individual data collection to various age groups adopts interview technique with questionnaires RKD12.IND and questionnaire completion manual.
 - a. Respondents for Questionnaires RKD13.IND include household members.
 - b. Special for household members of under 15 years old suffering illness, the interview is made to other household member accompanying him/her.

- 5) Data of body height are collected using “multifunction” body height measuring tool with measuring capacity of two meters and precision 0.1 cm. As to body weight, digital scale “Fesco” is used and calibrated on daily basis. Abdominal circumference and upper arm circumference are measured with medline – a measuring tool designed to measure arm circumference and abdominal circumference. Anthropometric measurement is carried in compliance with measurement manual.
- 6) For tension measurement, digital tensimeter Omron type IA1 is used. The battery of this device must be replaced per BS. Tension measurement has been conducted according to tension measurement manual.
- 7) Equipment used for eye examination include Tumbling E card, pinhole, magnifier, flashlight and flashcards and the relevant manual.
- 8) Equipment for ear examination consists of ear speculum and the manual.
- 9) Dental examination uses a set of equipment consisting of mouth mirror, gloves, flashlight, masker and dentogram and the manual.
- 10) For biomedical data collection, a set of field laboratory equipment has been used including forms (BM01 to BM05), waste treatment devices, and instruments to take urine samples, blood specimens, quick iodine test, water, salt sampling and biomedical sample collection manual.

2.6. Data Management

Data management process in Riskesdas 2013 consists of two stages. The first stage takes place at regency/municipality with the activities of: data collection, receiving – batching, editing (data quality control), data entry, and electronic data sending. The second stage is at working units of Balitbangkes with activities of: receiving and integrating data from all regencies/municipalities, data cleaning, integrating data from provinces and nationwide data integration, national data cleaning, imputation, scoring and electronic data storage. These activities have been accomplished within around five months. Data Management Team stationed in Jakarta is tasked to coordinate the overall Riskesdas 2013 data management. Progress report of data collection and management is opened to the public and can be seen in Balitbangkes website. The sequence of data management can be elaborated as follows.

2.6.1 Receiving-Batching

Receiving-Batching process is to record the received questionnaires. The recording is made in electronic file containing the identities of regions at which interviews have been made, number of households and household members interviewed and number of data that have been entered. This process is helpful to evaluate the consistency of data on respondents interviewed, entered, sent and received by data management team and to monitor samples not yet interviewed. It is to avoid the missing data because of data input or electronic data sending process.

2.6.2 Data Editing

In data collection for Riskesdas 2013, editing is a chain that can be maximized to control the quality of data. Editing is carried out by the Team Leader and continued by Supervisor or PJT Regency/Municipality soon after enumerators complete their interviews with respondents. In light of that PJT Regency/Municipality must understand the contents and sequence of questions.

PJT Regency/Municipality edits the questionnaires by verifying the completeness of responds and their consistency for each respondent in a Census Block. The completeness and consistency of responds are verified as follows:

- All questions have been answered according to the specified criteria group. For example, reproductive health questions are for female respondents aged 10 – 54 years only.
- Measurement and examination block have been fully completed.
- Biomedical forms (BM01 to BM05) have been completed including laboratory number sticker before commencing data entry.

2.6.3 Data Entry

Data Entry program for Riskesdas 2013 has been developed by Data Management Team of Balitbangkes using software CPro4.1 and operating system Windows7 with autorun facility. This data entry program covers household questionnaires, individual questionnaires and the results of biomedical examination (blood specimen, urine, salt and water sample forms including laboratory number stickers). Data entry of public health questionnaires is conducted by data enumerator team at the location where the data collected. As to data on the results of blood specimen and urine sample examination, their data entry is made by biomedical team in Jakarta and Balai GAKI – Magelang.

The questions of Riskesdas 2013 questionnaires are intended for respondents at various age groups. The questionnaires have some skip questions for which to maintain data consistency from one question block to another question block high thoroughness in data verification is paramount importance. To facilitate this process, the entry program has been supported with computerized entry limitations. The results of data entry becomes important part of data management process especially in data cleaning.

2.6.4 Data Integration

Data file sent by PJT Regency/Municipality are integrated by central data management team. The next step is that of data integration and data cleaning to give feedback to interview team for data improvement and continued with electronic data integration at nationwide scale. The results of data integration from nearly 12,000 BS consist of household files, household member list files, individual files, and biomedical files. One central data management team is responsible for one or two provinces.

2.6.5 Data Cleaning

Data cleaning stage in data management is a process, which is very important to assure the quality of data. Central data management team has conducted preliminary data cleaning to electronic data of each province when received from PJT Regency/Municipality. For any data requiring further confirmation to data enumerator teams at regency, central data management team will coordinate with PJT Regency for re-data entry and the corrected data must be sent again via email.

Preliminary data cleaning is made for certain variables, which are deemed very vulnerable for error. After integrating all data from provinces, complete variable cleaning will be made. Only data declared clean will undergo further analysis.

Data Management Team provides special manual for this data cleaning. Treatment to *missing values*, *no responses*, and *outliers* will decide the accuracy and precision of analysis in this Riskesdas 2013.

2.6.6 Data Imputation

Imputation is a process to deal with missing data and outliers. Data Management Team carries out electronic data imputation process at national level. For Riskesdas 2013, imputation is made for outlier continual data. If the respondents refuse to answer missing data code will be attached.

2.7. Limitations

Limitations to Riskesdas 2013 data relate to the methods and operational management.

Methods

Some indicators can't be presented until regency/municipality because of enormous samples representing certain questions. Number of samples for each indicators that can be tolerated is if $n \text{ sample} > 30$. For example, to identify the nutrition status of children under five years old, if the samples of these children under five of age in a regency/municipality are less than 30, while the results of analysis are presented, they will be attached with asterisk mark (*) to warn readers be cautious in interpreting such results.

Operational Management

Some limitations come from management factors including:

- 11) Inaccessible census blocks because of no transport mode to the locations, difficult natural conditions such as huge waves or security reasons. Riskesdas 2013 fails to collect data from 14 selected BS.
- 12) A number of households selected as samples can't be found by enumerator teams. Households visited in Riskesdas 2013 reach 98.3 percent distributed in regencies/municipalities throughout the country (Table 2.2.1).
- 13) No interview to a number of selected household members and households by enumerator teams. When data collection proceed, some household members are not at home. Household members interviewed reach 93.0 percent of the targets (Table 2.2.1).

2.8. Data Processing and Analysis

The results of data processing and analysis are presented in Chapter III. For this report, the analysis is based on the number of household samples or household member samples after the missing values and outliers removed and attached with scores respective of the number of samples concerned. Data are analyzed using statistical software SPSS17.0®.

2.9. Sampling Error

Data collected from survey will be inseparable from errors. This is also true for Riskesdas 2013 data. There are two types of data errors, namely sampling error and non sampling error. These errors may result from mistaken coverage, incomplete responses, unrepresentative respondents or inaccurate measurement. A good survey is a survey with minimum error. To identify the error of survey data, statistical evaluation to survey data will be necessary. Sampling error is normally measured from relative value of standard error of a characteristic formulated as follows:

$$rse(\hat{Y}) = \frac{se(\hat{Y})}{\hat{Y}} \times 100\%$$

In which $se(\hat{Y}) = \sqrt{v(\hat{Y})}$ is the estimated standard error of an estimate. Variance estimate is set according to sampling design of Riskesdas 2013, which is multi-stage character. The basis for the calculation of variance value is set in view of strata, primary sampling unit and weight or with formula:

$$v(\hat{Y}) = \frac{n}{n-1} \sum_{i=1}^n (z_{yi} - \bar{z}_y)^2 \quad \text{where} \quad z_{yi} = \sum_{j=1}^{25} w_{ij} y_{ij} \quad \text{and} \quad \bar{z}_y = \sum_{j=1}^{25} w_{ij} y_{ij}$$

meanwhile w_{ij} is the weighing value for the selected household j at the selected census block i .

Estimate values for all variables, standard error and relative standard error are calculated with software strata program version 8.

Sampling error of Riskesdas 2013 is only calculated for some important variables, representing the entire primary components collected in Riskesdas 2013. The results of calculation can be seen in Annex "the Estimated Sampling Error for Riskesdas 2013" by age groups and their estimates for 33 provinces.

2.10. Wealth Quantile Index Development

Riskesdas 2013 is not to collect household expenditure to predict the economic status as a characteristic of analysis. Instead, wealth index is adopted for the calculation.

1. Wealth Quantile Index Setting

Socio-economic status is a proxy variable frequently used to assess the prosperity of a household. There are three ways to identify socio-economic status, i.e. monthly income data or monthly expenditure data or the possession of durable items. These three proxy variables in economic status measurement carry their respective advantages and disadvantages.

Economic status measurement based on monthly income data is easy to ask. However, its accuracy is unreliable. Some respondents refuse to give honest answers of their monthly income. In some developing countries, the majority of people engaged in informal sector. It is difficult to get information of their fixed monthly income.

Economic status measurement with monthly expenditure has better accuracy than other methods. However to acquire such information, detailed data on various items of household expenditure, which are sometimes confusing respondents and time consuming will be necessary.

For the last few years, the economic status is more measured from the possession of durable items such as houses, cars, motorcycles, refrigerators, etc. The advantages of this measurement include easy to ask and more observable but require more complicated calculation to set a wealth index, which reflects composite of some variables relating to the wealth of households concerned.

Principal Component Analysis (PCA) is a statistical technique combining some variables into a single indicator as reported by Ariawan (2006). The indicator contains scores, weights or index to measure the economic status of households, which is later called as wealth index.

Index setting model is simulated by identifying variables showing the wealth. Results of wealth variable identification for Riskesdas 2013 can be seen in Table 2.7 "Wealth Index Model Simulation for Riskesdas" using wealth variable of Susenas 2010 compared to economic status measurement by monthly expenditure collected from the same survey.

Of 21 variables as presented in Table 2.7, 17 variables are found in two surveys (Susenas and Riskesdas 2013) for PCA analysis using polychoric correlation. From the matrix it is evident that only variables with correlation value higher than 0.3 are used to predict the economic status. Variable screening is made by eliminating variables one by one in stages starting from variables with correlation less than 0.3 until variables with correlation value >0.3 are screened out and the values of proportion explained > 0.5 .

Out of 17 variables, nine variables have correlation higher than 0.3 with proportion explained 0.57 implying that the composite value of these variables can explain the economic status of 57 percent of households. The next stage is to divide sample households into five groups according to wealth index. This household classification is tested with cross tabulation with household classifications based on monthly expenditure to identify whether households at the lowest quantile of wealth index-based economic status classification are also included in the lowest quantile of economic status assessed under monthly expenditure. The same method is applied to other quantiles. From the five quantiles, only the lowest and highest quantiles have relatively sound accuracy. It means that wealth index has good sensitivity to households with the lowest and highest economic status.

The model shaped from 9 variables in question is applied to variables of Riskesdas 2013 data, plus 4 wealth variables of Riskesdas 2013 not found in Susenas 2010 data. Variables are then screened out with the same method to finally acquire 12 variables with correlation above 0.3 and proportion explained 53.6 percent. Variables establishing the index are: 1) primary water sources for drinking, 2) fuels for cooking, 3) possession of toilets, 4) types of closets, 5) final disposal of human waste, 6) illumination sources, 7) motorcycles, 8) TV, 9) water heaters, 10) 12-kg LPG, 11) refrigerators, and 12) cars. The subsequent stage is to classify the established index into 5 quantile classes: lowest, middle low, middle, middle high and highest.

Table 2.7 Wealth Variables of Riskesdas 2013 Data

	Wealth Variable of Riskesdas 2013 Data	Variable
1	House Ownership Status	B9R1
2	Type of the Largest Roof Area	B9R6
3	Type of the Largest Wall Area	B9R5
4	Type of the Largest Floor Area	B9R4
5	Floor Area	B9R2
6	Primary water sources for drinking	B8R2
7	Toilet Facility	B9R8a
8	Type of Closet	B9R8b
9	Disposal Site of Human Waste	B9R8c
10	Illumination source	B9R7
11	Fuels/energy for cooking	B8R12
12	Bicycle possession	B9R9a
13	Motorcycle possession	B9R9b
14	Boat possession	B9R9c
15	TV/TV cable	B9R9d
16	AC	B9R9e
17	Water heater	B9R9f
18	12-kg LGS or higher	B9R9g
19	Refrigerator possession	B9R9h
20	Motorboat possession	B9R9i
21	Car	B9R9j

2. The Economic Status Description of Indonesian People

The economic status based on wealth index provides illustration that the higher quantile of household the more durable items are possessed. Table 2.8 shows that at nationwide scale the economic status of households under wealth index can be depicted as follows: the lowest quantile: 15.6 percent, middle-low quantile: 19.3 percent, middle quantile 21.7 percent, middle-high quantile: 23.7 percent and the highest quantile: 19.7 percent. The same table also reveals that nearly all provinces in Indonesia have quantile distribution ranging from the lowest class to the highest class, which are relatively equal, except in Bangka Belitung, Riau Island, DKI Jakarta, Bali and East Kalimantan where the lowest quantile much smaller than the highest quantile. Other seven provinces, namely NTB, NTT, Gorontalo, West Sulawesi, Maluku, North Maluku and Papua have the largest proportion of the lowest quantile (63.3%) with DKI Jakarta as the province with the smallest proportion of the lowest quantile (0.5%). For the highest quantile, Bangka Belitung is the province with the largest proportion of the highest quantile (50.6%) with the smallest proportion found in NTT (2.3%).

Table 2.8 Wealth Quantile Index by Province, Indonesia 2013

Province	Wealth Quantile Index (%)				
	The Lowest	Middle - Low	Middle	Middle - Hight	The Highest
Aceh	17,9	18,8	14,9	17,0	31,4
North Sumatera	13,9	13,8	18,5	28,7	25,2
West Sumatera	20,4	20,2	20,1	17,1	22,1
Riau	13,4	17,5	15,9	20,3	33,0
Jambi	12,8	17,7	19,5	20,5	29,4
South Sumatera	16,3	19,9	19,2	24,0	20,5
Bengkulu	16,3	17,6	20,3	19,4	26,4
Lampung	13,9	22,8	25,1	18,8	19,4
Bangka Belitung	9,3	11,4	11,4	17,4	50,6
Riau Island	4,8	11,9	17,7	34,8	30,8
DKI Jakarta	0,5	5,2	16,5	43,9	33,9
West Java	10,4	20,0	24,4	28,0	17,3
Central Java	12,9	23,4	28,3	21,3	14,3
DI Jogjakarta	5,7	19,3	29,7	20,6	24,7
East Java	17,1	22,1	23,9	22,9	14,0
Banten	10,7	11,5	17,6	31,5	28,6
Bali	9,0	14,2	19,4	24,9	32,6
West Nusa Tenggara (NTB)	30,7	28,9	20,2	12,9	7,2
East Nusa Tenggara (NTT)	55,6	24,2	10,3	7,1	2,3
West Kalimantan	24,7	19,2	23,3	16,5	16,3
Central Kalimantan	26,2	22,8	15,8	16,0	19,1
South Kalimantan	17,3	20,7	19,8	19,2	23,0
East Kalimantan	6,3	11,7	15,3	27,6	39,1
North Sulawesi	14,3	23,1	21,5	22,0	19,2
Central Sulawesi	29,3	24,7	17,3	15,3	13,3
South Sulawesi	17,3	16,8	17,2	21,8	26,9
South-east Sulawesi	24,6	22,8	21,6	17,8	13,1
Gorontalo	30,2	22,3	17,5	17,2	12,7
West Sulawesi	41,7	23,3	14,1	11,3	9,6
Maluku	32,8	25,0	18,9	17,8	5,6
North Maluku	31,4	28,0	18,6	15,3	6,7
West Papua	27,3	22,6	18,4	19,6	12,1
Papua	63,3	11,3	7,8	7,8	9,9
Indonesia	15,6	19,3	21,7	23,7	19,7

Economic status description by residence can be seen in Table 2.9. The table shows that the largest proportion of households living in urban areas are mostly classified at middle-high quantile class.

Table 2.9 Economic Status by Residence, Indonesia 2013

Residence	Wealth Quantile Index(%)				
	The Lowest	Middle - Low	Middle	Middle - High	The Highest
Urban	4,4	11,6	22,1	32,1	29,7
Rural	26,9	27,1	21,3	15,2	9,5
Indonesia	15,6	19,3	21,7	23,7	19,7

To assess that accuracy of the established index, cross tabulation is made with variables indicating social-economic strata. The adopted variables consist of government programs focused on certain economic strata, i.e. free health service and rice distribution program for low-income households (Raskin). The Government launches free health service for the low-income households across Indonesia with various programs including: Public Health Insurance (Jamkesmas), Regional Healthcare Insurance (Jamkesda), Prosperous Family Program (PKH) and Health Card. In addition, poor people not registered in database of Jamkesmas, Jamkesda, PKH and Health Card can access free health service by presenting Relief Letter (SKTM). Table 2.10 shows that the lower wealth, the more free health service can be accessed. The results of Riskesdas 2013 not differentiate regions introducing free health service policies for all socio-economic strata.

Table 2.10 The Percentage of Households being the Beneficiaries of Free Health Service by Quantile Classes

Wealth Quantile Index	Free Service (%)	
	Yes	No
The Lowest	37,1	62,9
Middle - Low	32,3	67,7
Middle	26,7	73,3
Middle - High	20,1	80,0
The Highest	14,3	85,7

Raskin program (e.g. the distribution of more affordable rice for low-income households) is a food subsidy program to enhance food resilience and to protect low-income households. The objective of this program is to satisfy the basic food needs of rice and to prevent the declining energy and protein consumption. In addition, the program is aimed at increasing/opening access of beneficiaries to foods at the specified prices. Households receiving this raskin program by quantiles can be seen in Table 2.11. At nationwide, it is evident that the lower wealth of households, the more households receive this affordable rice.

Table 2.11 Households Receiving Raskin Program by Quantile Classes

Wealth Quantile Index	Households Receiving Raskin (%)	
	Yes	No
The Lowest	80,3	19,7
Middle - Lower	75,5	24,5
Middle	62,9	37,1
Middle - High	41,9	58,1
The Highest	19,5	80,5

Bibliographies

Ariawan,Iwan. Indeks Sosio Ekonomi Menggunakan Principal Analysis. Jurnal Kesehatan Masyarakat Nasional. Vol 1 no 2 Oktober 2006 pp: 83-7

[Socio-Economic Index Using Principal Analysis, National Public Health Journal Vol. 1 No. 2 October 2006, pp: 83-7]

Survei Demografi dan Kesehatan Indonesia 2007. Badan Pusat Statistik, Badan Koordinasi Keluarga Berencana Nasional, Departemen Kesehatan, Macro Internasional. Desember 2008

[Demographic and Health Survey 2007. Central Bureau of Statistics, National Family Planning Coordination Body, the Ministry of Health, Macro International, December 2008]

CHAPTER 3. ACCESS AND HEALTH SERVICES

Gurendro Putro, Dwi Hapsari Tjandrarini, Antonius Yudi Kristanto, Agung Dwi Laksono

Access and Health Service block in Riskesdas 2013 is to identify the existence of health facilities that may consist of government hospitals, private hospitals, public health center (*Puskesmas/pkm*) or public health sub-center (*Puskesmas pembantu/pustu*), doctor practices or clinics, midwife practices or maternity hospitals, *Posyandu*, *Poskesdes* or *Poskestren* and *Polindes*. Transport modes that can be used by households to reach health facilities may consist of private cars, public modes, on-foot, motorcycles, bicycles, boats, air transportation modes or otherwise and parts of them have to take more than one transport mode. Times taken by households to reach health facilities are expressed in minutes. Illustration of transportation fees or expenses spent by households to the health facilities for one trip is also provided. More detailed results of access and health service block can be seen in Book 2: Riskesdas 2013 in Figures, pp. 5 to 34.

3.1. Health Service Existence

The knowledge of households with regard to the existence of health facilities that may consist of government hospitals, private hospitals, public health center (*Puskesmas*) or public health sub-center (*Puskesmas pembantu*), doctor practices or clinics, midwife practices or maternity hospitals, *Posyandu*, *Poskesdes* or *Poskestren* and *Polindes* has close relation with the access of households to health facilities. Household samples that have been selected for interviews and analysis record 294,959 households. Data are presented and expressed in the percentage of households knowing the existence of particular health facilities.

Information on health facilities by provinces are further detailed by the knowledge of households about government hospitals, private hospitals, midwife practices and *Posyandu*.

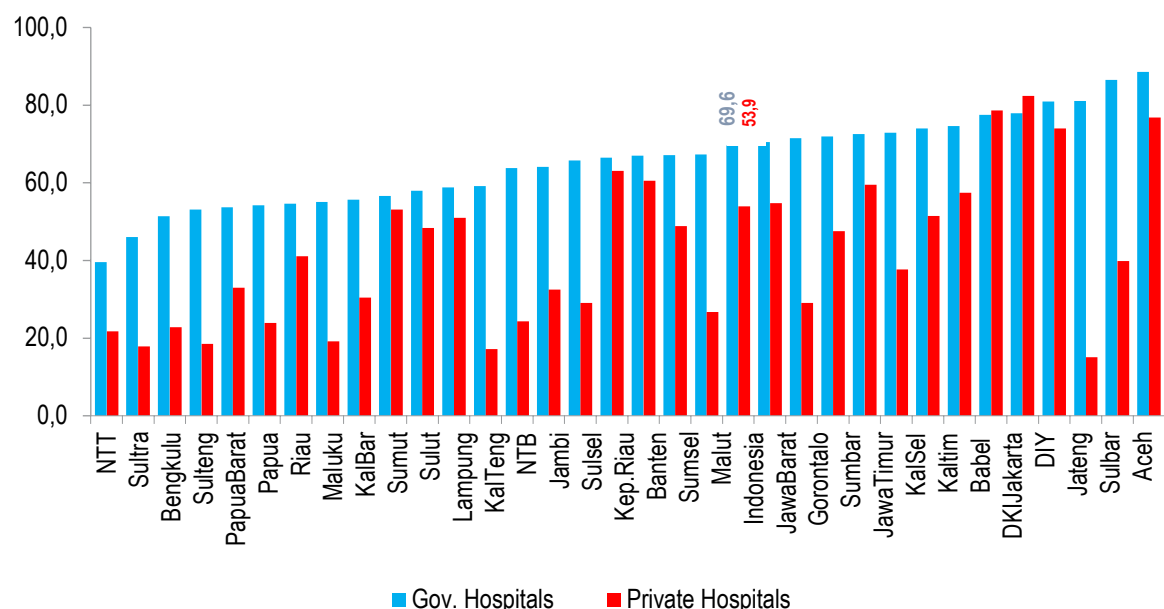


Figure 3.1 Proportion of households knowing the existence of government hospitals and private hospitals by province, Indonesia 2013

Figure 3.1 shows that at nationwide, 60.6 percent of households know the existence of government hospitals and the other 53.9 percent know of private hospitals.

The highest proportion of households knowing the existence of government hospitals is in Bali (88.6%) and the lowest proportion in NTT (39.6%). Meanwhile, the highest proportion of households knowing the operation of private hospitals is in DI Yogyakarta (82.4%) and the lowest in West Sulawesi (15.1%).

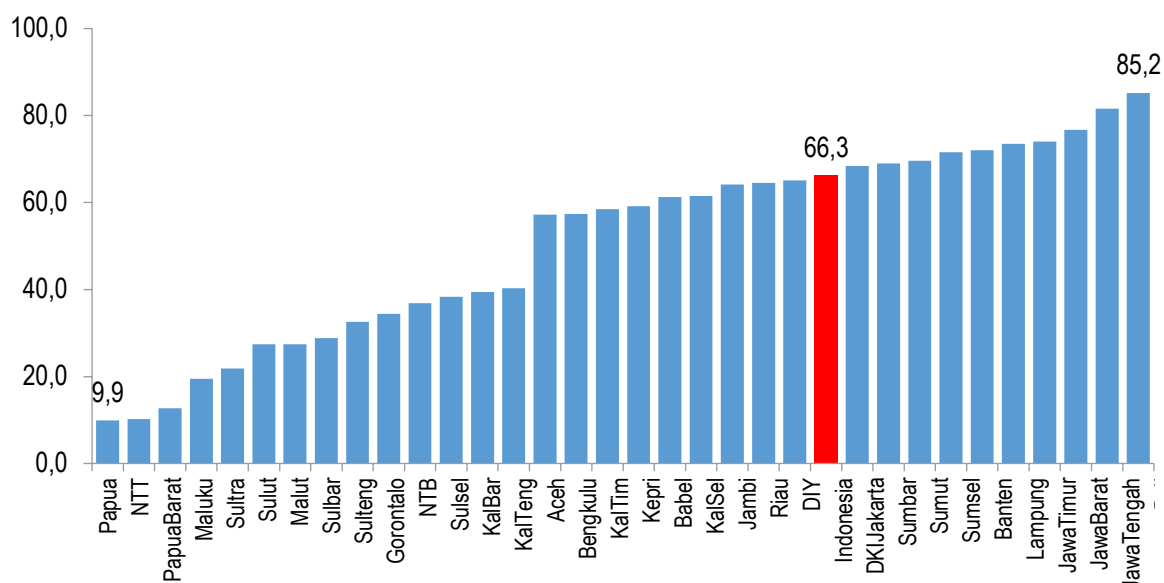


Figure 3.2 Proportion of households knowing the existence of midwife practices or maternity hospitals by province, Indonesia 2013

Figure 3.2 indicates the proportion of households that know about midwife practices or maternity hospital reaching 66.3 percent nationwide. By province, the highest proportion is in Bali (85.2%) and the lowest in Papua (9.9%).

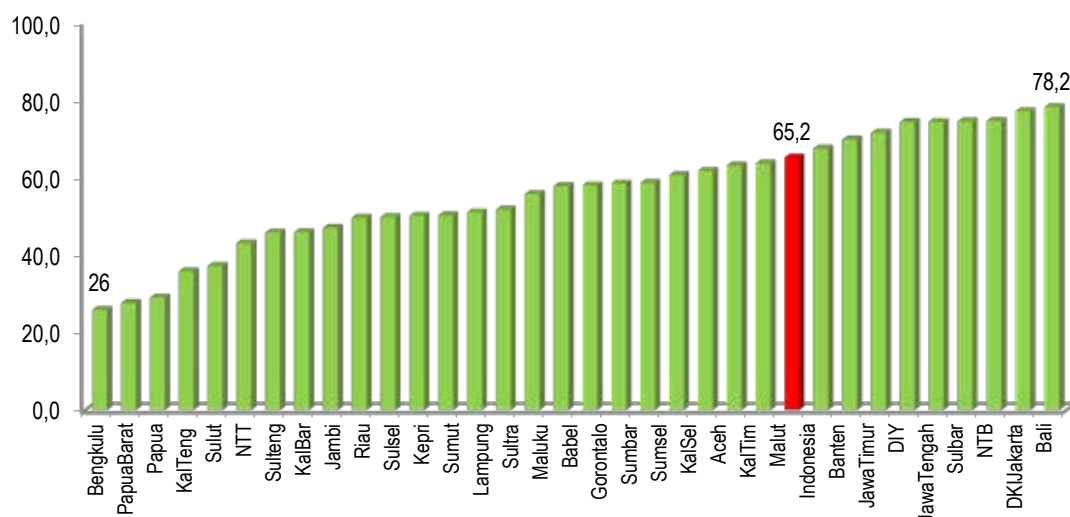


Figure 3.3 Proportion of households knowing the existence of Posyandu by province, Indonesia 2013

Households who know the operation of Posyandu reach 65.2 percent nationwide. By province, the highest proportion is found in West Java (78.2%) and the lowest in Bengkulu (26%).

3.2. Health Facility Accessibility

Accessibility to health facilities in this Riskesdas 2013 is reviewed from transport mode aspect, traveling time (in minute unit) and transport fees paid to reach health facilities. Transport modes to health facilities may consist of private cars, public transport modes, on-foot, motorcycles, bicycles, boats, air transport (except to Posyandu, Poskesdes, and Polindes) and in some cases, more than one transport mode is necessary.

Traveling time to health facilities is expressed in minutes and differentiated into 4 categories, namely: ≤15 minutes; 16 – 30 minutes; 31-60 minutes; and >60 minutes. Costs spent to pay transport mode fees to health facilities are classified into 3 categories for modern medication (government hospitals, private hospitals, Puskesmas, doctor practices or clinics and midwife practices or maternity hospitals, i.e. ≤ Rp.10.000; >Rp.10.000 – 50.000 and >Rp.50.000,- and 2 categories for Community-Based Health Facilities, consisting of Posyandu, Poskesdes or Poskestren and Polindes i.e. ≤ Rp.10.000 and >Rp.10.000.

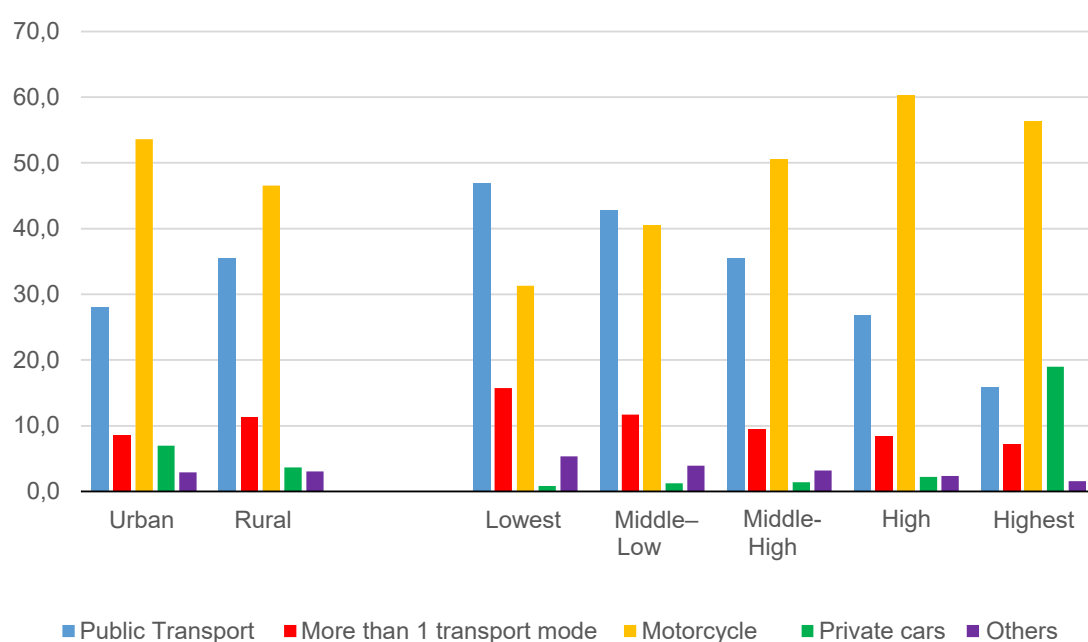


Figure 3.4 Proportion of transport modes used to access government hospitals by characteristics, Indonesia 2013

The proportion of urban households using motorcycles to reach government hospitals reaches 52.6 percent and 46.5 percent in rural areas. For public transport modes, the proportion in urban areas records 28 percent and 35.5 percent in rural areas. Households which take more than 1 transport mode to get government hospitals are 8.5 percent in urban areas compared to 11.4 percent in rural areas.

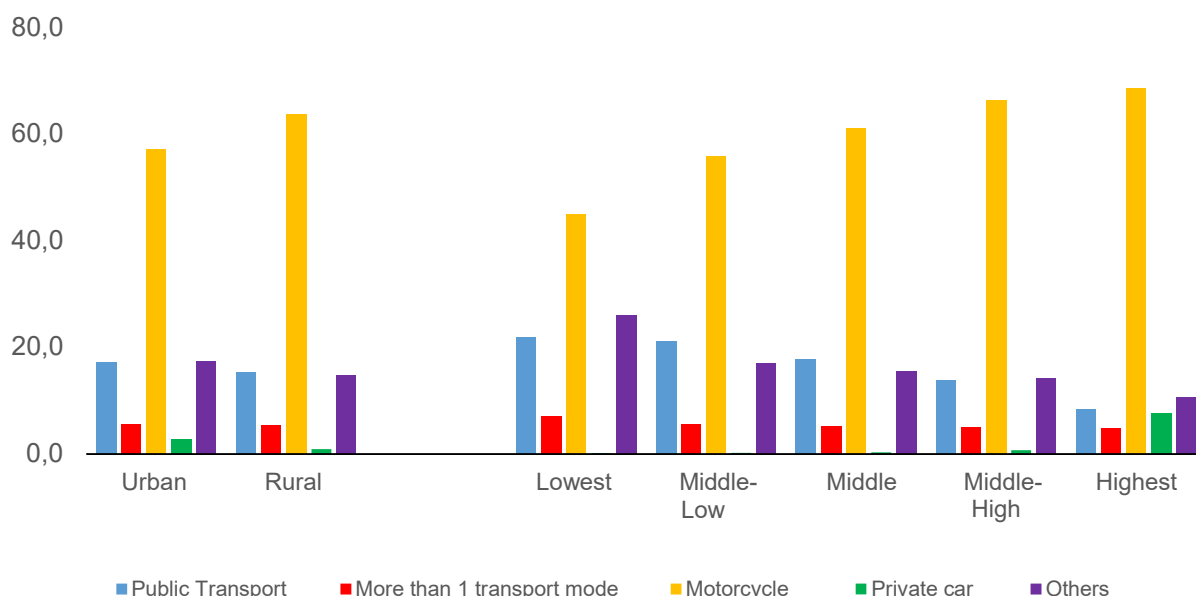


Figure 3.5 Proportion of transport modes to Puskesmas by characteristics, Indonesia 2013

The proportion of urban households that use public transport to reach Puskesmas records 2.7 percent and 0.9 percent in rural areas. Meanwhile, those who have to take more than 1 transport mode record 1.9 percent in urban areas and 1.8 percent in rural areas. Households riding motorcycles in urban areas to reach Puskesmas are 14.1 percent compared to 11.4 percent in rural areas. To access Puskesmas, 57.3 percent of urban households just take on-foot. However, it reaches 63.7 percent in rural households

By wealth quantile index, most households use motorcycles. They reach 68.7% in the highest households and 44.9% in the lowest households. As to public transport modes, they are mainly used by the lowest households (21.8%) and the lowest proportion is found in the highest households (8.4%).

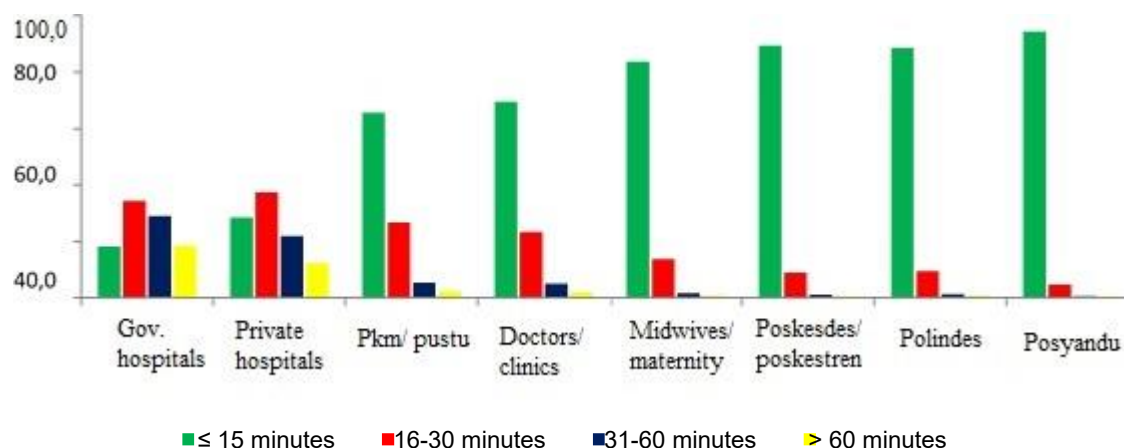


Figure 3.6 Traveling time to the nearest health facilities by the knowledge of households, Indonesia 2013

Traveling time taken by households to health facilities of government hospitals is primarily 16-30 minutes (34.4%) and the least proportion of households need >60 minutes (18.5%). This pattern is nearly identical with traveling time necessary to private hospitals, in which the majority of households need 16 – 30 minutes (37.3%) and the other 12.4% admitted that it takes > 60 minutes (the lowest proportion). For health facilities of Puskesmas or Pustu, Doctors or Clinics, Midwives or Maternity Hospitals, Poskesdes or Poskestren, Polindes and Posyandu, households need ≤ 15 minutes to reach them.

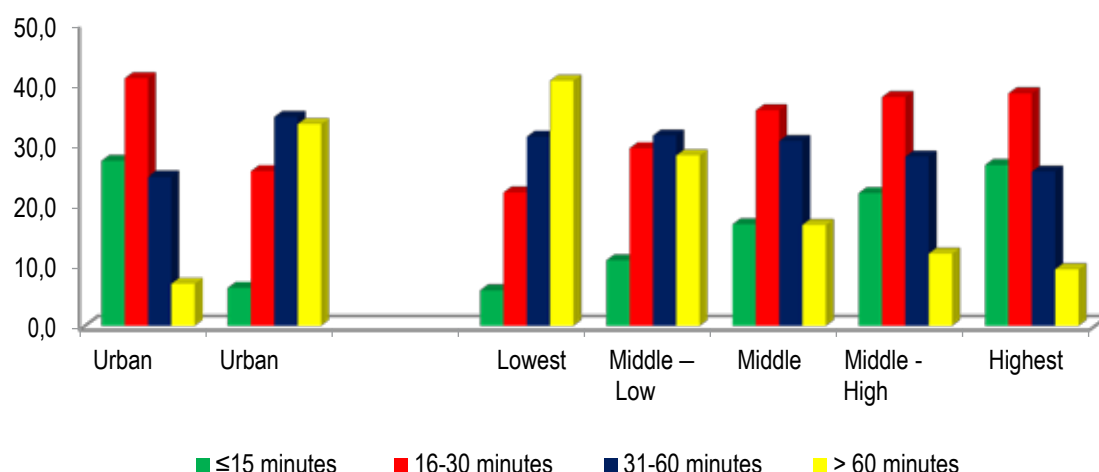


Figure 3.7 Traveling time to government hospitals by characteristics, Indonesia 2013

Traveling time taken by households to access government hospitals by residence is primarily 16-30 minutes. The highest proportion is found in urban areas at 41 percent compared to 25.6 percent in rural areas. Traveling time of 31-60 is necessary for urban households to reach government hospitals, i.e. 24.7 percent and 34.5 percent for rural households. Meanwhile, 27.3 percent of urban households and 6.3 percent of rural households just need ≤ 15 minutes.

By wealth quantile index, traveling time of 16-30 minutes is mainly found in the highest households at 38.5% with the least proportion in the lowest households at 22.2%. There are also households requiring more than 31-60 minutes to reach government hospitals with the highest proportion in the lowest households (31.3%) and the least proportion in the highest households (25.5%).

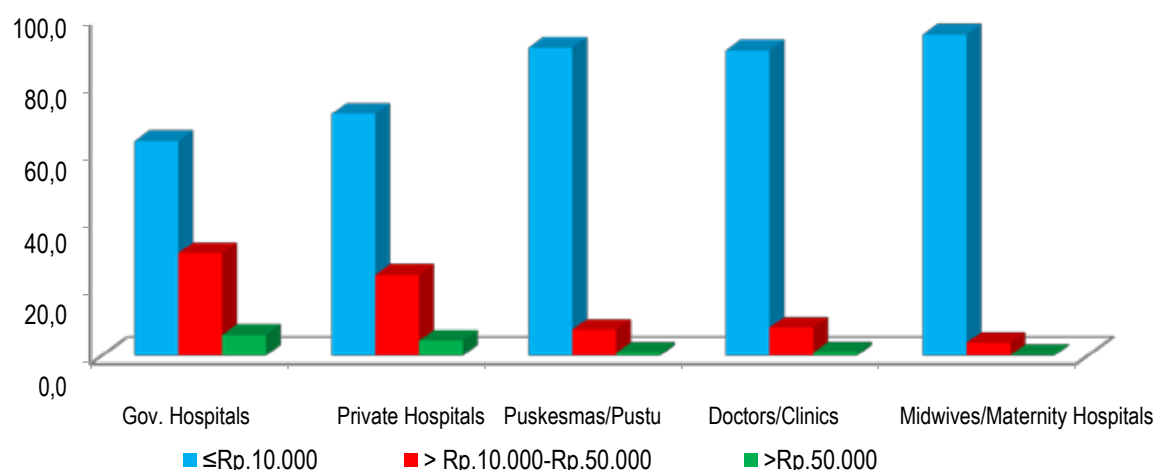


Figure 3.8 Transport fees to the nearest health facilities, Indonesia 2013

Transportation fees to health facilities of government hospitals, private hospitals, Puskesmas or Secondary Puskesmas, Doctor Practices or Clinics, Midwife Practices or Maternity Hospitals are classified into 3 categories, i.e. $\leq$ Rp.10.000,-; $>$ Rp.10.000 – Rp.50.000 and $>$ Rp.50.000,- with dominant transportation fee category $\leq$ Rp.10.000,- to access government hospitals (63.6%), private hospital (71.6%), Puskesmas or Secondary Puskesmas (91.3%), doctor practices or clinics (90.5%) and Midwife practices or Maternity Hospitals (95,2%).

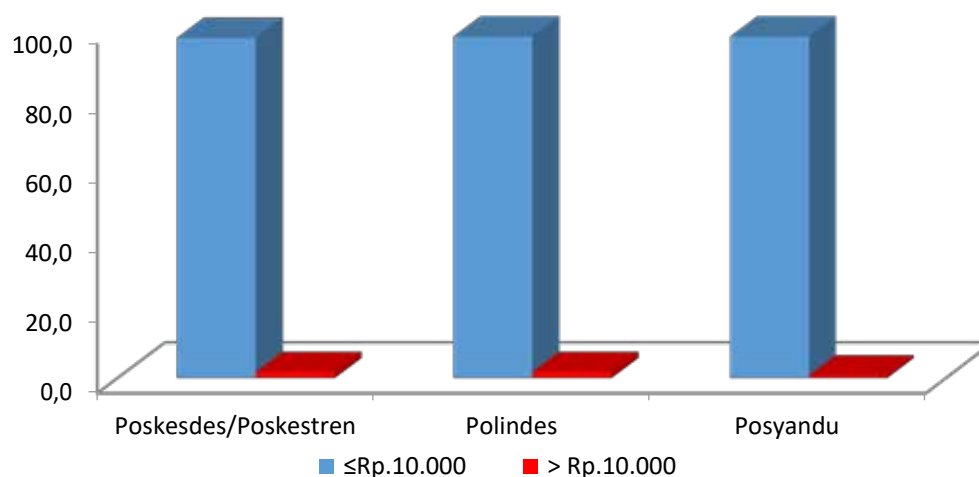


Figure 3.9 Transportation fees to reach the nearest Community-Based Health Facilities (UKBM), Indonesia 2013

Transportation fees to reach Community-Based Health Facilities (UKMB) such as Poskesdes or Poskestren, Polindes and Posyandu are classified into 2 categories, i.e. $\leq$ Rp.10.000,- and $>$ Rp.10.000,-. These transportation fees are dominated category $\leq$ Rp.10.000,- to reach Poskesdes or Poskestren (97,4%), Polindes (97.8%) and Posyandu (97.8%).

Bibliographies

Badan litbangkes 2007, *Riset Kesehatan Dasar 2007*, Badan litbangkes Kemenkes RI, Jakarta

[NATIONAL INSTITUTE OF HEALTH RESEARCH AND DEVELOPMENT2007, Basic Health Research 2007, NATIONAL INSTITUTE OF HEALTH RESEARCH AND DEVELOPMENTof the Ministry of Health, Jakarta]

Kementerian kesehatan RI, 2007, *Permenkes RI nomor 949 tahun 2007 tentang tentang kriteria sarana pelayanan kesehatan terpencil dan sangat terpencil*, Jakarta.

[The Ministry of Health, 2007, Regulation of the Minister of Health Number 949 of 2007, concerning Criteria for Health Services in Isolated and Segregated Regions]

Kementerian Kesehatan RI, 2012, *Pedoman Peningkatan Akses Pelayanan Kesehatan di DTPK*, Ditjen Bina Upaya Kesehatan, Direktorat Bina Upaya Kesehatan Dasar, Kemenkes RI, Jakarta.

[The Ministry of Health, 2007, Health Service Access Improvement Manual in DTPK, Directorate General of Health Initiative Development, Directorate of Basic Health Initiative Development, the Ministry of Health, Jakarta]

Kementerian kesehatan RI, 2013, *Permenkes RI nomor 6 tahun 2013 tentang kriteria fasilitas pelayanan kesehatan terpencil, sangat terpencil, dan fasilitas pelayanan kesehatan yang tidak diminati*, Jakarta.

[The Ministry of Health. 2013. Regulation of the Minister of Health Number 6 of 2013 concerning

Criteria for Health Service Facilities in Isolated and Segregated Regions and Undesirable Health Service Facilities]

Suharmiati; Handayani L.; Kristiana L., 2012, Faktor Faktor yang mempengaruhi keterjangkauan pelayanan kesehatan di puskesmas terpencil perbatasan di kabupaten Sambas (Studi kasus di Puskesmas Sajingan Besar), *Buletin Penelitian Sistem Kesehatan*, volume 15, No.3 Juli 2012, ISSN:1410-2935.

[Suharmiati; Handayani L.; Kristiana L., 2012, Factors affecting the accessibility of Puskesmas health service in isolated, border areas in Kabupaten Sambas (Case Study in Puskesmas Sajingan Besar), *Health System Research Bulletin*, Volume 15, No. 3 July 2012, ISSN: 1410-2935]

CHAPTER 4. PHARMACY AND TRADITIONAL HEALTH SERVICES

Retno Gitawati, Andi Leni Susyanti, Rini Sasanti H, Selma Siahaan, Ani Isnawati, Lucie Widowati, Anggita BA, Olwin Nainggolan and Dwi Hapsari Tjandrarini

Discussion on Pharmacy and Traditional Health Service aims to identify the proportion of households storing drugs for self-medication, those who have proper knowledge of Generic Drugs and the information sources of Generic Drugs. The questions relating to Pharmacy and Traditional Health Service cover kinds of drugs consumed and why they consume such drugs for the last 1 (one) year. Samples that have been analyzed embrace 294,969 households. They are classified into three categories: 1) Drugs and Traditional Medicine; 2) Households' knowledge of Generic Drugs, and 3) the use of Traditional Health Service. Pharmacy and Traditional Health Service constitutes new topic in this Riskesdas 2013. More detailed results of this Pharmacy and Traditional Health Service block can be seen in Book 2: Riskesdas 2013 in Figures pp. 35 to 57.

4.1. Drugs and Traditional Medicine

Data of drugs stored by households in this Riskesdas 2013 include prescription drugs, Over-the-Counter (OTC) drugs, antibiotics and unidentified drugs. The proportion of households keeping antibiotics is separated from this data presentation because of relatively high and irrational consumptions within the society that may cause microbe resistance.

Figure 4.1 indicates that of 35.2 percent of households keeping drugs for self-medication, they store prescription drugs, OTC drugs, antibiotics, traditional medicine and unidentified drugs.

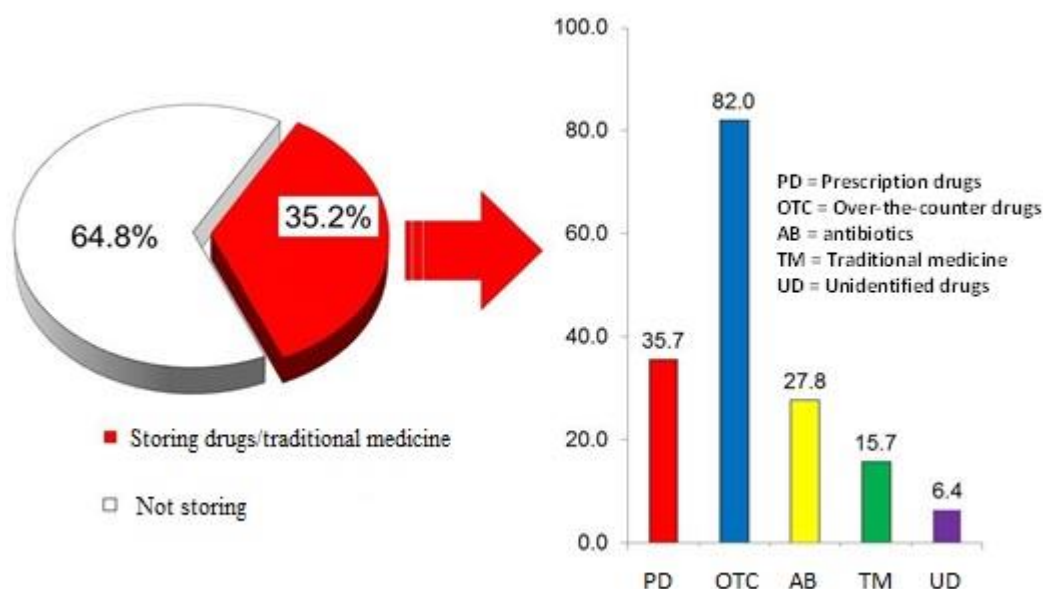


Figure 4.1 Proportion of households keeping drugs and their kinds, Indonesia 2013

At nationwide, the proportion of households keeping prescription drugs reaches 35.7 percent and antibiotics 27.8 percent. Table 4.1 shows variations of households storing drugs for self-medication with the highest proportion found in DKI Jakarta (56.4%) and the lowest in NTT (17.2%). On average they keep 3 kinds of drugs with the highest in Gorontalo (4 kinds) and the lowest in Lampung (2 kinds).

By characteristics, kinds of drugs stored by households are relatively identical (Table 4.2).

Table 4.1 Proportion of households storing drugs and average number of drugs stored by province, Indonesia 2013

Province	Keep Drugs	
	Yes (%)	Number of Drugs (avg)
Aceh	31,6	2,8
North Sumatera	33,5	2,7
West Sumatera	25,5	2,9
Riau	28,0	2,3
Jambi	33,6	2,4
South Sumatera	32,6	2,7
Bengkulu	24,8	2,3
Lampung	19,8	2,0
Bangka Belitung	46,0	2,9
Riau Island	47,4	2,8
DKI Jakarta	56,4	2,9
West Java	36,3	3,0
Central Java	31,9	2,6
DI Jogjakarta	50,7	3,2
East Java	36,6	3,3
Banten	36,6	2,8
Bali	35,1	2,8
West Nusa Tenggara (NTB)	25,5	2,9
East Nusa Tenggara (NTT)	17,2	2,9
West Kalimantan	34,4	2,6
Central Kalimantan	39,7	2,9
South Kalimantan	55,5	3,3
East Kalimantan	43,1	2,7
North Sulawesi	37,3	3,6
Central Sulawesi	38,4	3,4
South Sulawesi	41,0	3,2
South-east Sulawesi	30,3	2,8
Gorontalo	28,6	4,4
West Sulawesi	23,6	2,7
Maluku	28,9	3,8
North Maluku	25,1	3,6
West Papua	26,0	3,4
Papua	17,3	2,8
Indonesia	35,2	2,9

Table 4.2 Proportion of households storing drugs by kinds and characteristics, Indonesia 2013

Characteristics	Prescription drugs	OTC Drugs	Antibiotics	Traditional medicine	Unidentified drugs
Residence					
Urban	35,5	83,6	26,4	17,2	6,8
Rural	35,9	79,2	30,1	13,2	6,8
Wealth Quantile Index					
Lowest	33,7	75,9	31,5	6,8	12,6
Middle-Low	33,4	77,6	28,6	8,1	13,0
Middle	35,1	80,2	27,6	7,5	13,9
Middle-High	36,2	83,2	27,7	6,8	16,3
Highest	37,1	85,9	26,5	4,3	18,7

Out of 35.7 percent households keeping drugs for self-medication, 81.9 percent store prescription drugs without doctor prescription (Table 4.3). By province, the highest proportion in this respect is found in Lampung (90.5%) and the lowest in Gorontalo (70.8%). As to antibiotics, 86% households keeping antibiotics without doctor prescriptions are detected in Central Kalimantan (93.4%) and the lowest in Gorontalo (74.7%). It is evident that the proportion of households storing antibiotics and prescription drugs without doctor prescription is relatively exceeding.

At nationwide, Table 4.4 shows that pharmacies and drug stores/stalls are the main sources to get drugs kept at home with proportion 41.1 percent and 37.2 percent respectively. By residence, the proportion of households buying drugs at pharmacies is higher in urban areas. In contrast, rural households get the drugs from drug stores/stalls. Meanwhile, 23.4 percent of households admit they buy the drugs directly from healthcare professionals with the higher proportion found in rural areas (31.5%). The higher wealth quantile index, the less households purchase drugs from healthcare professionals. The proportion of households acquiring drugs from formal health services (e.g. Puskesmas, hospitals, clinics) is relatively identical between those who live in urban areas and rural areas at 16.9% and 16.6% respectively.

Table 4.5 shows the status drugs kept at home for self-medication. The drug status can be classified into drugs for “ongoing medication”, drugs for “stocks” in case of illness, and “residual drugs”. As to the latter, they consist of prescribed drugs or not yet consumed from the previous prescriptions. At nationwide, 47.0 percent households keep these residual drugs. This percentage is a little bit lower than those storing drugs for stocks (42.2%). The proportion of households keeping residual drugs is also higher in rural areas and particularly from the lowest wealth quantile index.

Table 4.3 Proportion of Households Keeping Prescription drugs and Antibiotics without Prescription by Province, Indonesia 2013

Province	Drugs without Prescription	
	Prescription drugs	Antibiotics
Aceh	81,4	85,9
North Sumatera	85,4	87,0
West Sumatera	81,7	85,2
Riau	87,3	89,1
Jambi	86,6	87,9
South Sumatera	84,3	85,6
Bengkulu	86,0	89,2
Lampung	90,5	92,0
Bangka Belitung	84,0	86,7
Riau Island	80,6	87,7
DKI Jakarta	85,1	89,0
West Java	81,3	84,9
Central Java	82,0	87,1
DI Jogjakarta	78,1	90,2
East Java	79,7	85,5
Banten	82,3	84,9
Bali	80,8	87,1
West Nusa Tenggara (NTB)	77,9	79,7
East Nusa Tenggara (NTT)	77,9	77,7
West Kalimantan	87,9	90,2
Central Kalimantan	89,7	93,4
South Kalimantan	86,3	90,6
East Kalimantan	80,0	87,1
North Sulawesi	73,8	81,4
Central Sulawesi	80,2	83,3
South Sulawesi	76,3	79,7
South-east Sulawesi	83,9	84,6
Gorontalo	70,8	74,7
West Sulawesi	82,2	83,2
Maluku	78,4	80,1
North Maluku	82,2	86,1
West Papua	85,6	85,7
Papua	82,1	85,4
Indonesia	81,9	86,1

Table 4.4 Proportion of Households Keeping Drugs by Sources and Characteristics, Indonesia 2013

Characteristics	Pharmacy	Drug Store	Given by Others	Formal Trad. Health	Health Facility	Trad. Health Service	Vendors
Residence							
Urban	50,2	35,	1	16,9	18,7	1,4	1,1
Rural	25,5	40,	1	16,6	31,5	1,3	1,7
Wealth Quantile Index							
Lowest	15,4	43,	2	19,7	30,5	0,9	2,0
Middle - Low	25,0	41,	1	17,3	28,7	1,1	1,7
Middle	35,7	39,	2	18,3	24,4	1,3	1,4
Middle - High	45,5	37,	1	16,8	22,3	1,3	0,9
Highest	55,5	32,	1	14,7	19,2	1,7	1,3

Table 4.5 Proportion of Households Keeping the Drugs by Characteristics, Indonesia 2013

Characteristics	Status of Drugs Kept in House		
	Ongoing Medication	As Stocks	Residual Drugs
Residence			
Urban	31,1	46,7	46,3
Rural	33,8	34,4	48,1
Wealth Quantile Index			
Lowest	35,2	29,8	48,1
Middle - Low	34,9	32,4	48,0
Middle	33,3	37,0	48,1
Middle - High	31,4	45,1	47,1
Highest	29,7	51,3	45,1

4.2. Knowledge of Households on Generic Drugs

This discussion presents information of households knowing or used to hear and having “proper knowledge” on General Drugs including their perceptions of this kind of drugs. Households having “proper knowledge” of generic drugs are defined as households understanding that generic drugs have efficacy equal to branded drugs despite no trademarks. In addition, this sub-block also presents the proportion of households knowing generic drugs by information source.

Table 4.6 indicates that at nationwide 31.9 percent households know or once heard about generic drugs. Of them, the majority (85.9%) have no proper knowledge of generic drugs. Table 4.7 reveals that proper knowledge of households on generic drugs is relatively low both those who live in urban areas and rural areas. The higher wealth quantile index, the higher proportion of households with proper knowledge on generic drugs will be.

Table 4.8 discloses that 82.3 percent households view generic drugs as affordable drugs and 71.9 percent consider generic drugs as the drugs from government program. Meanwhile, 42.9 percent households have perception that generic drugs are equally effective to branded drugs. This perception should be further promoted to encourage generic drug consumption within the society. The proportion of household assuming generic drugs as drugs without trademark is relative low (21.0%). In fact, it is a correct perception of generic drugs and must be therefore socialized to communities.

Table 4.6 Proportion of Households Knowing and Having Proper Knowledge of Generic Drugs by Province, Indonesia 2013

Province	Know about Generic Drugs	Have Knowledge of Gen. Drugs	
		Right	Wrong
Aceh	30,8	20,7	79,3
North Sumatera	31,0	11,3	88,7
West Sumatera	25,2	13,0	87,0
Riau	29,0	10,8	89,2
Jambi	36,7	11,4	88,6
South Sumatera	24,7	12,0	88,0
Bengkulu	17,9	8,2	91,8
Lampung	18,1	9,2	90,8
Bangka Belitung	33,6	12,4	87,6
Riau Island	38,9	11,7	88,3
DKI Jakarta	63,6	14,9	85,1
West Java	38,0	17,4	82,6
Central Java	29,1	12,7	87,3
DI Jogjakarta	51,4	17,1	82,9
East Java	25,8	12,0	88,0
Banten	37,8	13,3	86,7
Bali	49,5	19,4	80,6
West Nusa Tenggara (NTB)	20,0	8,2	91,8
East Nusa Tenggara (NTT)	12,0	23,5	76,5
West Kalimantan	23,1	12,8	87,2
Central Kalimantan	25,5	14,8	85,2
South Kalimantan	29,2	11,5	88,5
East Kalimantan	42,3	12,2	87,8
North Sulawesi	36,5	13,2	86,8
Central Sulawesi	21,4	7,5	92,5
South Sulawesi	25,2	10,0	90,0
South-east Sulawesi	28,1	11,8	88,2
Gorontalo	39,2	30,9	69,1
West Sulawesi	19,8	7,2	92,8
Maluku	24,0	15,9	84,1
North Maluku	19,2	14,6	85,4
West Papua	33,3	13,9	86,1
Papua	17,3	16,4	83,6
Indonesia	31,9	14,1	85,9

Table 4.7 Proportion of Households Knowing and Having Proper Knowledge of Generic Drugs by Characteristics, Indonesia 2013

Characteristics	Know about Generic Drugs	Have Knowledge of Gen. Drugs	
		Right	Wrong
Residence			
Urban	46,1	14,9	85,1
Rural	17,4	12,1	87,9
Wealth Quantile Index			
Lowest	6,2	9,2	90,8
Middle - Low	15,2	10,8	89,2
Middle	27,1	11,9	88,1
Middle - High	43,1	13,4	86,6
Highest	60,2	17,1	82,9

Table 4.8 Proportion of Households by Perceptions of Generic Drugs and by Characteristics, Indonesia 2013

Characteristics	Household perception on Generic Drugs						
	OTC Drugs	Affordable Drugs	Drugs for Poor Patients	Can be bought in stalls	Drugs without trade marks	Have efficacy equal to branded drugs	Drugs from the Government
Residence							
Urban	41,1	84,7	43,8	22,7	21,6	46,0	73,4
Rural	47,6	75,8	44,0	21,7	19,1	34,5	67,8
Wealth Quantile Index							
Lowest	52,8	69,4	48,7	24,4	16,6	27,8	61,8
Middle - Low	45,6	74,4	46,5	22,3	17,9	33,6	65,0
Middle	43,2	80,0	46,7	21,8	19,0	38,9	70,1
Middle - High	41,8	83,6	45,3	21,8	20,3	42,9	72,0
Highest	42,2	85,4	40,2	23,1	23,6	48,4	75,1

The information sources of Generic Drugs for urban and rural households are mainly from healthcare professionals (63.1%). This phenomenon relatively prevails in all wealth quantile indices (Table 4.9). Information sources of Generic Drugs from printed media and electronic media are more accessed by households with higher wealth quantile index.

Table 4.9 Proportion of Households by Information Sources on Generic Drugs by Characteristics, Indonesia 2013

Characteristics	Information Source of Generic Drugs					
	Printed Media	Electronic Media	Healthcare professionals	Public figure	Friends relatives	Education
Residence						
Urban	26,5	57,4	62,9	15,	20,0	8,3
Rural	22,9	52,3	63,4	20,	22,6	8,3
Wealth Quantile Index						
Lowest	16,3	38,9	65,1	22,	24,4	6,0
Middle - Low	16,8	46,9	60,0	17,	20,0	4,3
Middle	19,7	51,8	60,2	16,	18,0	5,7
Middle - High	22,9	54,9	62,3	15,	19,5	6,2
Highest	33,7	62,7	65,7	17,	22,9	12,6

4.3. The Use of Traditional Health Service

Traditional Health Service consists of 4 types, namely herbals (e.g. health service using herbs, aromatherapy, *gurah*, homeopathy and spa), skills with tools (e.g. acupuncture, chiropractor, cup/*bekam*, fire therapy, *ceragem* and acupressure), skills without tools (massage, massage special for mother/child, fracture treatment and reflection) and skills with mind power (hypnotherapy, medication with meditation, *prana* and inner power). Figure and table in the following discussion present information of the proportion of households taking traditional health service for the last one year, types of traditional health service and the associated reasons.

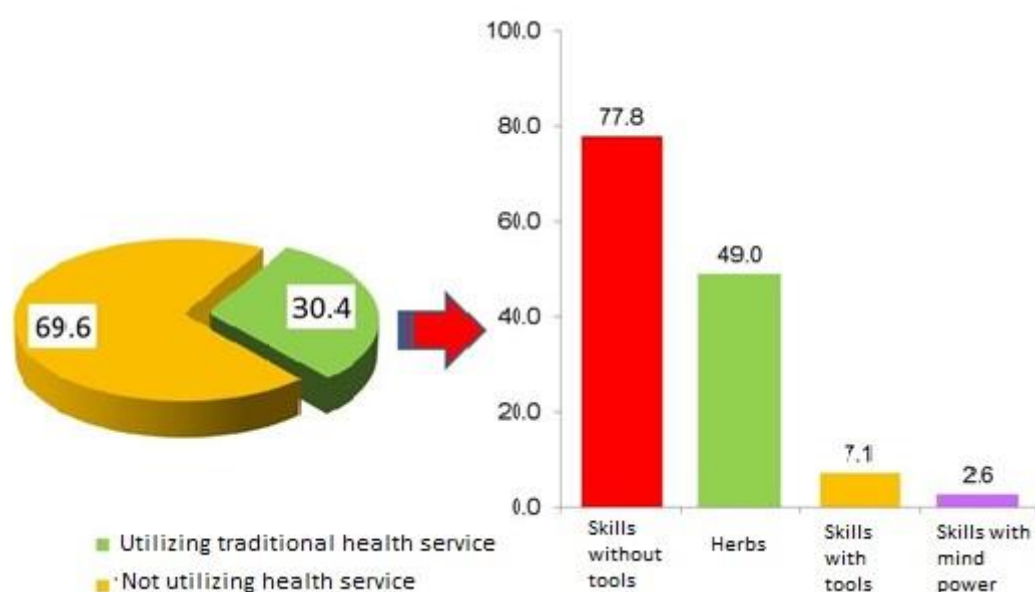


Figure 4.2 Proportion of Households Using Traditional Health Service for the Last one Year and Types of Traditional Health Services used, Indonesia 2013

Out of 294,962 (30.4%) households throughout Indonesia, 89,752 households take traditional health service for the last one year. They mainly prefer this alternative medication based on skills without tools (77.8%) followed by herbals (49.0%) (Figure 4.2).

Table 4.10 shows that the highest proportion of households taking traditional health service is found in South Kalimantan (63.1%) and the lowest proportion in West Papua (5.9%). Meanwhile, the highest proportion of households preferring herbal medication is in East Java (65.2%) and the lowest in Bengkulu (23.5%). As for households taking traditional health service with tools, the highest proportion is detected in DKI Jakarta (20.7%) and the lowest in Gorontalo (1.3%).

Table 4.10 Proportion of Households Taking Traditional Health Service for the last one year and types of traditional health service used by province, Indonesia 2013

Province	Utilizing Traditional Health Service	Types of Traditional Health Service			
		Herbs	Skills		
			With tools	Without tools	With mind power
Aceh	18,5	44,3	4,9	61,1	17,1
North Sumatera	26,3	38,8	6,0	79,5	2,0
West Sumatera	31,6	32,3	3,9	81,9	6,0
Riau	20,1	29,4	7,0	84,4	2,4
Jambi	29,4	42,6	2,5	84,2	2,8
South Sumatera	26,4	29,3	5,1	87,3	1,2
Bengkulu	22,9	23,5	4,7	86,3	1,7
Lampung	19,3	36,9	3,7	85,1	1,6
Bangka Belitung	29,1	32,7	6,0	79,6	4,7
Riau Island	23,2	25,8	11,1	73,4	6,1
DKI Jakarta	31,0	44,7	20,7	62,3	2,1
West Java	23,7	48,0	13,1	68,1	2,2
Central Java	27,7	46,4	6,2	73,5	2,1
DI Jogjakarta	44,0	58,1	5,9	72,6	1,1
East Java	58,0	65,2	3,9	84,7	1,7
Banten	33,0	40,7	10,3	78,4	2,2
Bali	25,0	39,4	9,7	72,6	5,1
West Nusa Tenggara (NTB)	19,6	25,1	2,1	76,5	8,8
East Nusa Tenggara (NTT)	19,6	30,3	1,6	80,2	7,1
West Kalimantan	13,5	42,0	6,6	76,9	5,2
Central Kalimantan	30,0	36,4	4,7	89,0	0,7
South Kalimantan	61,3	43,3	3,5	90,8	1,3
East Kalimantan	29,0	40,1	8,5	81,7	0,6
North Sulawesi	13,4	28,4	8,2	77,1	1,8
Central Sulawesi	26,1	29,4	4,8	83,8	3,7
South Sulawesi	11,8	39,1	9,7	47,8	18,0
South-east Sulawesi	15,0	32,8	3,2	72,5	5,1
Gorontalo	49,8	23,7	1,3	93,6	1,0
West Sulawesi	6,8	26,1	5,4	72,5	1,1
Maluku	18,0	44,3	3,0	73,8	3,9
North Maluku	9,4	41,7	1,9	65,7	11,1
West Papua	5,9	30,6	3,2	73,8	1,6
Papua	6,5	55,7	3,1	54,0	3,1
Indonesia	30,4	49,0	7,1	77,8	2,6

The highest proportion of households using traditional health service without tools is in Gorontalo (93.6%) and the lowest in South Sulawesi (47.8%). For households taking traditional health service applying skills of mind power, the highest proportion is in South Sulawesi (18.0%) and the lowest in East Kalimantan (0.6%).

Table 4.11 shows the proportion of households taking traditional health service using skills without tools. The proportion in rural areas outnumbers the urban areas with 81.8% to 74.3% respectively. On the other side, the use of traditional health service with tools in urban areas is much higher than in rural areas (10.4% to 3.3%). Traditional health service with herbals taken by households in urban and rural areas is relatively proportional.

Table 4.11 Proportion of households taking traditional health service for the last one year and types of traditional health service used by respondent characteristics, Indonesia 2013

Characteristics	Taking Traditional health service	Types of Traditional Health Service			
		Herbal	Skills		
			With Tools	Without Tools	With mind power
Residence					
Urban	32,2	49,3	10,4	74,3	2,2
Rural	28,7	48,6	3,3	81,8	3,1
Wealth Quantile Index					
Lowest	26,0	48,6	1,7	81,7	3,4
Middle - Low	29,1	52,1	3,4	79,5	2,7
Middle	30,4	53,9	5,3	75,9	2,6
Middle - High	32,5	49,0	8,6	76,2	2,1
Highest	32,7	41,5	13,7	77,4	2,5

Table 4.12 details the grounds of households using traditional health service. This alternative medication using herbals or skills with or without tools has main purpose of maintaining health and fitness. The proportion of households taking this traditional health service for the reason of trial is relatively high especially for alternative medication using skills with tools. However, the negative impacts of this unstandardized traditional medication should cause for concern. Reason of "tradition, belief" is particularly dominant in alternative medication applying skills of mind power (37.2%).

Table 4.12 Proportion of households by reasons of taking traditional health service, Indonesia 2013

Types of Trad. Health Service	Grounds of taking traditional health service					
	Maintain Health & Fitness	Tradition, belief	More effective	Trial	Desperate	More affordable
Herbals	52,7	12,3	18,4	2,8	1,8	6,8
Skills with tools	32,1	10,4	19,5	20,7	5,8	5,7
Skills without tools	55,4	12,9	17,2	1,8	2,1	5,7
Skills with mind power	12,9	37,2	17,8	11,4	12,5	4,1

Bibliographies

Badan POM RI. Informatorium Obat Nasional Indonesia (IONI). 2008

[Drug and Food Supervision Body, Indonesia National Drug Informatorium (IONI), 2008]

Database Registrasi, Badan POM RI. Accessed September 2013 from <http://www.pom.go.id/webreg/index.php/home/produk/>

Hardon A, Hodgkin C and Fresle D. How to investigate the use of medicines by consumers. WHO and University of Amsterdam, 2004.

Media Informasi Obat dan Penyakit – *online*.

<http://medicastore.com/>MIMS Indonesia. 108th. Edition. 2007.

World Health Organization. Guidelines for the regulatory assessment of Medicinal Products for use in self-medication. WHO/EDM/QSM/00.1, 2000.

CHAPTER 5. ENVIRONMENTAL HEALTH

Athena Anwar, Agustina Lubis, D. Anwar Musadad, Sri Irianti, Ika Dharmayanti, Inswiasri, Sonny Warouw, Miko Hananto, Puguh PP and Yusniar

Environmental Health in Riskesdas 2013 aims to evaluate the existing program, to take follow-up actions for implementation in the field and to identify environmental risk factors that may spread disease and disrupt health. With the most up-to-date environmental health data, it is expected that that such data be adopted as basis in formulating policies on environment-based disease control initiatives. Riskesdas 2013 presents environmental health data ranging from drinking water, sanitation (toilets and solid waste) to housing hygiene. Data of housing hygiene include types of building materials, locations of houses and conditions of rooms, home occupancy density, fuels for cooking and the use or storage of pesticides/insecticides and chemical fertilizers at home. In addition, data on domestic habits in cleaning bath rooms for vector transmitted disease prevention (dengue fever, malaria) are also provided.

The analysis unit is that of household. Data are collected through interviews using questionnaires and observation in the field. Data are analyzed in descriptive manner depicting the environmental health conditions by province, residence and wealth quantile index. More detailed results of Environmental Health block can be seen in Book 2: Riskesdas 2013 In Figures, pp. 58 to 124.

5.1. Drinking Water

Water aspects in this Riskesdas 2013 cover types of water sources for domestic and drinking purposes. The average water consumption per person per day, the distance of drinking water sources to human waste disposal sites, distance of and time to access drinking water sources, household members collecting drinking water, the physical quality of drinking water, drinking water management (treatment and storage) are also pointed out. Complete tables in this drinking water issue can be seen in Riskesdas 2013 in Figures. For accessibility to drinking water sources, JMP WHO – Unicef 2006 criteria have been adopted. These criteria define that households with access to improved drinking water sources are those with access to piped/PDAM water, artesian wells, protected wells, protected springs, rainwater reservoirs, and bottled water (ONLY IF water sources for other domestic purposes come from improved sources).

The results show that water sources to meet domestic needs in Indonesia mostly come from protected wells (29.2%), artesian wells (24.1%) and piped/PDAM water (19.7%) (Riskesdas 2013 in Figures). In the cities, more households consume water from artesian wells (32.9%) and piped/PDAM water (28.6%). Meanwhile, in villages, they more consume water from protected wells (32.7%).

For households using water sources to meet their whole domestic needs other than from rivers/lakes/irrigation drains, they normally consume water at 50 to 99.9 liter per person per day (28.3%) or 100 liters to 300 liters per person per day (40%). The highest proportion of households consuming water 100 liters to 300 liters per person per day is found in Banten (54.5%) and the lowest proportion is in NTT (10.1%). Some households consume less than 20 liters per person per day, and even less than 7.5 liters per day. They reach 4.9 percent and 0.1 percent respectively. By province, the highest proportion of households with water consumption less than 20 liters per person per day is detected in NTT (30.4%) followed Papua (22.5%).

By respondents characteristics, the proportion of rural households with water consumption less than 20 liters per person per day are relatively higher (5.8%) compared to those living in the cities (4.0%). On the contrary, the proportion of households consuming water 20 liters or more per person per day in urban areas (95.9%) outnumbers those in villages (94.2%). Households with wealth quantile at middle to highest classes tend to consume water more than 100 liters per person per day.

Meanwhile, for households with wealth quantile index of middle-low and lowest classes they consume water less than 20 liters per person per day.

With regard to the sources of drinking water, households in Indonesia may consume water from bottled water, refilled bottled water, piped water of PDAM or purchasing from water vendors, artesian wells, protected wells, springs (protected and not protected), rainwater collectors and river/irrigation water.

The proportion of households with access to improved water sources in Indonesia reaches 66.8%. Five provinces with the highest proportion of households having accessibility to improved drinking water sources are Bali (82.0%), DI Yogyakarta (81.7%), East Java (77.9%), Central Java (77.8%) and North Maluku (75.3%); as to five provinces with the lowest proportions they include Riau Island (24.0%), East Kalimantan (35.2%), Bangka Belitung (44.3%), Riau (45.5%) and Papua (45.7%).

By characteristics, the proportion of urban households with access to improved drinking water sources (64.3%) is lower than households in villages recording (69.4%). The highest proportion of households with accessibility to improved drinking water sources is found in households with wealth quantile index of middle class (75.7%) and middle-low class (74.0%) (Figure 5.1).

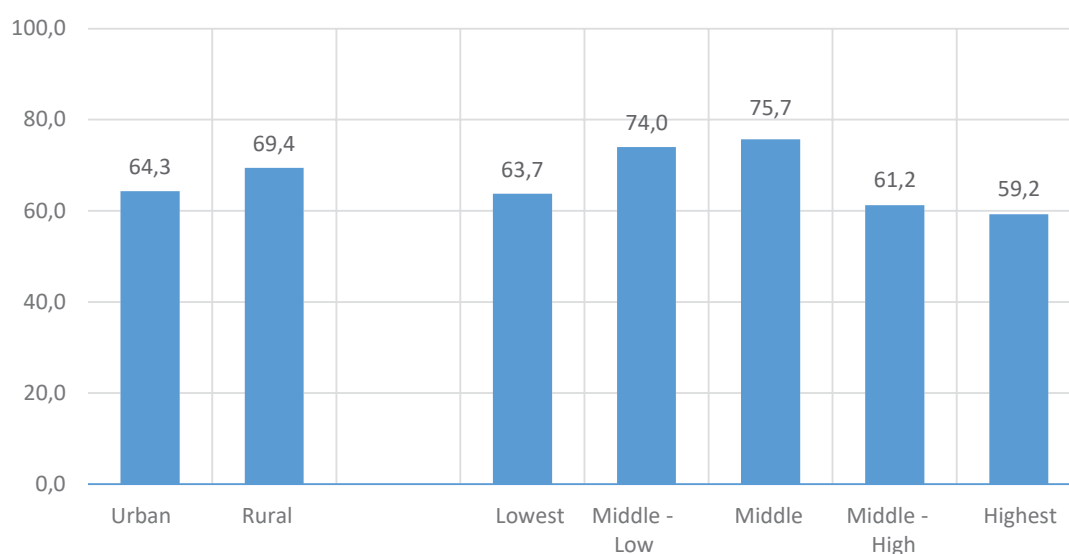


Figure 5.1 Proportion of households with accessibility to improved drinking water sources by characteristics, Indonesia 2013

Compared with the results of Riskesdas 2007 and 2010, the proportion of households in Indonesia having accessibility to improved drinking water sources shows upward trend (e.g. 2007: 62.0%; 2010: 62.9%; and 2013: 66.8%) (Figure 5.2).

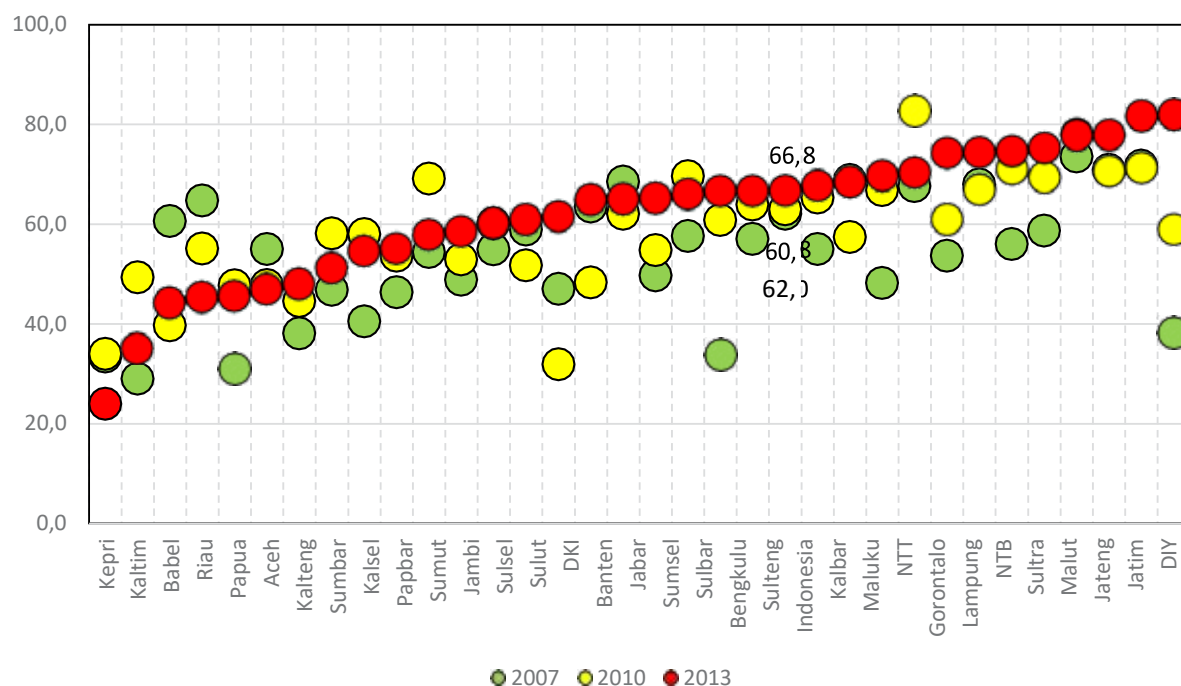


Figure 5.2 Proportion Trends of Households with Accessibility to Improved Drinking Water Sources by Province,

Figure 5.3 shows the situations of households by sexes usually taking water in Indonesia. Generally speaking, those who are tasked to take drinking water are adult males and females (by 59.5% and 38.4% respectively). Proportion of adult males responsible for drinking water collection in the urban areas (72.2%) is higher than those in villages (49.8%). For women, adult female members tasked to collect drinking water in rural areas (47.3%) have higher proportion than those in urban areas (26.7%).

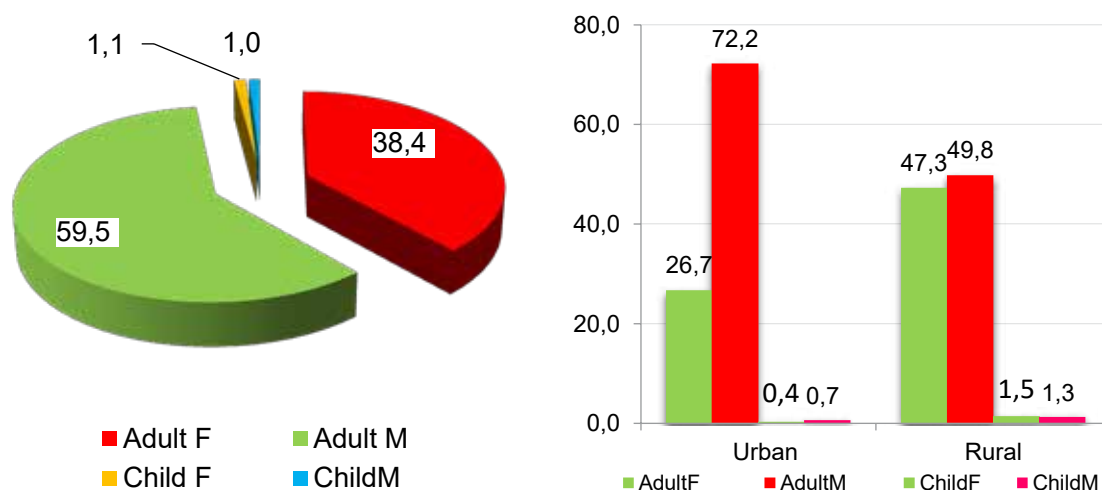


Figure 5.3 Proportion of Households Members Tasked to Collect Water, Indonesia 2013

However, few male children and female children aged < 12 years are held responsible for water collection to meet their domestic drinking water. They reach 1.0% and 1.1% respectively. The proportion of these children in rural areas records 1.5% which is higher than in urban areas at 0.4%.

The higher wealth quantile index, the higher proportion of adult male household members tasked to take water will be; on the contrary, the higher wealth quantile index, the lower proportion of adult female household members held responsible for water collection (Figure 5.4).

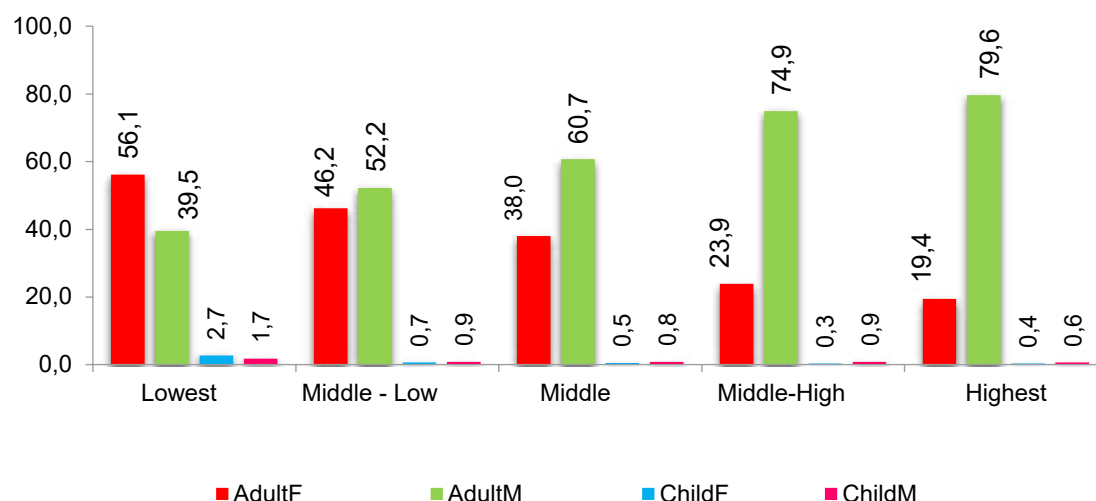


Figure 5.4 Proportion of household members usually taking water by respondent characteristics, Indonesia 2013

In the Regulation of the Minister of Health (Permenkes RI) No. 492/Menkes/Per/IV/2010 concerning the Quality of Drinking Water, it is required that drinking water must meet health requirements in terms of physics, chemicals and microbiology. In this report, drinking water is deemed feasible for consumption if complies with the prescribed physical quality, i.e. clear, colorless, tasteless, foamless and odorless. In general, drinking water consumed by households in Indonesia (94.1%) falls in good category (clear, colorless, tasteless, foamless and odorless). However, there are households that must consume turbid drinking water (3.3%), color water (1.6%), taste water (2.6%), foamed water (0.5%) and odor water (1.4%). By province, the highest proportion of households consuming turbid drinking water is in Papua (15.7%). With regard to the highest proportion of households consuming color water also found in Papua (6.6%), taste water in South Kalimantan (9.1%), foamed and odor water in Aceh (1.2% and 3.8% respectively). (Riskesdes 2013 in Figures).

By characteristics, the proportion of households consuming drinking water with good quality (clear, colorless, foamless and odorless) in urban areas is higher than those in rural areas, i.e. 96.0% to 92.0% respectively. The higher wealth quantile index, the higher proportion of households consuming drinking water with good quality will be (Figure 5.5).

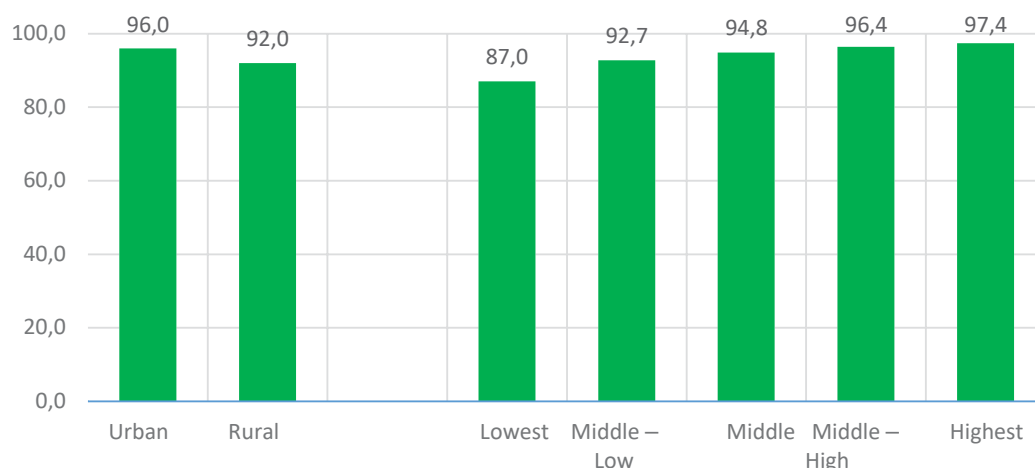


Figure 5.5 Proportion of households consuming drinking water by physical quality and respondent characteristics, Indonesia 2013

Figure 5.6 indicates the proportion of households applying water treatment before consumption by province. In Indonesia this proportion records 70.1 percent. Five provinces with highest proportion of households treating water before consumed includes North Maluku (92.7%), NTT (90.6%), Maluku (87.8%), Central Java (85.9%) and Bengkulu (85.8%). Meanwhile, five provinces with the lowest proportion of households applying water treatment to their drinking water before consumption are respectively NTB, Riau Islands, DKI Jakarta, Bali and Bangka Belitung.

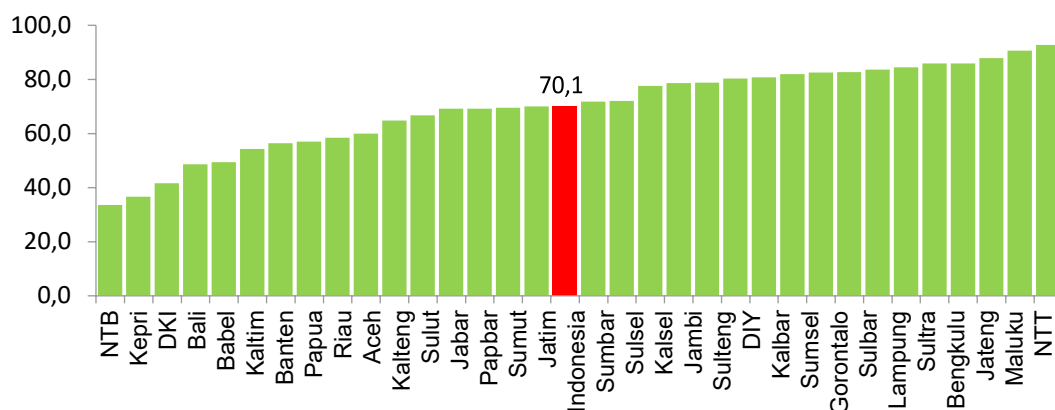


Figure 5.6 Proportion of households treating the water before consumed by province, Indonesia 2013

Of 70.1 percent of households applying water treatment before consumption, 96.5 percent boil the water. Other treatment methods include solar disinfection (2.3%), adding alum (0.2%), filtered and adding with alum (0.2%), filtered only (0.8%) (Figure 5.7).

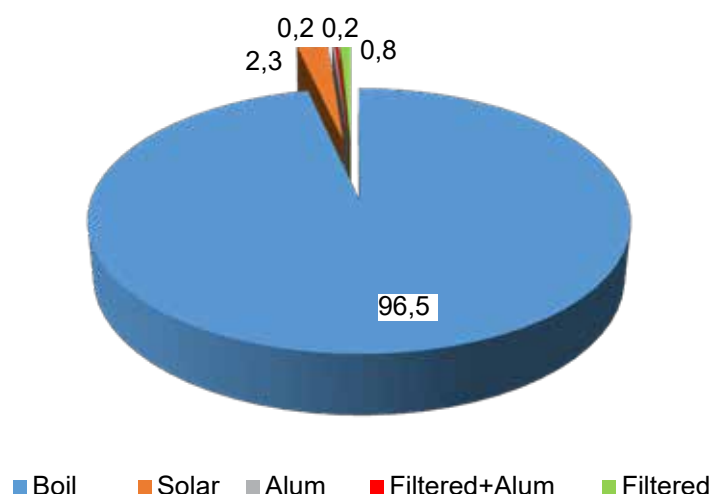


Figure 5.7 Proportion of households by water treatment methods before consumption, Indonesia 2013

By characteristics, the proportion of households applying water treatment before consumed with boiling method records 96.5% in urban areas. This proportion is nearly identical in rural areas (96.6%). No significant proportion disparity is found in the whole wealth quantile index regarding water treatment for drinking purposes with boiling method.

5.2. Sanitation

The scope of sanitation in Riskesdas 2013 covers toilet facilities and types of toilets, final disposal sites of human waste, types of wastewater collecting ponds, types of solid waste disposal sites and garbage management method. For access to toilets (sanitation) JMP WHP – Unicef 2006 criteria are adopted. According to these criteria, households with access to improved sanitation are those using private water sealed toilets and septic tanks for the final disposal sites of human waste.

The results of Riskesdas 2013 show that households in Indonesia using private toilets reach 76.2%, collective toilets (6.7%), public facilities (4.2%). Five provinces with the highest proportion of households having private toilets are Riau (88.4%), Riau Islands (88.1%), Lampung (88.1%), East Kalimantan (87.8%) and DKI Jakarta (86.2%). While the majority of households in Indonesia operate private toilets, the others have no this kind of urinating and defecating facility. They dispose their human waste in open space. Their proportion is 12.9 percent. Five provinces with the highest proportion of households without private toilets and as such dispose their human waste in open space are West Sulawesi (34.4%), NTB (29.3%), Central Sulawesi (28.2%), Papua (27.2%), and Gorontalo (24.1%) (Riskesdas 2013 in Figures).

By characteristics, the proportion of households having private toilets in urban areas outnumbers those in rural areas with 84.9% to 67.3% respectively. Meanwhile, the proportion of households using collective toilets or public facilities or defecating in open space in rural areas records higher rates than in urban areas (e.g. 6.9%, 5.0%, and 20.8% respectively to 6.6%, 3.5%, and 5.1% respectively). The higher wealth quantile index, the higher proportion of households using private toilets and the lower wealth quantile index, the higher proportion of households defecating in open space will be.

Figure 5.8 shows that the final disposal sites of human waste of households in Indonesia consist of septic tanks (66.0%). Five provinces with the highest proportion of households having septic tanks for their final human waste disposal sites is detected in DKI Jakarta (88.8%), Bali (84.6%), DI Yogyakarta (82.7%), Bangka Belitung (81.6%), and Riau Islands (81.4%). Yet, the other proportion of households without septic tank facilities has to dispose their human waste at other sites (e.g. Wastewater Treatment Plant, ponds/paddy fields, rivers/lakes/seas, holes in the grounds, or coasts/open space). Five provinces with the highest proportion of households not having septic tanks are Papua (65.4%), NTT (65.3%), NTB (49.7%), West Sumatra (46.1%), West Sumatra (46.1%), Central Kalimantan (44.9%) and West Sulawesi (44.1%).

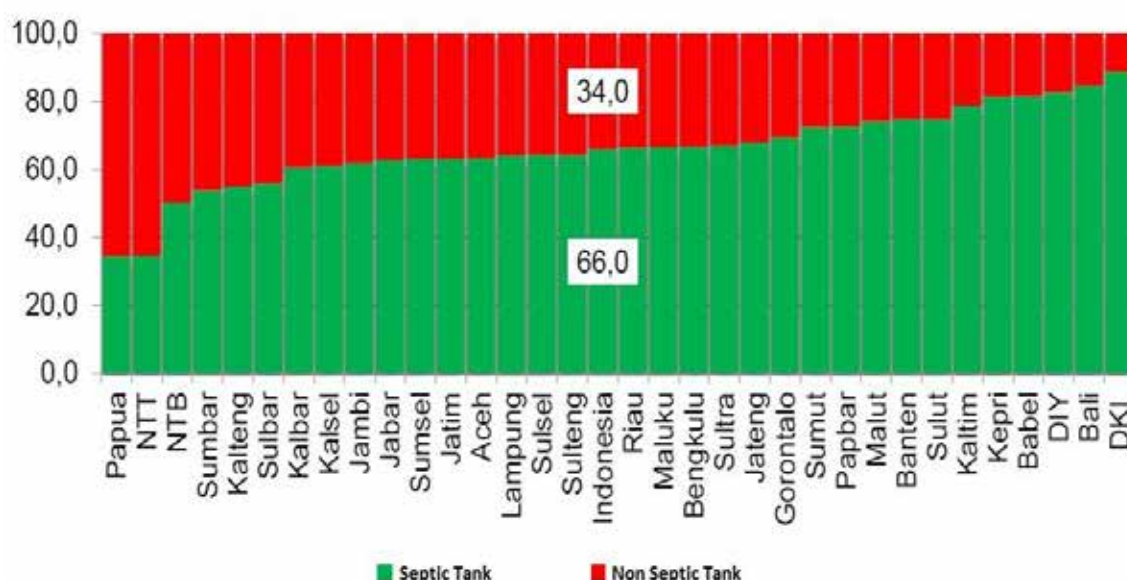


Figure 5.8 Proportion of Households by Final Human Waste Disposal Facilities and by Province, Indonesia 2013

By characteristics, the proportion of households in urban areas using septic tanks as final disposal sites for their human waste is higher than in rural areas, i.e. 79.4% to 52.4% respectively. The higher wealth quantile index, the higher proportion of households with septic tanks will be. Meanwhile, higher proportion of households without septic tanks will be found in those with lower wealth quantile index (Riskesdas 2013 in Figures).

Figure 5.9 presents the proportion of households having access to improved sanitation facilities and their trends (2007, 2010 and 2013) according to JMP WHO – Unicef 2006 criteria. The proportion of households with accessibility to improved sanitation facilities in Indonesia per 2013 is 59.8 percent. Five provinces with the highest proportion of households with access to improved sanitation facilities are respectively DKI Jakarta (78.2%), Riau Islands (74.8%), East Kalimantan (74.1%), Bangka Belitung (73.9%), Bali (72.5%). Meanwhile, five provinces with the least access are NTT (30.5%), Papua (30.5%), NTB (41.1%), West Sulawesi (42.9%), and Gorontalo (45.9%).

Compared to the results of Riskesdas 2007 and 2010, the proportion of households with accessibility to improved sanitation facilities is to rise (2007: 40.3%; 2010: 51.5%; and 2013: 59.8%).

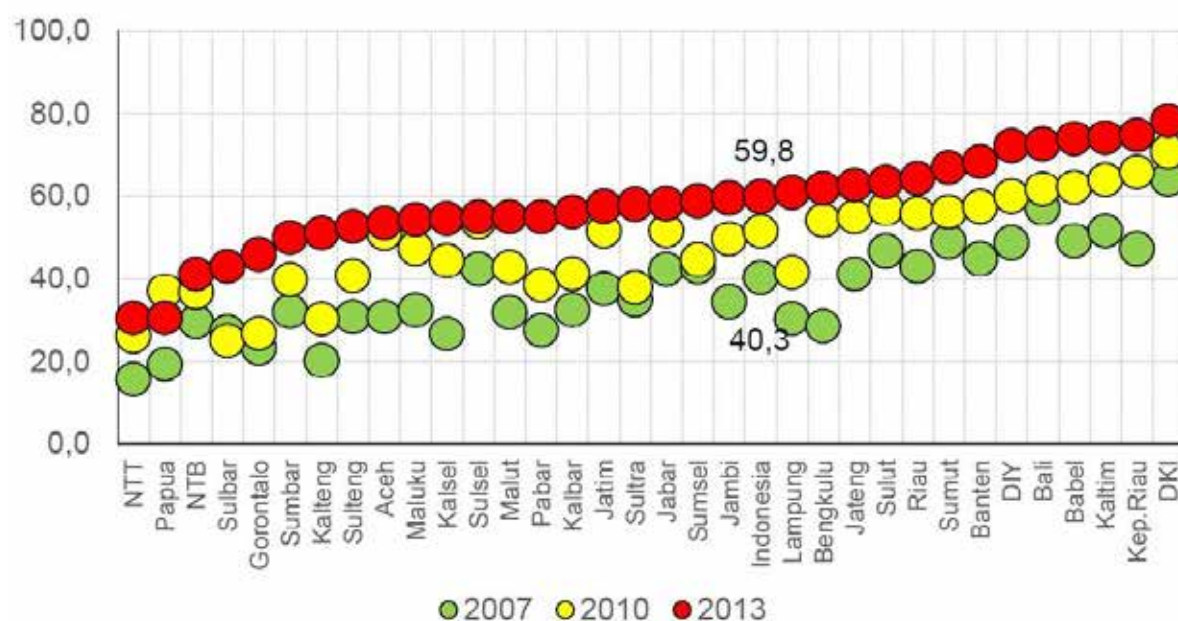


Figure 5.9 The proportion trends of households with access to improved sanitation by province, Indonesia 2007, 2010, and 2013

Figure 5.10 illustrates the proportion of households having access to improved sanitation facilities by respondent characteristics, Riskesdas 2013. The same figure reveals that the proportion of households accessible to improved sanitation facilities in urban areas are higher than those in rural areas, i.e. 72.5% to 46.9%. The higher wealth quantile index, the higher proportion of households with access to improved sanitation facilities is identified.

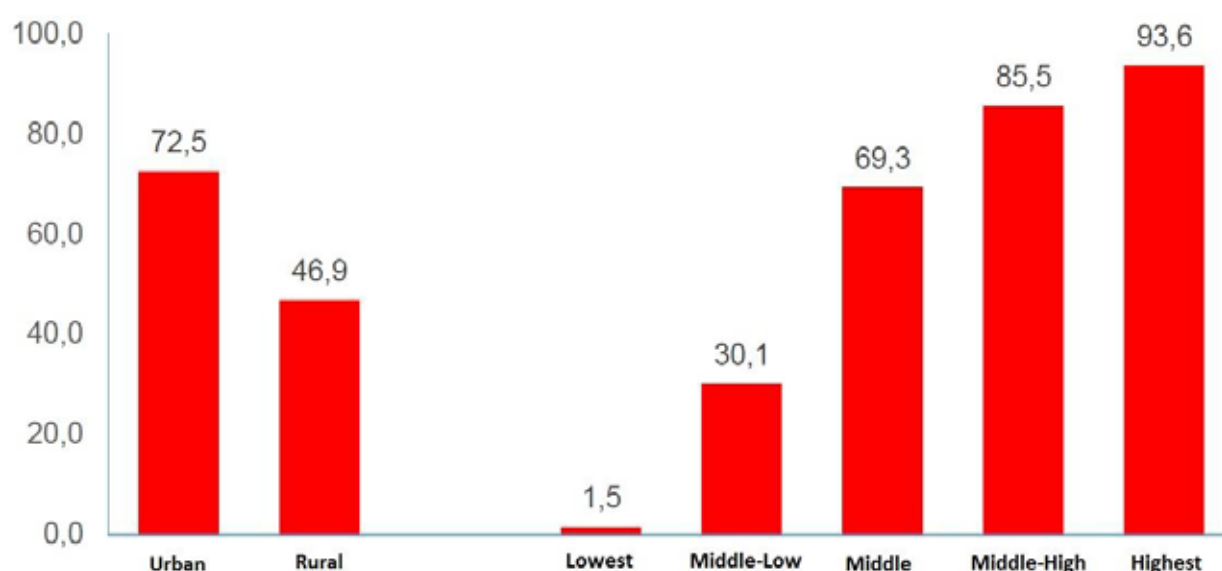


Figure 5.10 Proportion of households with access to improved sanitation facilities by characteristics, Indonesia 2013

Figure 5.11 indicates the proportion of households by wastewater collecting media from bathrooms, sinks and kitchens. In general, the domestic wastewater in Indonesia is disposed directly to drains (46.7%) and without collecting media (17.2%). Only 15.5 percent operate closed wastewater ponds in the yards complete with SPAL (wastewater treatment system). The other 13.2 percent use open ponds in the yards and 7.4 percent build wastewater ponds outside the yards.

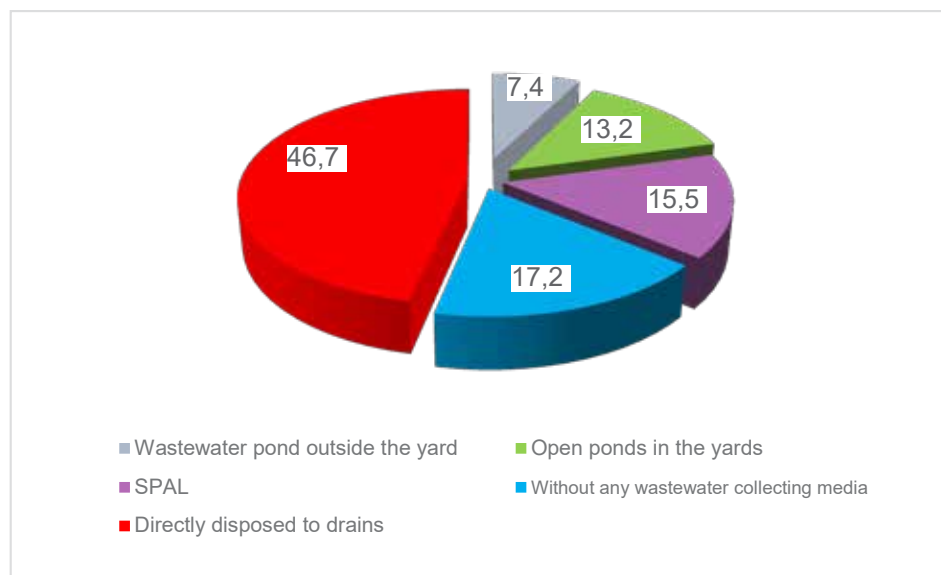


Figure 5.11 Proportion of households in discharging wastewater by media, 2013

With regard to solid waste management, only 24.9 percent households in Indonesia pay cleaning workers to collect their domestic waste. The majority burn the waste (50.1%), dispose to rivers/drains/seas (10.4%) and to open space (9.7%) (Figure 5.12).

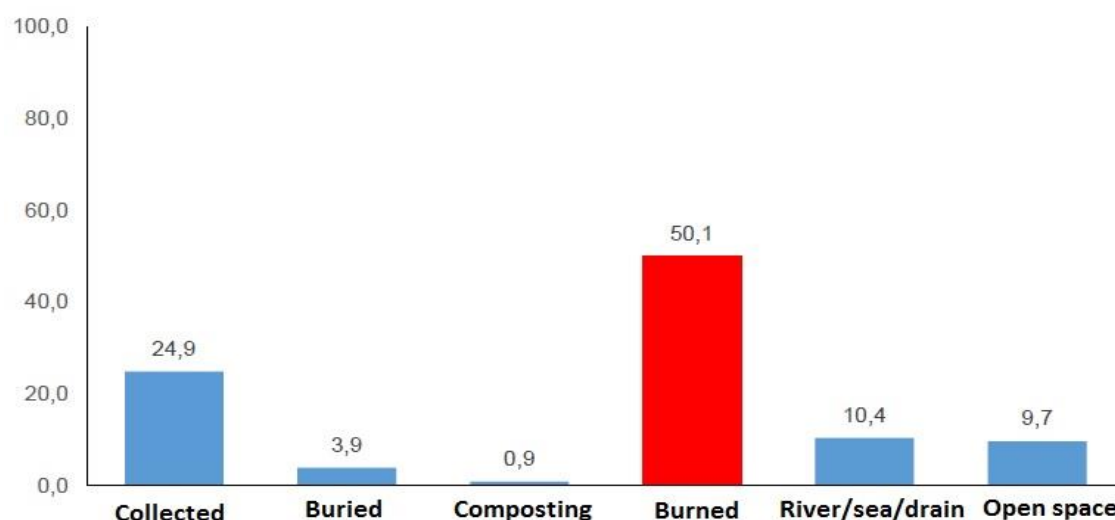


Figure 5.12 Proportion of households by solid waste management methods, Indonesia 2013

Five provinces with the highest proportion of households paying cleaning workers to collect their domestic waste is found in DKI Jakarta (87.0%), Riau Islands (55.8%), East Kalimantan (49.9%), Bali (38.2%) and Banten (34.4%).

By characteristics, the proportion of households paying cleaning workers to collect their garbage in urban areas is higher than in rural areas, i.e. 46.0% to 3.4%. Proportion of rural households burning their domestic waste outnumbers the proportion in urban areas, i.e. 62.8% to 37.7%. The higher wealth quantile index, the higher proportion of households paying cleaning workers to manage their garbage is observed. On the contrary, the proportion of households burning the domestic waste tends higher in the lower wealth quantile index (Riskesdas 2013 in Figures).

Five provinces with the highest proportion of households burning their domestic waste includes Gorontalo (79.5%), Aceh (70.6%), Lampung (69.9%), Riau (66.4%), West Kalimantan (64.3%). Meanwhile, the lowest five provinces are DKI Jakarta (5.3%), North Maluku (25.9%), Maluku (28.9%), Riau Islands (31%), East Kalimantan (32.1%) (Figure 5.13).

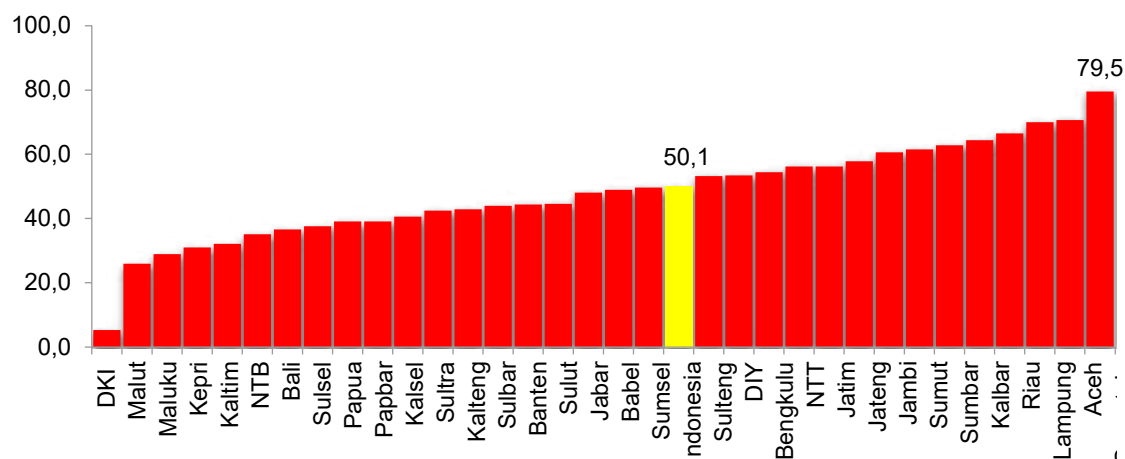


Figure 5.13 Proportion of households by solid waste management with burning method by province, Indonesia 2013

5.3. Housing

Data on housing compiled in Riskesdas 2013 consist of data concerning building title status, home occupancy density, types of building materials (ceilings, walls, floors), house locations, conditions of rooms (separated, cleanliness, availability and habit of opening windows, vents and natural lights), fuels for cooking, habits of cleaning bathrooms and the use/storage of dangerous goods such as pesticides/insecticides and chemical fertilizers at home.

The proportion of households by building title status can be seen in Figure 5.14. The figure indicates that in general households in Indonesia occupy their private houses (81.4%). Meanwhile, the other proportions may stay in the others' houses, i.e. parents/relatives/siblings or official houses.

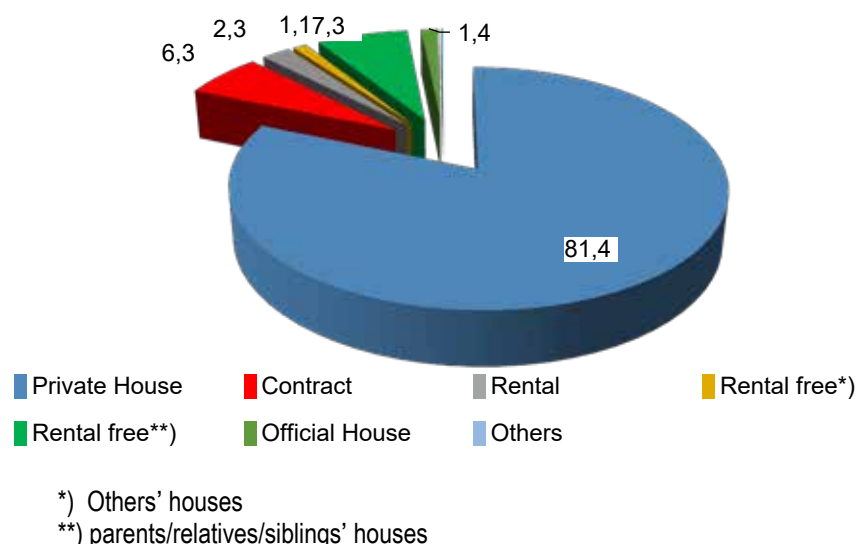


Figure 5.14 Proportion of households by residential title status, Indonesia 2013

By respondent characteristics, the proportion of urban households living in private houses is lower than those in rural areas, i.e. 72.6% to 90.4%. Meanwhile, the proportion of households staying in contract or rented houses in urban areas is relatively higher (e.g. contract: 11.4%, rental 4.1%) than in rural areas (e.g. contract: 1.1%, rental 0.5%) (Risksdas 2013 in Figures).

Home occupancy density is a requirement for healthy home. Decree of the Minister of Health No. 829/Menkes/SK/VII/1999 concerning Housing Health Requirements prescribed that home occupancy density higher than or equal to 8 m²/person shall be categorized as relatively undense. The proportion of households in Indonesia living in undense house reaches 86.6%. Five provinces with the highest proportion of households with undense houses ($\geq 8\text{m}^2/\text{person}$) include Central Java (96.6%), DI Yogyakarta (94.2%), Lampung (93.1%), Bangka Belitung (92.8%) Jambi (92.6%). As to the five provinces with the least proportion of households occupying undense houses they are inclusive of Papua (55.0%), NTT (64.0%), DKI Jakarta (68.3%), Gorontalo (69.0%), and Maluku (72.7%) (Figure 5.15).

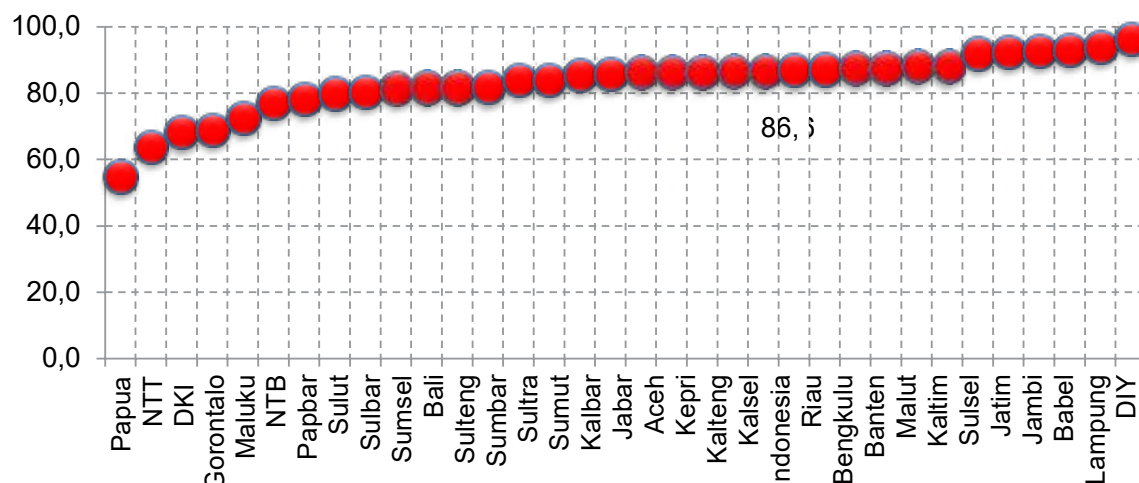


Figure 5.15 Proportion of households by home occupancy density by province, Indonesia 2013

Figure 5.16 shows the physical conditions of houses (types of materials) covering the largest parts of ceilings, walls and floors. The proportion of households which the largest upper parts of their houses covered with ceilings reaches 59.4 percent, walls made of bricks 69.6 percent and tiled floors 93.1 percent.

The same figure also indicates that the proportion of households which their houses completed with ceilings in urban areas is higher than in rural areas, i.e. 75.7% to 42.8%. Accordingly, for brick walls and tiled floors, the proportions in urban areas are higher than those in rural areas (e.g. 83.5% and 97.4% respectively to 55.3% and 88.7% respectively).

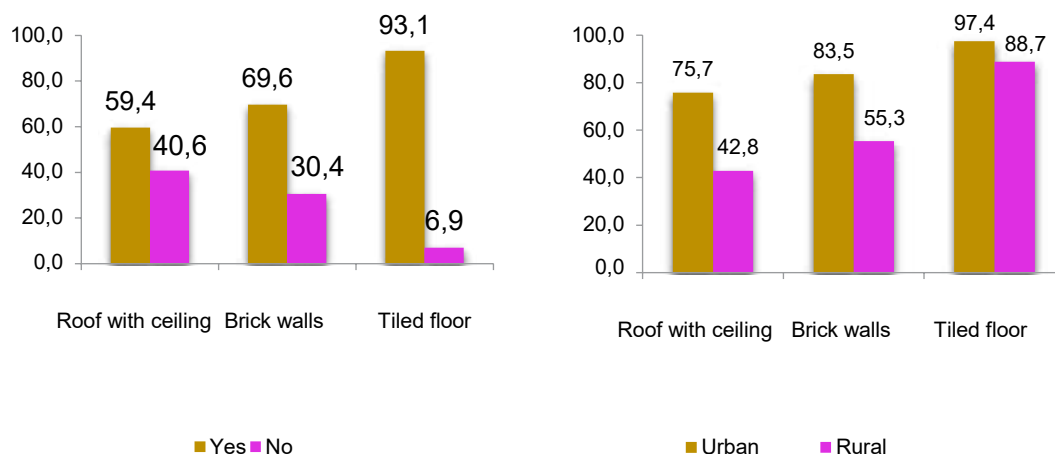


Figure 5.16 Proportion of households by ceilings, brick walls and tiled floors, Indonesia 2013

Figure 5.17 presents the conditions of rooms inside the houses, such bedrooms, kitchens and living rooms in terms of cleanliness, windows, vents and lights. The majority of these rooms are separated from other rooms. As to the hygiene, around three fourth (3/4) households maintain their bedrooms, living rooms and kitchens in clean conditions with sufficient lights. However, only less than 50 percent have adequate ventilation systems and open the windows everyday.

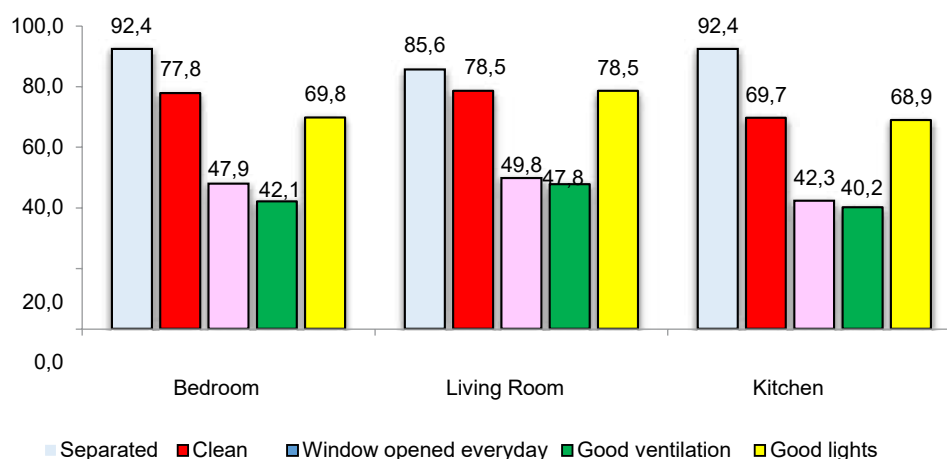


Figure 5.17 Proportion of households by bedrooms, living rooms and kitchen in clean conditions, with windows, ventilation and natural lights

Indonesia2013

Figure 5.18 shows the types of illumination sources in Indonesia which the majority of households (97.4%) use electricity as the main source to illuminate their houses and the remaining 2.6% use oil lamps or otherwise (non-electric).

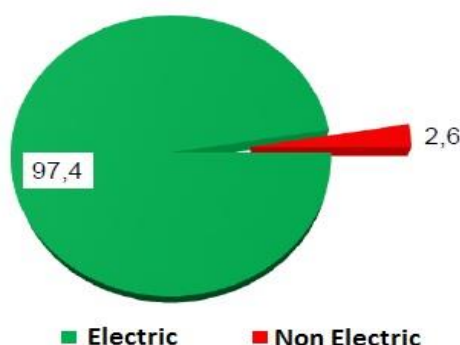


Figure 5.18 Proportion of households by lighting sources, Indonesia 2013

Figure 5.19 shows the proportion of households using non-electric sources for their lighting. Five provinces with the highest proportion of households using non-electric illumination are inclusive of Papua (43.6%), NTT (26.9%), Maluku (14.1%), Gorontalo (10.9%) and North Maluku (9.9%).

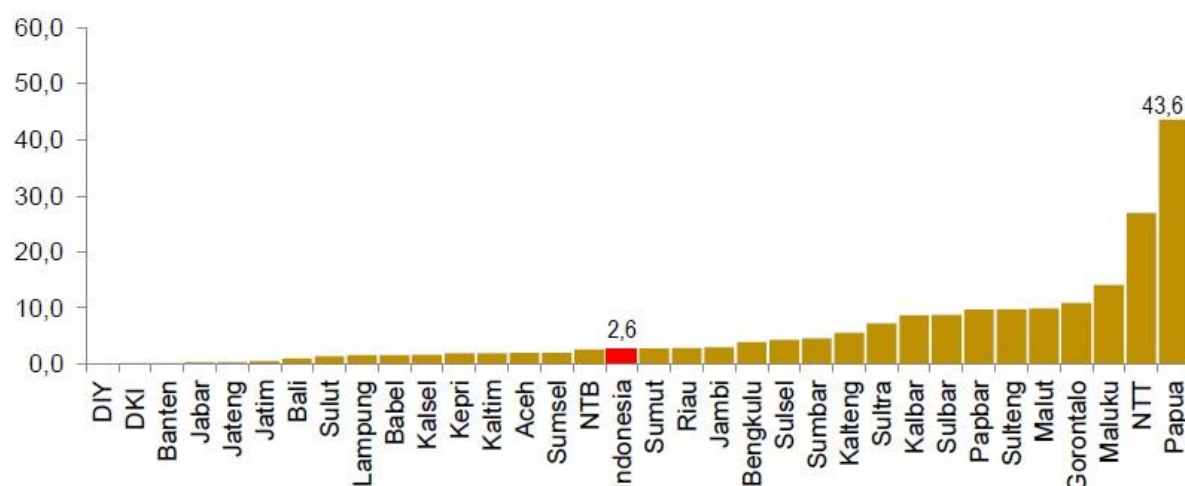


Figure 5.19 Proportion of households using non-electric illumination by province, Indonesia 2013

Types of fuels used by the households can be seen in Figure 5.20. According to Decree of the Minister of Health (Kepmenkes RI) No 829/Menkes/SK/VII/1999 concerning Housing Health Requirements, Types of Primary Fuels/Energy for Domestic Uses per Province consist of two, i.e. safe fuels implying not potential to ignite pollutions (electricity and gas/LPG) and unsafe meaning potential to cause pollution (kerosene, charcoals, and woods). The proportion of households using safe fuels in Indonesia records 64.1 percent.

By characteristics, safe fuels are more used by households in urban areas (81.9%) than in rural areas (46.0%). The proportion of rural households using unsafe fuels is higher than those in villages, i.e. 54.0% to 18.1% (Figure 5.20).

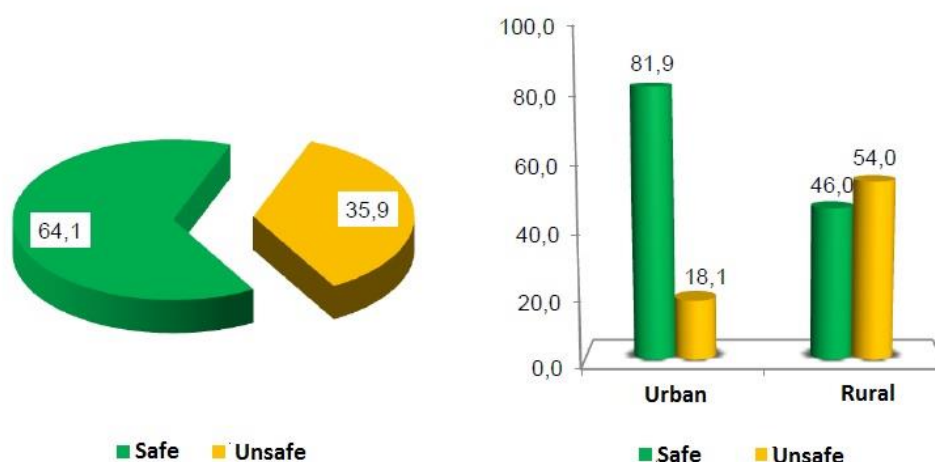


Figure 5.20 Proportion of households by types of fuels/energy, Indonesia 2013

Figure 5.21 shows the proportion of households in efforts of preventing mosquito's bites in Indonesia. They apply mechanical way (screens, mosquito nets) or chemical methods (with insecticides, coils, and repellants). The highest proportion is to use coils (48.4%) followed with screens (25.9%), repellants (16.9%), insecticides (12.2%) and mosquito nets (8.0%). By characteristics, proportion of rural households using coils to repel mosquitos is higher (50.0%) than in urban areas (46.9%). As to screens, rural households prefer to use this media to prevent mosquitos' bites than those in urban areas, i.e. 39.5% to 12.5%. Meanwhile, households in urban areas more like to use repellants, insecticides and mosquito nets than rural households (e.g. 23.2%; 17.9%; and 12.3% respectively to 10.4%; 6.4% and 3.6%).

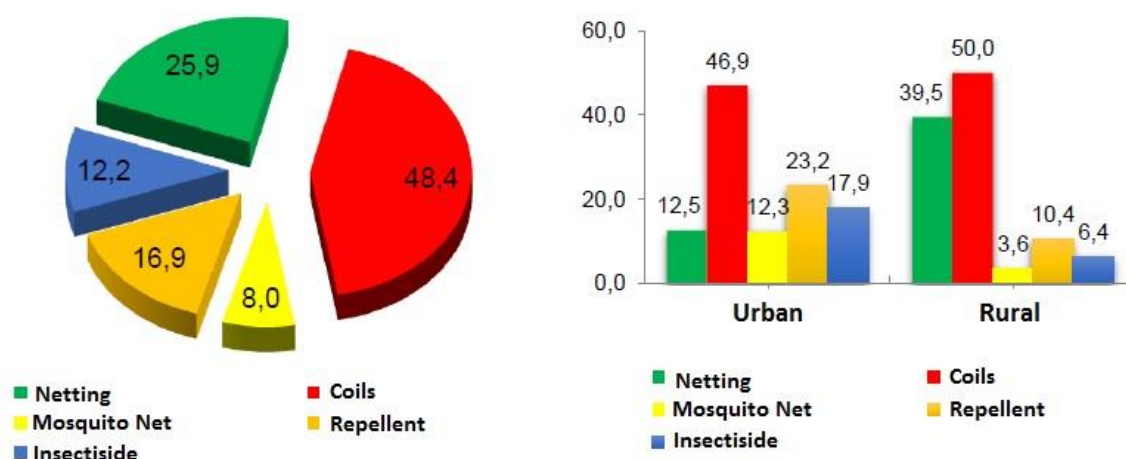


Figure 5.21 Proportion of households by habits in mosquito bites prevention, Indonesia 2013

Figure 5.22 shows the use/storage of pesticides/insecticides/chemical fertilizers at home in Indonesia. The proportion of households using/storing pesticides/insecticides/chemical fertilizers at home reaches 20.2 percent. This percentage is a bit higher than in rural areas (19.9%)

0,0

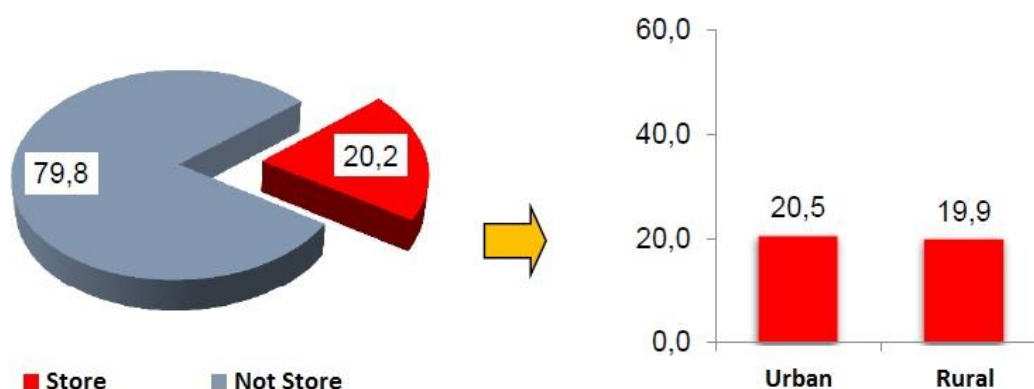


Figure 5.22 Proportion of households using or storing pesticides/insecticides/chemical fertilizers, Indonesia 2013

Bibliographies

Kementerian Kesehatan, Keputusan Menteri Kesehatan Republik Indonesia No 829/Menkes/SK/VII/199 tentang Persyaratan Kesehatan Perumahan

[The Ministry of Health, Decree of the Minister of Health of Republic of Indonesia No. 829/Menkes/SK/VII/199 concerning Housing Health Requirements]

Kementerian Kesehatan, Peraturan Menteri Kesehatan Republik Indonesia No.492/Menkes/Per/IV/2010 tentang Kualitas air Minum

[The Ministry of Health, Regulation of the Minister of Health of Republic of Indonesia No. 492/Menkes/Per/IV/2010 concerning Drinking Water Quality]

Kementerian Kesehatan, Peraturan Menteri Kesehatan Republik Indonesia No 1077/Menkes/Per/V/2011

[The Ministry of Health, Regulation of the Minister of Health of Republic of Indonesia 1077/Menkes/Per/V/2011]

WHO, UNICEF. 2006. Meeting The MDG Drinking Water and Sanitation Target: The Urban and Rural Challenge of The Decade. WHO Press. Geneva. Pp. 1- 41

WHO, UNICEF. 2013. Progress on Sanitation and Drinking Water – 2013 Update . WHO Press. Geneva. Pp. 1-38

CHAPTER 6. COMMUNICABLE DISEASE

Ainur Rofiq, Muhammad Karyana, Khadijah Azhar, Armaji Kamaludin Syarif and Retna Mustika Indah

Information relating to communicable disease in Riskesdas 2013 is collected from various age group classifications with total samples reaching 1,027,766 respondents in 33 provinces throughout Indonesia. The information relates to incidents, period prevalence and disease prevalence gathered from interviews using questionnaires (RKD13.IND) and clinically structured questions. The respondents are asked whether they ever undergo diagnosis of particular disease by healthcare professionals (D: Diagnosis). Respondents who said that they never take any disease diagnose examination are further questioned whether they used to/currently experience specific clinical symptoms of such disease (G: Symptoms). Incidents and period prevalence and disease prevalence indicate the morbidity, which is measured based on the onset of disease in certain period of time. Incidents are measured for period of time 2 weeks or less, period prevalence for 1 month or less and disease prevalence for 1 year or less.

Data on communicable disease are limited to several diseases, to wit, those transmitted by air (acute upper respiratory infection/ISPA, pneumonia and pulmonary tuberculosis), by vectors (malaria) and by foods, water or otherwise (diarrhea and hepatitis). These diseases correlate with Public Health Development Index (IPKM), MGD and hepatitis control program in Indonesia, which constituted the first program to launch in the world. More detailed results of this Communicable Disease block can be seen in Book 1: Riskesdas 2013 in Figures, pp. 125 to 140.

6.1. Transmitted by Air

Air transmitted diseases pointed out in this report include Accute Upper Respiratory Infection (URI), pneumonia and pulmonary tuberculosis. Their data have been also compiled in Riskesdes 2007. Table 6.1 shows period prevalence and ISPA and pneumonia prevalence by province. Table 6.2 indicates the same diseases by characteristics.

6.1.1. Accute Upper Respiratory Infections (URI)

Accute Upper Respiratory Infections (URI) are transmitted by virus or bacteria. The early symptoms include fever compounded with one or more the following indications: sore throat or difficult to swallow, hacking coug or pleghm coug. The period prevalence of URI is measured for the last 1 month. Five provinces with the highest URI prevalence are NTT (41.7%), Papua (31.1%), Aceh (30.0%), NTB (28.3%) and East Java (28.3%).

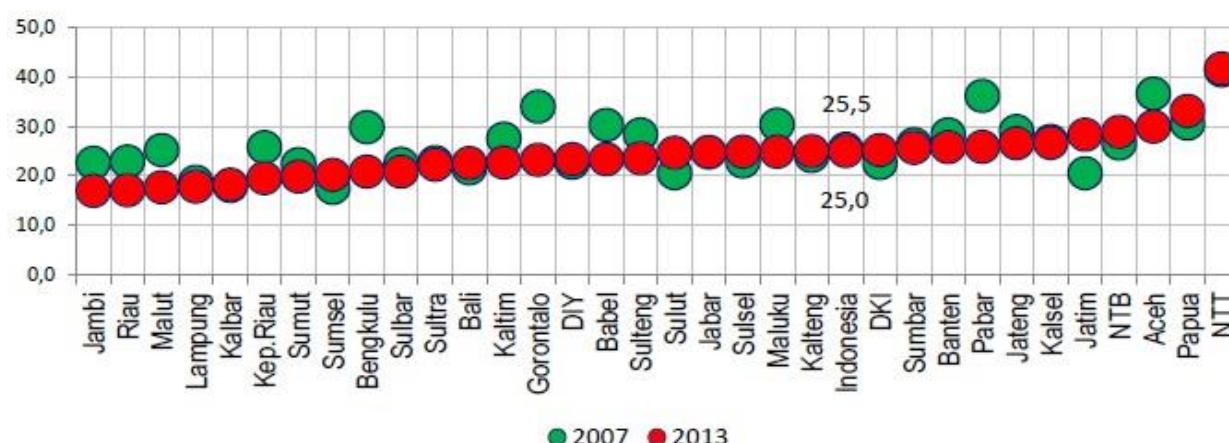


Figure 6.1 URI period prevalence by province, Riskesdas 2007 and 2013

In Riskesdas 2007, NTT was the province with the highest URI prevalence. According to Riskesdas 2013, URI period prevalence in Indonesia (25.0%) is relatively unchanged to 2007 (25.5%) (Figure 6.1).

Table 6.2 illustrates the characteristics of population with highest URI prevalence that is found in age group 1 – 4 years old (25.8%). By Sexes, this prevalence is relatively equal both for males and females. This infection is, though, more suffered by population at the lowest and middle-low wealth quantile indices

6.1.2. Pneumonia

Pneumonia is inflammation to the lungs caused by bacteria started with symptoms of fever and pleglm coug, rapid heartbeat (>50 times/minutes), rapid breathing and other indications (headache, nervous and decreased appetite). Pneumonia symptoms are asked to respondents at any age for period of time 1 month or less and 12 months or less. Period prevalence and pneumonia prevalence in 2013 record 1.8 percent and 4.5 percent respectively. Five provinces with the highest period prevalence and pneumonia prevalence at any age are inclusive of NTT (4.6% and 10.3%), Papua (2.6% and 8.2%), Central Sulawesi (2.3% and 5.7%), West Sulawesi (3.1% and 6.1%) and South Sulawesi (2.4% and 4.8%) (Table 6.1). Pneumonia period prevalence in Indonesia in 2013 is lower than in 2007 (Figure 6.2).

Table 6.1 URI and Pneumonia Period prevalence, Pneumonia Prevalence and Pneumonia Period Prevalence for < 5 Years Old Children by Province, Indonesia 2013

Province	URI Period prevalence (percent)		Pneumonia Period prevalence (percent)		Pneumonia Prevalence (percent)		Pneumonia Prevalence of <5 yr old children (per mile)	
	D	D/G	D	D/G	D	D/G	D	D/G
Aceh	20,1	30,0	0,4	2,6	1,8	5,4	6,1	35,6
North Sumatera	10,9	19,9	0,1	1,3	1,1	3,2	1,0	12,4
West Sumatera	16,1	25,7	0,2	1,2	1,4	3,1	3,4	10,2
Riau	10,9	17,1	0,1	0,9	1,0	2,1	1,7	8,3
Jambi	9,8	17,0	0,1	0,9	1,7	3,1	0,0	9,8
South Sumatera	11,3	20,2	0,1	0,9	0,9	2,4	0,8	10,8
Bengkulu	13,0	20,8	0,1	0,8	1,3	2,7	0,0	8,8
Lampung	12,0	17,8	0,1	0,6	1,2	2,3	0,0	7,7
Bangka Belitung	9,2	23,4	0,1	2,4	0,9	4,3	4,1	34,8
Riau Island	8,9	19,6	0,1	1,4	1,3	3,2	0,0	22,0
DKI Jakarta	12,5	25,2	0,2	2,4	1,8	5,9	2,9	19,6
West Java	13,2	24,8	0,2	1,9	2,0	4,9	3,5	18,5
Central Java	15,7	26,6	0,2	1,9	2,0	5,0	2,8	19,0
DI Jogjakarta	11,3	23,3	0,2	1,7	1,2	4,6	3,2	27,8
East Java	15,6	28,3	0,2	1,7	1,3	4,2	2,0	15,8
Banten	16,4	25,8	0,2	1,5	1,6	3,8	2,2	19,3
Bali	12,2	22,6	0,2	1,5	0,8	3,1	1,6	8,6
West Nusa Tenggara	13,2	28,9	0,2	2,2	1,5	5,1	4,1	20,3
East Nusa Tenggara	19,2	41,7	0,3	4,6	1,4	10,3	2,0	38,5
West Kalimantan	11,1	18,2	0,1	1,1	1,1	2,7	2,1	15,5
Central Kalimantan	14,3	25,0	0,2	2,0	1,4	4,4	5,8	32,7
South Kalimantan	10,6	26,7	0,1	2,4	1,1	4,8	0,7	25,0
East Kalimantan	14,8	22,7	0,2	1,0	1,2	3,0	2,0	6,6
North Sulawesi	13,3	24,7	0,3	2,3	1,9	5,7	4,3	23,2
Central Sulawesi	8,9	23,6	0,2	3,5	1,5	7,2	0,9	29,9
South Sulawesi	11,9	24,9	0,2	2,8	1,7	6,8	1,0	30,3
South-east Sulawesi	13,4	22,2	0,3	2,2	1,5	5,2	3,2	29,0
Gorontalo	9,5	23,2	0,2	1,7	1,2	4,1	2,7	10,7
West Sulawesi	9,3	20,9	0,2	3,1	1,0	6,1	0,0	34,8
Maluku	13,3	24,9	0,2	2,3	1,4	4,9	1,5	27,9
North Maluku	6,9	17,7	0,2	2,0	0,8	4,5	0,0	18,7
West Papua	18,9	25,9	0,2	1,3	2,0	4,2	2,8	14,1
Papua	17,2	33,1	0,5	2,6	2,9	8,2	4,2	21,2
Indonesia	13,8	25,0	0,2	1,8	1,6	4,5	2,4	18,5

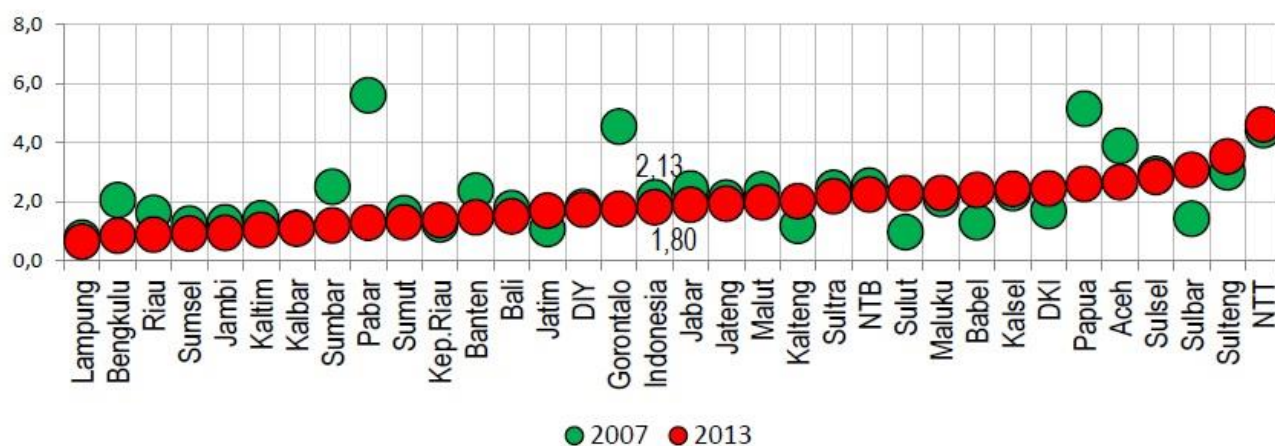


Figure 6.2 Pneumonia Period Prevalence by Province, Riskesdas 2007 and 2013

By respondent characteristics, the highest pneumonia period prevalence is found in age group 1-4 years old. This rate gets higher at age group 45-54 years old and further increases in the subsequent age groups. Pneumonia period prevalence rate at children under five years old in Indonesia is to reach 18.5 per mile. Only 1.6 per mile children of this age group suffering pneumonia go to doctors for medication. Five provinces with the highest pneumonia period prevalence to children under five years old are NTT (38.5‰), Aceh (35.6‰), Bangka Belitung (34.8‰), West Sulawesi (34.8‰), and Central Kalimantan (32.7‰) (Table 6.1).

The highest pneumonia period prevalence rate to children under five is detected at age group 12-23 months (21.7‰) (Figure 6.3). It is more found in population groups falling in the lowest wealth quantile index (27.4‰).

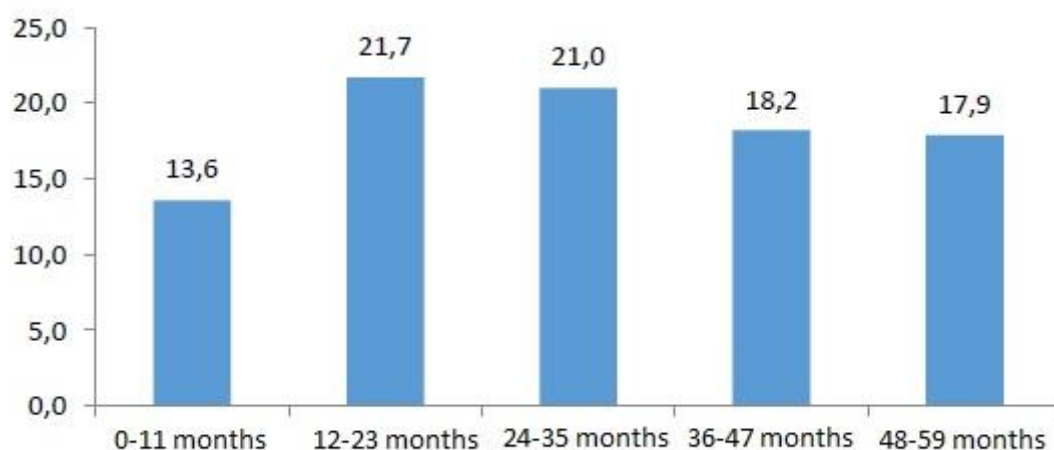


Figure 6.3 Pneumonia period prevalence per 1000 children by age groups, Indonesia 2013

Table 6.2 URI, Pneumonia period prevalence, pneumonia prevalence and pneumonia period prevalence of < 5 years old children by characteristics, Indonesia 2013

Characteristics	URI Period Prevalence (percent)		Pneumonia Period Prevalence (percent)		Pneumonia Prevalence (percent)		Pneumonia Period Prevalence <5 yr old children (per mile)	
	D	D/G	D	D/G	D	D/G	D	D/G
Age Group (year)								
< 1	22,0	35,2	0,2	1,4	1,2	2,9		
1-4	25,8	41,9	0,2	2,0	1,6	4,3		
5-14	15,4	27,8	0,1	1,5	1,3	3,7		
15-24	10,4	20,7	0,1	1,6	1,3	4,1		
25-34	11,1	20,8	0,2	1,6	1,4	4,2		
35-44	11,8	21,8	0,2	1,8	1,5	4,5		
45-54	12,8	23,4	0,2	2,1	1,9	5,4		
55-64	13,5	24,6	0,3	2,5	2,3	6,2		
65-74	15,2	27,3	0,4	3,1	2,9	7,7		
≥75	15,3	27,3	0,5	3,2	2,6	7,8		
<5 yrs old (month)								
0-11							2,2	13,6
12-23							2,6	21,7
24-35							2,6	21,0
36-47							2,0	18,2
48-59							2,4	17,9
Sexes								
Males	13,7	25,1	0,2	1,9	1,7	4,8	2,5	19,0
Females	13,8	24,9	0,2	1,7	1,4	4,3	2,3	18,0
Education								
Not attend school	16,3	29,7	0,2	2,6	1,9	6,2		
Not graduate SD/MI	14,4	27,1	0,2	2,1	1,6	5,0		
Graduate SD/MI	12,7	23,5	0,2	2,0	1,6	4,9		
Graduate SMP/MTS	11,3	21,5	0,2	1,7	1,4	4,3		
Graduate SMA/MA	10,3	19,4	0,2	1,3	1,5	3,8		
Graduate D1-D3/PT	9,5	16,4	0,2	0,9	1,6	3,1		
Profession								
Unemployed	12,1	22,5	0,2	1,8	1,6	4,5		
Employee	10,8	19,4	0,2	1,2	1,6	3,7		
Entrepreneurs	11,0	20,7	0,2	1,6	1,5	4,1		
Farmers/Fishermen/Worker	12,6	24,4	0,2	2,4	1,7	5,8		
Others	11,8	22,7	0,2	1,9	1,7	4,9		
Residence								
Urban	13,2	24,1	0,2	1,6	1,6	4,2	2,3	15,0
Rural	14,4	26,0	0,2	2,0	1,6	4,9	2,5	22,0
Wealth Quantile Index								
Lowest	14,6	29,1	0,2	2,8	1,6	6,3	2,4	27,4
Middle - Low	14,7	26,8	0,2	2,2	1,7	5,1	3,1	22,5
Middle	14,4	25,8	0,2	1,7	1,6	4,4	2,7	17,5
Middle - High	13,5	24,0	0,2	1,5	1,6	4,0	1,9	16,0
Highest	12,1	20,8	0,2	1,2	1,5	3,4	2,0	12,4

6.1.3. Pulmonary Tuberculosis

Pulmonary tuberculosis is a communicable disease directly transmitted by TB microbes (*Mycobacterium tuberculosis*). The primary symptoms include cough for 2 weeks or more, cough with additional symptoms of pleghm, blood mixed pleghm, rapid breathing, weak, decreased appetite, weight loss, malaise, sweat at the night despite no physical activities, fever for more than 1 month.

Pulmonary tuberculosis symptoms are asked to respondents for period ≤ 1 year based on diagnosis made by healthcare professionals based on pleghm examination, torax X-ray or both.

Table 6.3 Pulmonary Tuberculosis prevalence based diagnosis and symptoms by province, Indonesia 2013

Province	TB Diagnosis	Pulmonary TB Symptoms	
		Cough ≥ 2 weeks	Cough with Blood
Aceh	0,3	4,2	3,5
North Sumatera	0,2	3,8	2,7
West Sumatera	0,2	3,2	3,0
Riau	0,1	1,8	2,5
Jambi	0,2	2,7	2,7
South Sumatera	0,2	3,2	2,8
Bengkulu	0,2	3,2	1,8
Lampung	0,1	2,5	2,2
Bangka Belitung	0,3	3,8	2,2
Riau Island	0,2	2,3	2,5
DKI Jakarta	0,6	4,2	1,9
West Java	0,7	3,3	2,8
Central Java	0,4	3,8	3,0
DI Jogjakarta	0,3	4,9	0,9
East Java	0,2	5,0	2,4
Banten	0,4	2,7	3,2
Bali	0,1	4,0	2,5
West Nusa Tenggara (NTB)	0,3	4,4	3,8
East Nusa Tenggara (NTT)	0,3	8,8	4,0
West Kalimantan	0,2	2,8	3,0
Central Kalimantan	0,3	3,2	2,8
South Kalimantan	0,3	4,4	3,1
East Kalimantan	0,2	2,5	1,6
North Sulawesi	0,3	4,1	3,7
Central Sulawesi	0,2	4,9	3,7
South Sulawesi	0,3	6,6	3,3
South-east Sulawesi	0,2	4,3	4,4
Gorontalo	0,5	4,6	4,8
West Sulawesi	0,3	4,6	3,1
Maluku	0,3	3,4	3,8
North Maluku	0,2	4,7	4,3
West Papua	0,4	3,5	2,7
Papua	0,6	5,1	4,5
Indonesia	0,4	3,9	2,8

Prevalence of Indonesian people diagnosed to suffer pulmonary TB by healthcare professionals in 2013 is 0.4 percent, which is relatively equal to 2007 (Table 6.3). Five provinces with the highest pulmonary tuberculosis prevalence include West Java (0.7%), Papua (0.6%), DKI Jakarta (0.6%), Gorontalo (0.5%), Banten (0.4%) and West Papua (0.4%).

Table 6.4 Pulmonary TB Prevalence based on Diagnosis and Symptoms by Characteristics

Characteristics	Pulmonary TB Diagnosis	Pulmonary TB Symptoms	
		Cough ≥ 2 weeks	Cough with Blood
Age Group (year)			
< 1	0,2		
1-4	0,4		
5-14	0,3	3,6	1,3
15-24	0,3	3,3	1,5
25-34	0,3	3,4	2,2
35-44	0,3	3,7	3,0
45-54	0,5	4,5	2,9
55-64	0,6	5,6	3,4
65-74	0,8	6,6	3,4
≥75	0,7	7,0	3,7
Sexes			
Males	0,4	4,2	3,1
Females	0,3	3,7	2,6
Education			
Not attend school	0,5	5,6	3,6
Not graduate SD/MI	0,4	4,5	3,0
Graduate SD/MI	0,4	4,1	3,7
Graduate SMP/MTS	0,3	3,5	2,7
Graduate SMA/MA	0,3	3,2	2,3
GraduateD1-D3/PT	0,2	2,9	2,6
Profession			
Unemployed	11,7	1,6	2,7
Employee	10,5	1,5	2,3
Enterpreneurs	9,5	1,5	3,2
Famers/Fishermen/Workers	8,6	1,7	4,4
Others	8,1	1,6	3,9
Residence			
Urban	0,4	3,6	2,3
Rural	0,3	4,3	3,3
Wealth Quantile Index			
Lowest	0,4	5,3	4,3
Middle - Low	0,4	4,4	3,1
Middle	0,4	3,8	2,7
Middle - High	0,4	3,6	2,2
Highest	0,2	3,0	1,9

The prevalence of population with pulmonary tuberculosis of cough ≥ 2 weeks is 3.9 percent and blood cough 2.8 percent (Table 6.3). By population characteristics, pulmonary tuberculosis prevalence tends to increase at older ages, low education, and unemployed. The lowest pulmonary tuberculosis prevalence is found in the highest quantile (Table 6.4).

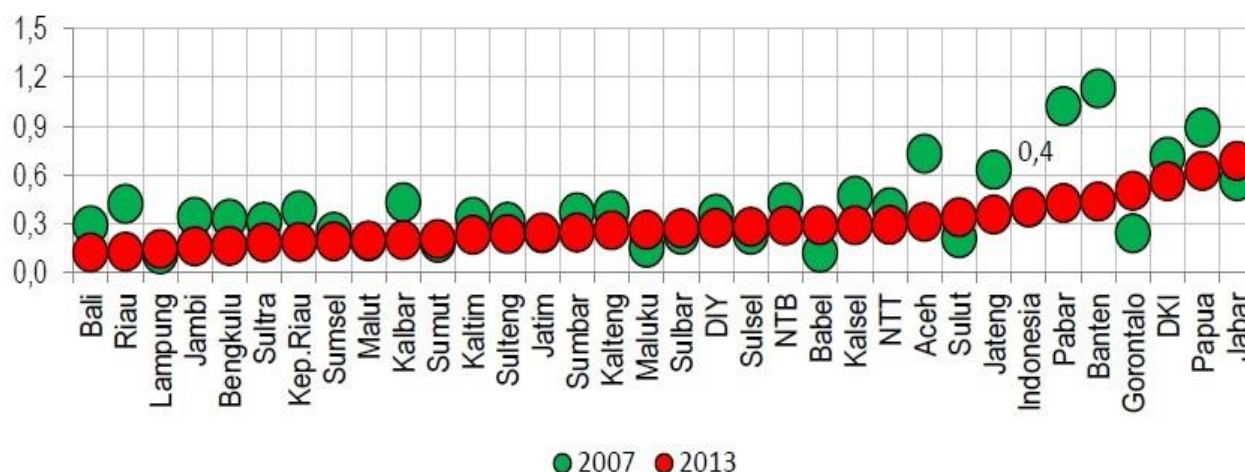


Figure 6.4 Pulmonary Tuberculosis by Province, Riskesdas 2007 and 2013

Figure 6.4 shows the results of Riskesdas 2007 and 2013 in which the prevalence rate of pulmonary tuberculosis treated by healthcare professionals is same, i.e. 0.4 percent.

6.2. Transmitted by Foods, Water or Otherwise

Types of disease transmitted by foods, water or otherwise in Riskesdas 2013 include diarrhea and hepatitis. They were also observed in Riskeddas 2007. For Riskesdas 2013, additional questions of diarrhea suffered for period of time ≤ 2 weeks have been added according to the needs of program.

6.2.1. Hepatitis

Hepatitis is a liver infection caused by Hepatitis A, B, C, D and E viruses. Hepatitis has symptoms of fever, weak, decreased appetite, nausea, upper-right abdominal sore, coupled with brown urines and followed with jaundice (yellow color to skin and eye sclera due to exceeding bilirubin in blood). Nevertheless, Hepatitis may be suffered without any symptom (asymptomatic).

Hepatitis prevalence in 2013 is 1.2 percent implying double than in 2007 (Figure 6.5). Five provinces with the highest hepatitis prevalence include NTT (4.3%), Papua (2.9%), South Sulawesi (2.5%), Central Sulawesi (2.3%) and Maluku (2.3%) (Table 6.5). Compared to Riskesdas 2007, NTT remains province with the highest hepatitis prevalence.

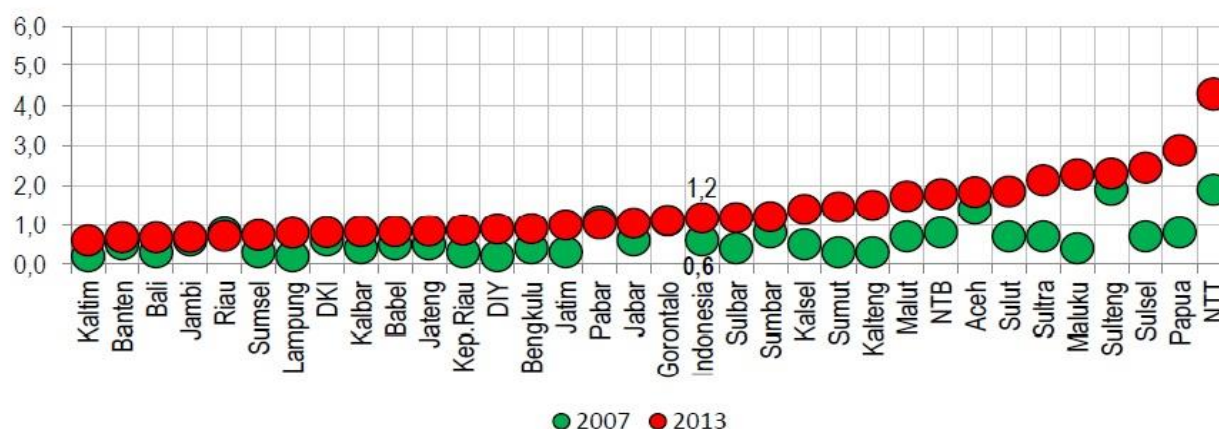


Figure 6.5 Hepatitis Prevalence by Province, Riskesdas 2007 and 2013

By wealth quantite index, population at the lowest class has higher hepatitis prevalence than the other groups. The prevalence is get higher in population aged 15 years old (Table 6.6). Types of Hepatitis most frequently attacking Indonesian people are inclusive of Hepatitis B (21.8%) and Hepatitis B (19.3%) (Table 6.7).

6.2.2. Diarrhea

Diarrhea is an abnormally frequent discharge of fluid fecal matter, i.e. more than 3 times per day that may be complicated with blood or mucus.

Riskesdas 2013 collects information of diarrhea incidents that can be used for program preparation and of diarrhea period prevalence for comparison to Riskesdas 2007.

Diarrhea period prevalence in Riskesdas 2013 (3.5%) is lower than in Riskesdas 2007 (9.0%). This relatively significant decrease may be due to sampling timing, which is different for 2007 from 2013. In Riskesdas 2013 the samples are simultaneously taken in May – June. For Riskesdas 2007 the samples are collected not in the same time. Diarrhea incidents at any age in Indonesia record 3.5 percent.

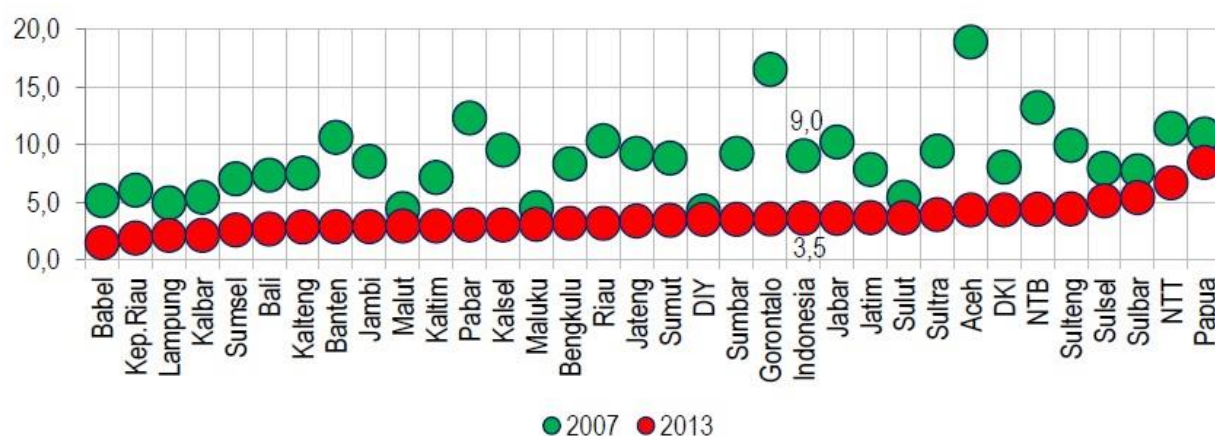


Figure 6.6 Diarrhea Period Prevalence by Province, Riskesdas 2007 and 2013

Table 6.5 Hepatitis prevalence, diarrhea incidents and diarrhea period prevalence and diarrhea incidents to <5 years old Children by Province, Indonesia 2013

Province	Hepatitis Prevalence		Diarrhea Incidents		<i>Diarrhea Period Prevalence</i>		Diarrhea Incidents <5 yr old children	
	D	D/G	D	D/G	D	D/G	D	D/G
Aceh	0,3	1,8	4,1	5,0	7,4	9,3	9,0	10,2
North Sumatera	0,2	1,4	2,1	3,3	4,3	6,7	4,9	6,7
West Sumatera	0,2	1,2	2,3	3,1	4,8	6,6	5,6	7,1
Riau	0,1	0,7	1,6	2,3	3,5	5,4	4,1	5,2
Jambi	0,2	0,7	1,4	1,9	3,5	4,8	3,5	4,1
South Sumatera	0,2	0,7	1,3	2,0	2,9	4,5	3,9	4,8
Bengkulu	0,1	0,9	1,6	2,0	3,8	5,2	5,3	6,3
Lampung	0,4	0,8	1,3	1,6	2,9	3,7	3,5	3,9
Bangka Belitung	0,1	0,8	1,2	1,9	2,1	3,4	3,5	3,9
Riau Island	0,2	0,9	1,1	1,7	2,3	3,5	3,0	3,7
DKI Jakarta	0,3	0,8	2,5	4,3	5,0	8,6	6,7	8,9
West Java	0,4	1,0	2,5	3,9	4,9	7,5	6,1	7,9
Central Java	0,2	0,8	2,3	3,3	4,7	6,7	5,4	6,5
DI Jogjakarta	0,3	0,9	1,7	3,1	3,8	6,6	3,9	5,0
East Java	0,3	1,0	2,3	3,8	4,7	7,4	5,1	6,6
Banten	0,2	0,7	2,4	3,5	4,3	6,4	6,3	8,0
Bali	0,2	0,7	1,9	2,8	3,6	5,5	4,0	5,0
West Nusa Tenggara (NTB)	0,3	1,8	2,6	4,1	5,3	8,5	5,3	6,6
East Nusa Tenggara (NTT)	0,3	4,3	2,6	4,3	6,3	10,9	4,6	6,7
West Kalimantan	0,2	0,8	1,3	1,9	2,8	3,9	3,5	4,4
Central Kalimantan	0,4	1,5	1,8	2,6	3,7	5,4	4,4	5,5
South Kalimantan	0,4	1,4	1,7	3,3	3,2	6,3	3,9	5,6
East Kalimantan	0,2	0,6	1,5	2,4	3,4	5,3	2,6	3,3
North Sulawesi	0,6	1,9	1,8	3,0	4,1	6,6	2,9	4,2
Central Sulawesi	0,5	2,3	2,2	4,4	4,5	8,8	3,8	6,8
South Sulawesi	0,3	2,5	2,8	5,2	5,6	10,2	5,3	8,1
South-east Sulawesi	0,2	2,1	2,0	3,4	4,1	7,3	3,9	5,9
Gorontalo	0,4	1,1	2,1	3,6	4,3	7,1	4,5	5,9
West Sulawesi	0,1	1,2	2,5	4,7	5,3	10,1	4,5	7,2
Maluku	0,2	2,3	1,8	2,9	3,7	6,0	4,6	6,6
North Maluku	0,2	1,7	0,9	1,8	2,6	4,7	2,5	4,6
West Papua	0,1	1,0	1,7	2,2	3,9	5,2	5,1	5,6
Papua	0,4	2,9	4,1	6,3	8,7	14,7	6,8	9,6
Indonesia	0,3	1,2	2,2	3,5	4,5	7,0	5,2	6,7

Table 6.6 Hepatitis Prevalence, Diarrhea Incidents and Diarrhea Period Prevalence and Diarrhea Incidents to <5 years old Children by Characteristics, Indonesia 2013

Characteristics	Hepatitis Prevalence		Diarrhea Incidents		Diarrhea Period prevalence		Diarrhea Incidents to <5 yrs old children	
	D	D/G	D	D/G	D	D/G	D	D/G
Age Group (year)								
< 1	0,1	0,5	5,5	7,0	8,6	11,2		
1-4	0,1	0,8	5,1	6,7	9,2	12,2		
5-14	0,2	1,0	2,0	3,0	4,1	6,2		
15-24	0,3	1,1	1,7	3,2	3,5	6,3		
25-34	0,3	1,3	1,9	3,1	3,8	6,4		
35-44	0,3	1,3	1,9	3,2	4,2	6,7		
45-54	0,4	1,4	2,2	3,6	4,5	7,3		
55-64	0,3	1,3	1,9	3,2	4,3	6,8		
65-74	0,3	1,4	2,3	3,4	4,7	7,0		
≥75	0,2	1,3	2,7	3,7	5,1	7,4		
<5 years old children (month)								
0-11							5,5	7,0
12-23							7,6	9,7
24-35							5,8	7,4
36-47							4,3	5,6
48-59							3,0	4,2
Sexes								
Males	0,3	1,3	2,2	3,4	4,5	7,0	5,5	7,1
Females	0,2	1,1	2,3	3,6	4,5	7,1	4,9	6,3
Education								
Not attend school	0,3	1,5	2,5	3,8	5,2	8,0		
Not graduate SD/MI	0,3	1,3	2,1	3,3	4,4	6,9		
Graduate SD/MI	0,3	1,3	2,1	3,3	4,3	6,8		
Graduate SMP/MTS	0,3	1,1	1,7	3,0	3,7	6,3		
Graduate SMA/MA	0,4	1,1	1,6	2,8	3,5	5,8		
Graduated D1-D3/PT	0,3	0,9	1,4	2,5	3,2	5,3		
Profession								
Unemployed	0,3	1,1	2,0	3,2	4,0	6,5		
Employee	0,4	1,0	1,6	2,7	3,6	5,7		
Entrepreneurs	0,3	1,2	1,9	3,1	3,8	6,3		
Farmers/Fishermen/Workers	0,3	1,6	2,0	3,3	4,4	7,1		
Others	0,3	1,4	1,9	3,3	4,3	7,1		
Residence								
Urban	0,3	0,9	2,1	3,5	4,3	6,8	5,0	6,6
Rural	0,3	1,4	2,3	3,5	4,8	7,3	5,3	6,9
Wealth Quantile Index								
Lowest	0,3	2,0	2,9	4,5	5,7	9,3	6,2	8,6
Middle - Low	0,3	1,4	2,4	3,6	4,8	7,3	5,4	6,9
Middle	0,3	1,0	2,2	3,5	4,5	6,9	5,4	7,2
Middle - High	0,3	0,9	2,1	3,3	4,3	6,7	4,9	6,2
Highest	0,3	0,9	1,8	2,8	3,7	5,7	4,3	5,3

Table 6.7 Hepatitis Type Proportions by Province, Indonesia 2013

Province	Hepatitis Type			
	Hepatitis A	Hepatitis B	Hepatitis C	Other
Aceh	13.4	15.8	0.1	1.3
North Sumatera	12.3	12.7	1.5	1.3
West Sumatera	22.4	15.2	7.4	0.0
Riau	28.0	26.2	2.4	2.1
Jambi	10.9	9.3	4.6	2.0
South Sumatera	22.4	22.4	0.0	1.6
Bengkulu	8.6	19.2	4.5	0.0
Lampung	37.4	14.8	1.2	0.0
Bangka Belitung	6.5	48.2	0.0	0.0
Riau Island	53.6	7.1	21.3	0.0
DKI Jakarta	17.1	37.7	5.0	3.3
West Java	21.1	27.3	1.6	0.9
Central Java	16.4	21.9	3.1	2.7
DI Jogjakarta	15.1	15.5	0.0	3.7
East Java	17.5	17.4	2.5	1.1
Banten	28.6	25.5	6.0	5.1
Bali	25.7	20.1	6.4	6.7
West Nusa Tenggara (NTB)	8.4	18.9	1.3	0.0
East Nusa Tenggara (NTT)	27.9	29.7	3.2	1.0
West Kalimantan	7.8	30.7	3.1	6.2
Central Kalimantan	12.9	25.2	0.0	0.0
South Kalimantan	23.5	15.7	0.9	0.6
East Kalimantan	27.1	8.7	5.2	0.0
North Sulawesi	14.0	6.8	0.0	2.4
Central Sulawesi	15.9	16.3	0.7	3.4
South Sulawesi	17.8	15.1	3.2	5.8
South-east Sulawesi	24.5	14.5	0.0	1.6
Gorontalo	4.9	10.1	0.0	0.0
West Sulawesi	6.3	39.0	0.0	0.0
Maluku	2.0	47.6	0.0	3.5
North Maluku	10.9	19.3	0.0	0.0
West Papua	5.2	30.3	0.0	6.2
Papua	8.9	36.5	4.6	2.1
Indonesia	19,3	21,8	2,5	1,8

Five provinces with the highest diarrhea incidents and period prevalence rates are Papua (6.3% and 14.7%), South Sulawesi (5.2% and 10.2%), Aceh (5.0% and 9.3%), West Sulawesi (4.7% and 10.1%), and Central Sulawesi (4.4% and 8.8%) (Table 6.5). The nationwide diarrhea incident rate to <5 years old children in records 6.7 percent. Five provinces with the highest diarrhea incidents are Aceh (10.2%), Papua (9.6%), DKI Jakarta (8.9%), South Sulawesi (8.1%), and Banten (8.0%) (Table 6.5).

By population characteristics, children at age group of under five years old is the most vulnerable group to diarrhea. According to wealth quantile index, the lower wealth quantile index, the higher proportion of population suffers diarrhea is observed. Farmers/fishermen/workers are the most vulnerable population groups to diarrhea by profession (7.1%). By sexes, the relatively similar proportion is observed (Table 6.6).

The highest diarrhea incident rate to children under five years old is found at age group 12-23 months (7.6%), males (5.5%), living in rural areas (5.3%) and the lowest wealth quantile index (6.2%) (Table 6.6).

Table 6.8 The Administration of Oralites and Zinc to < 5 years old Children suffering Diarrhea by Province, Indonesia 2013

Province	Oralite	Zn
Aceh	33,3	22,8
North Sumatera	23,6	11,6
West Sumatera	38,4	21,5
Riau	36,5	32,3
Jambi	51,4	10,6
South Sumatera	42,2	18,5
Bengkulu	33,0	21,0
Lampung	48,9	31,4
Bangka Belitung	40,5	3,5
Riau Island	44,5	16,7
DKI Jakarta	23,8	19,0
West Java	33,6	16,0
Central Java	23,1	14,6
DI Jogjakarta	26,4	12,6
East Java	29,6	13,9
Banten	29,1	19,5
Bali	37,4	23,7
West Nusa Tenggara (NTB)	52,3	25,8
East Nusa Tenggara (NTT)	51,5	15,8
West Kalimantan	41,7	23,3
Central Kalimantan	26,7	11,6
South Kalimantan	24,6	8,9
East Kalimantan	43,3	14,7
North Sulawesi	37,0	10,6
Central Sulawesi	33,3	15,6
South Sulawesi	31,4	12,4
South-east Sulawesi	43,0	16,6
Gorontalo	33,4	23,1
West Sulawesi	36,1	20,0
Maluku	30,7	18,7
North Maluku	37,8	16,2
West Papua	52,4	22,7
Papua	59,3	20,8
Indonesia	33,3	16,9

Oralite and zinc are very important to treat diarrhea of children under five years old. Oralites serves as significant rehydration when these child patients experience dehydration caused of the draining of their bodies due to diarrhoeal infections and zinc adequacy within the bodies of these children will assist in diarrhea healing process. The administration of oralites and zincs is provenly effective in halving child death rate from diarrhoeal diseases to 40 percent. The administration of oralites to treat diarrhea in Indonesia reaches 33.3 percent. Five provinces with the highest oralite consumption are Papua (59.5%), NTB (52.5%), West Papua (51.6%), NTT (51.5%), and Jambi (51.1%). Diarrhea healing with zinc in Indonesia records 16.9 percent. Five provinces with the highest zinc consumption for diarrhea prevention and treatment are Riau (32.4%), Lampung (31.3%), NTB (25.8%), Bali (23.6%), and West Kalimantan (23.6%). Oralite and zinc administration for diarrhea treatment to children under five years old can be seen in Table 6.8.

6.3. Transmitted by Vectors (Malaria)

Malaria is a communicable disease garnering global attention. This disease remains a serious problem to public health. It can spark Extraordinary Incident with broad impacts to the living and economic quality of people and cause fatality. It is an acute, latent or chronic disease. Respondents who replied that they “never diagnosed of suffering malaria by healthcare professionals” have been further asked whether they used to experience fever and chills or fever on periodic basis, headache, sweat, nausea, vomiting for the last one month or year. It is also asked whether they took malaria drugs with or without fever symptoms. For respondents who used to be “diagnosed malaria by healthcare professionals” they are asked whether they receive medication with artemisinin-based combination drugs in the first 24 hours after fever or more than the first 24 hours after fever and whether they completely took the medicines in 3 days time.

Malaria incidents to Indonesian people in 2013 record 1.9 percent which is lower than in 2007 (2.9%). However, in West Papua, this province experiences significant increase in malaria incident rate (Figure 6.7). Malaria prevalence in 2013 is 6.0 percent. Five provinces with the highest malaria incidents and prevalence are Papua (9.8% and 28.6% respectively), NTT (6.8% and 23.3% respectively), West Papua (6.7% and 19.4%), Central Sulawesi (5.1% and 12.5%), and Maluku (3.8% and 10.7%) (Table 6.9). Of 33 provinces in Indonesia, 15 provinces have malaria prevalence higher than nationwide rate. They are mostly in Eastern Regions of Indonesia. Java-Bali records lower malaria prevalence rate than other provinces. Parts of malaria cases in Java-Bali are, however, not detected based on diagnosis made by healthcare professionals.

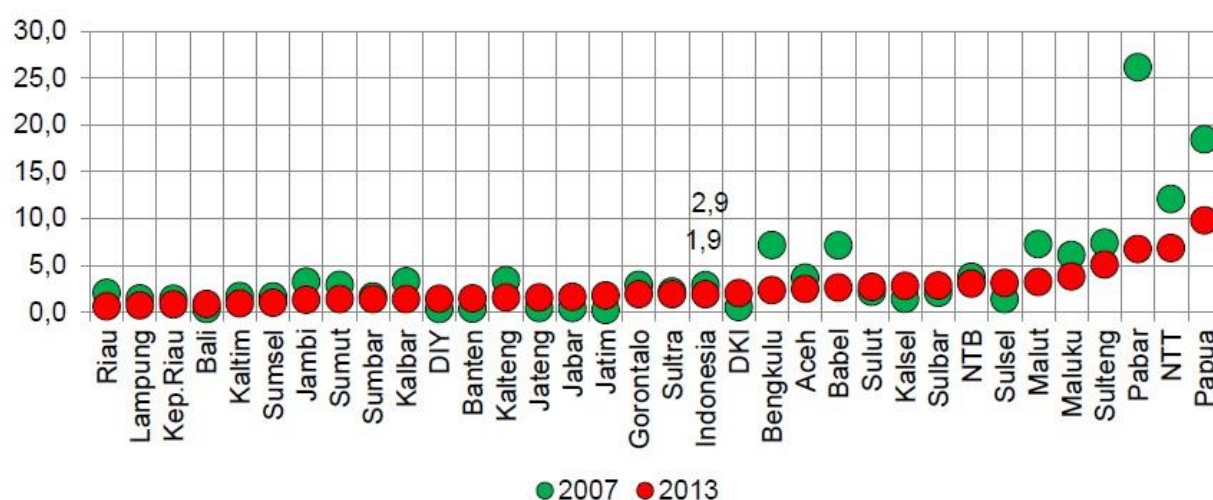


Figure 6.7 Malaria Incidents by Province, Riskesdas 2007 and 2013

Table 6.9 Malaria Incidents and Prevalence by Province, Indonesia 2013

Province	Malaria Incident		Malaria Prevalence	
	D	D/G	D	D/G
Aceh	0,3	2,4	1,6	6,1
North Sumatera	0,3	1,4	1,2	5,2
West Sumatera	0,3	1,4	1,1	4,3
Riau	0,1	0,6	0,8	2,5
Jambi	0,5	1,3	1,9	4,7
South Sumatera	0,2	1,0	1,3	4,0
Bengkulu	1,5	2,3	5,7	9,3
Lampung	0,2	0,7	1,3	3,4
Bangka Belitung	0,9	2,6	4,4	8,7
Riau Island	0,1	0,8	1,5	4,2
DKI Jakarta	0,0	2,0	0,3	5,8
West Java	0,1	1,6	0,5	4,7
Central Java	0,0	1,5	0,6	5,1
DI Jogjakarta	0,1	1,4	0,5	5,3
East Java	0,0	1,8	0,5	5,2
Banten	0,0	1,4	0,4	4,3
Bali	0,0	0,8	0,4	2,7
West Nusa Tenggara (NTB)	0,5	3,0	2,5	9,0
East Nusa Tenggara (NTT)	2,6	6,8	10,3	23,3
West Kalimantan	0,4	1,4	1,6	4,6
Central Kalimantan	0,4	1,5	2,2	6,4
South Kalimantan	0,1	2,8	1,1	7,3
East Kalimantan	0,2	0,9	1,4	4,3
North Sulawesi	0,7	2,7	3,7	10,0
Central Sulawesi	1,3	5,1	4,0	12,5
South Sulawesi	0,2	3,1	1,0	8,1
South-east Sulawesi	0,2	1,9	1,2	5,6
Gorontalo	0,2	1,9	1,1	5,6
West Sulawesi	0,4	2,8	1,3	7,5
Maluku	1,2	3,8	3,9	10,7
North Maluku	1,1	3,2	4,7	11,3
West Papua	4,5	6,7	12,2	19,4
Papua	6,1	9,8	17,5	28,6
Indonesia	0,3	1,9	1,4	6,0

Table 6.10 shows that malaria prevalence to children aged 15 years old is relatively lower than adult people. However, the proportion of medication with program-based malaria drugs in these teenagers is relatively better than for adult people (Table 6.12). This condition indicates relatively good alertness and concern in malaria prevention and treatment to children.

Table 6.10 Malaria Incidents and Prevalence by Characteristics, Indonesia 2013

Characteristics	Malaria Incidents		Malaria Prevalence	
	D	D/G	D	D/G
Age Group (year)				
< 1	0,1	1,0	0,6	3,1
1-4	0,3	1,9	1,2	5,6
5-14	0,3	1,9	1,3	5,9
15-24	0,3	1,9	1,3	6,0
25-34	0,4	2,0	1,6	6,3
35-44	0,3	2,1	1,6	6,6
45-54	0,3	2,0	1,5	6,3
55-64	0,3	1,8	1,3	5,8
65-74	0,2	1,7	1,3	5,6
≥75	0,2	1,6	1,0	4,8
Sexes				
Males	0,4	1,9	1,6	6,2
Females	0,3	1,9	1,2	5,8
Education				
Not attend school	0,4	2,5	1,7	7,3
Not graduate SD/MI	0,4	2,3	1,5	6,7
Graduate SD/MI	0,3	2,2	1,5	6,5
Graduate SMP/MTS	0,3	1,8	1,5	6,0
Graduate SMA/MA	0,3	1,5	1,3	5,2
Graduate D1-D3/PT	0,3	1,0	1,2	4,1
Profession				
Unemployed	0,3	1,9	1,3	5,9
Employee	0,2	1,2	1,1	4,7
Entrepreneurs	0,2	1,4	1,2	5,2
Farmers/Fishermen/Workers	0,5	2,5	2,1	7,8
Others	0,4	2,1	1,7	6,5
Residence				
Urban	0,2	1,5	1,0	5,0
Rural	0,5	2,3	1,9	7,1
Wealth Quantile Index				
Lowest	0,8	3,6	2,9	10,1
Middle - Low	0,4	2,3	1,6	6,8
Middle	0,2	1,7	1,2	5,4
Middle - High	0,2	1,5	1,0	5,0
Highest	0,2	1,1	1,0	4,3

Table 6.11 indicates malaria healing under program and self-medication. The former must effectively refer to malaria control program. Drugs must be accurately administered with appropriate doses. Effective medication means that ACT (Artemisinin-Based Combination Therapy) must be administered on the first 24 hours after the patients suffering fever and the drugs must be completely taken in 3 days times. Indonesian people who see healthcare professionals to get ACT from the program are only 33.7 percent. Of them, 52.3 percent receive the drugs on the first 24 hours. Out of 52.9 percent receiving drugs in the first 24 hours, 81.1 percent completely take the drugs in 3 days time. Meanwhile of 33.7 percent of Indonesian people receiving ACT from the program, only 14.46 percent take effective medication. Five provinces with the highest proportion in effective malaria treatment are Bangka Belitung (59.2%), North Sumatera (55.7%), Bengkulu (53.6%), Central Kalimantan (50.5%) and Papua (50.0%). Indonesian people who take self-medication for malaria is to reach 0.6 percent (Table 6.11). Five provinces with the highest proportion of populating taking self-medication in malaria treatment include West Papua (5.1%), Papua (4.1%), Central Sulawesi (2.8%), NTT (2.7%) and North Maluku (2.3%).

Table 6.11 Proportion of Malaria Patients Healed Under Program and Self-Medication by Province, Indonesia 2013

Province	Malaria Treatment under Program				Self-Medication
	Receiving Drugs from ATC Program	Receiving Drugs in the first 24 hours	Take the Drugs in 3 Days	Effective Treatment with ACT	
Aceh	33,1	44,1	70,4	10,28	0,7
North Sumatera	20,9	62,9	84,8	11,15	0,8
West Sumatera	18,9	42,2	69,4	5,54	0,7
Riau	13,4	60,0	76,4	6,14	0,2
Jambi	21,7	59,4	72,2	9,31	0,4
South Sumatera	22,4	48,0	76,6	8,24	0,6
Bengkulu	28,6	62,7	81,9	14,69	1,1
Lampung	13,9	45,1	71,4	4,48	0,4
Bangka Belitung	47,9	67,1	86,4	27,77	0,9
Riau Island	43,7	37,9	83,6	13,85	0,7
DKI Jakarta	14,3	20,1	81,6	2,35	0,5
West Java	7,9	25,3	78,6	1,57	0,4
Central Java	18,7	50,1	84,8	7,94	0,3
DI Jogjakarta	11,6	51,6	71,0	4,25	0,4
East Java	21,1	50,4	65,1	6,92	0,4
Banten	10,8	44,3	69,0	3,30	0,2
Bali	23,2	53,7	89,2	11,11	0,3
West Nusa Tenggara (NTB)	36,4	52,3	70,6	13,44	0,8
East Nusa Tenggara (NTT)	55,0	52,9	86,8	25,25	2,7
West Kalimantan	17,8	59,7	70,6	7,50	0,7
Central Kalimantan	25,5	56,2	81,6	11,69	0,6
South Kalimantan	29,9	48,4	69,7	10,09	0,9
East Kalimantan	39,4	54,2	88,1	18,81	0,4
North Sulawesi	34,9	55,5	85,2	16,50	1,7
Central Sulawesi	29,9	48,9	72,4	10,59	2,8
South Sulawesi	29,8	35,8	74,1	7,91	0,8
South-east Sulawesi	27,8	34,8	67,1	6,49	0,6
Gorontalo	44,8	46,2	75,3	15,59	1,0
West Sulawesi	26,8	44,0	72,2	8,51	0,8
Maluku	39,6	54,6	78,1	16,89	1,9
North Maluku	52,3	49,6	80,5	20,88	2,3
West Papua	42,8	63,4	78,0	21,17	5,1
Papua	49,6	55,2	83,6	22,89	4,1
Indonesia	33,7	52,9	81,1	14,46	0,6

*Effective Medication (Malaria Treatment according to Program) is the administration of ACT in the first 24 hours after the patients get fever and the drugs completely taken in 3 days.

Table 6.12 Proportion of Malaria Patients Treated under Program by Characteristics, Indonesia 2013

Characteristics	Malaria Treatment under Program		
	Receiving drugs from ACT Program	Receiving Drugs in the First 24 hours	Take the drugs for 3 days
Age Group (year)			
< 1	21,3	56,7	92,1
1-4	32,6	56,0	84,3
5-14	35,3	55,3	82,7
15-24	34,1	51,4	78,2
25-34	36,2	52,1	80,1
35-44	34,6	49,9	80,4
45-54	31,1	53,0	83,0
55-64	31,6	54,4	80,6
65-74	22,0	54,4	83,8
≥75	24,1	65,3	81,3
Sexes			
Males	33,9	51,8	81,0
Females	33,4	54,3	81,3
Education			
Not attend school	32,1	61,3	83,8
Not graduate SD/MI	36,0	53,2	82,3
Graduate SD/MI	31,7	49,5	80,7
Graduate SMP/MTS	33,1	50,0	77,7
Graduate SMA/MA	35,7	53,5	81,2
Graduate D1-D3/PT	35,2	55,2	78,2
Profession			
Unemployed	32,2	53,2	79,1
Employee	34,0	51,4	78,8
Entrepreneurs	31,0	53,5	79,4
Farmers/Fishermen/Workers	35,5	50,3	82,2
Others	34,8	58,1	81,5
Residence			
Urban	29,4	53,2	80,8
Rural	35,9	52,8	81,2
Wealth Quantile Index			
Lowest	39,8	53,7	82,1
Middle - Low	34,3	51,4	81,1
Middle	29,7	49,7	80,5
Middle - High	30,7	52,7	77,5
Highest	28,3	57,6	83,7

Bibliographies

Bhisma Murti. Prinsip dan Metode Riset Epidemiologi. Gajah Mada University Press 1997: 152-79

[Bhisma Murti, Epidemiology Research Principles and Methods. Gajah Mada University Press 1007: 152-79]

Departemen Kesehatan Republik Indonesia. Laporan Hasil Riset Kesehatan Dasar Indonesia (Riskesdas). 2007

[The Ministry of Health of Republic of Indonesia. Basic Health Research Report (Riskesdas) 2007]

Direktorat Jenderal PP dan PL Kementerian Kesehatan RI. Pedoman Nasional Pengendalian TB edisi 2 th. 2012

[Directorate General of Disease Prevention & Environmental Health, the Ministry of Health, National Guidelines on TB Control. Edition 2 of 2012]

Direktorat Jenderal PP dan PL Kementerian Kesehatan RI. Pedoman Pengendalian Hepatitis Virus. 2012

[Directorate General of Disease Prevention & Environmental Health (PP & PL), the Ministry of Health, Virus Hepatitis Control Guidelines, 2012]

Direktorat PPBB Ditjen PP dan PL Kementerian Kesehatan RI. Buku Saku Menuju Eliminasi Malaria. 2011.

[Directorate PPBB, DG PP and PL, the Ministry of Health, Pocket Bood "Toward Malaria Elimination, 2011]

Kementerian Kesehatan RI Direktorat Jenderal Pengendalian Penyakit dan Penyehatan Lingkungan Pemukiman. Modul Tatalaksana Standar Pneumonia. 2012.

[The Ministry of Health, Directorate General of Disease Control and Settlement Sanitation, Standard Pneumonia Management Module, 2012]

Kementerian Kesehatan RI Direktorat Jenderal Pengendalian Penyakit dan Penyehatan Lingkungan Pemukiman. Pedoman Pengendalian Infeksi Saluran Pernafasan Akut, 2012

[The Ministry of Health, Directorate General of Disease Control and Settlement Sanitation, Accute Respiratory Infaction Control Guidelines, 2012]

Kenneth J. Rothman. Epidemiologi Modern . Yayasan Pustaka Nusantara 1995: 33-49

[Kenneth J. Rothman. Modern EPidemiology . Yayasan Pustaka Nusantara 1995: 33-49]

CHAPTER 7. NON COMMUNICABLE DISEASE (NCD)

Laurentia K. Mihardja, Delima, Farida Soetiarto, Suhardi and Antonius Yudi Kristanto

Non Communicable Disease (NCD) is a chronic disease, not human to human transmitted. Non Communicable Disease has long duration and normally grows slowly. Four main types of NCD according to WHO include cardiovascular (coronary heart disease, stroke), cancer, chronic respiratory disease (asthma and chronic pulmonary obstructive disease) and diabetes.

Data on non communicable disease can be compiled from interviews to respondents concerning non communicable diseases that consist of: (1) asthma, (2) chronic obstructive pulmonary disease (COPD), (3) cancer, (4) diabetes mellitus (DM), (5) hypertyroid, (6) hypertension, (7) coronary heart disease, (8) heart failure, (9) stroke, (10) chronic kidney disease (CKD), (11) kidney stone, and (12) rheumatic disease. Questions to propose include: NCD diagnosed by healthcare professionals are based on complaints/symptoms expressed by respondents and the onset of NCD refers to the diagnosis of healthcare professionals or complaints/symptoms experienced by respondents. More detailed results of Non Communicable Disease (NCD) block can be seen in Book 2: Riskesdas 2: Riskesdas 2013 in Figures, pp. 141 to 150.

The samples used in this Non Communicable Disease (NCD) analysis can be seen in Figure 7.1.

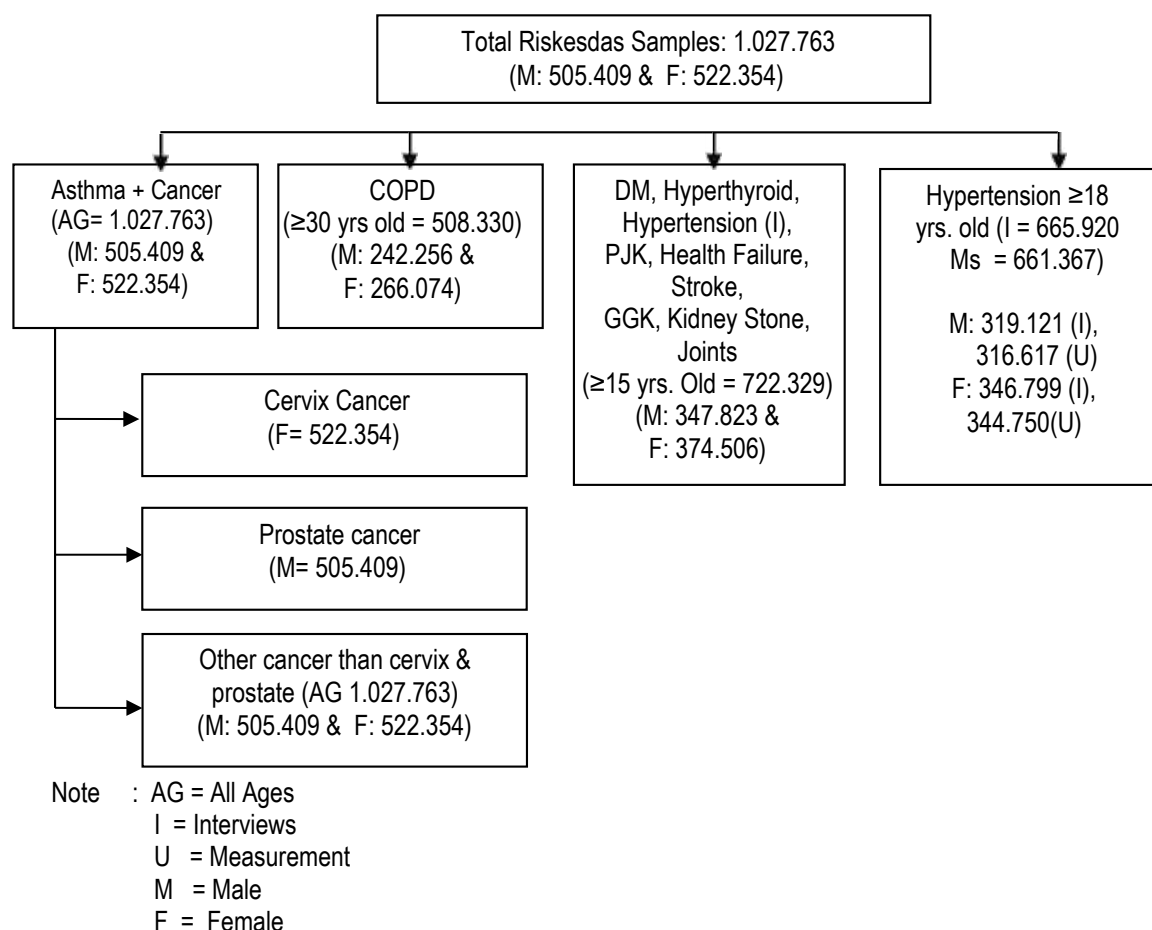


Figure 7.1 Samples used for NCD analysis

Disease prevalence are the combination of disease cases diagnosed by healthcare professionals/medical operators and cases with NCD symptom history. In Hyperthyroid, Chronic kidney failure and kidney stone are only based on diagnosis made by doctors. Data of asthma and

cancer are taken from respondents at any age. For chronic obstructive pulmonary disease the data are collected from respondents ≥ 30 years old. As to diabetes mellitus, hyperthyroid, hypertension, coronary heart disease, heart failure disease, kidney disease, rheumatic disease and stroke the data are gathered from respondents ≥ 15 years old. Questions about disease history relate to when the disease first attacked or the year of first diagnosis. With regard to the symptoms, the question is whether the respondents used to suffer/experience such symptoms for the last 1 month. Hypertension is assessed in 2 ways, i.e. interview and measurement. For hypertension data collected from interviews. The respondents are asked of the diagnosis made by healthcare professionals and whether in the course of interviews they are taking anti-hypertension drugs or not. Meanwhile, for hypertension detection by measurement, it is carried out with blood pressure measurement with digital tensimeter. Each respondent undergoes minimum 2 times of measurement. If the second measurement is ≥ 10 mmHg different from the first measurement, the third measurement must be taken. Two measurement data with the smallest disparity will be deemed as the average result. While the questions are proposed to and the measurement are taken from respondents ≥ 15 years old, the prevalence presented in the table is for respondents ≥ 18 years old according to JNC VII criteria, 2003.

Some questions in questionnaires for Riskesdas 2013 are different from those in Riskesdas 2007. For asthma, Riskesdas 2007 asked about asthma diagnosis by healthcare professionals and to respondents who replied "no", they would be further asked whether they experienced asthma symptoms of cough and wheezing, shortness of breath, chest tightness in the morning or other times. In Riskesdas 2013, questions of asthma are more complete such as difficult breathing when exposed to cold/cigarette/dust/infection/tiredness/drug or food allergy, wheezing/hard breathing symptoms at night or at dawn/the symptoms fading away with or without medication. Questions of COPD (Chronic Obstructive Pulmonary Disease) are proposed in Riskesdas 2013 only. The questions ask about the symptoms of difficult breathing, phlegm coughing, and smoking using Brinkman Index ≥ 200 . Difficult breathing is worse when conducting activities and when the age increases. Questions of cancer in Riskesdas 2007 ask whether the respondents have been diagnosed for cancer by healthcare professionals or not. The results are a bit biased since the questions of tumor/cancer include benign tumor and malignant tumor. Riskesdas 2013 only ask respondents whether they have been diagnosed of getting cancer by doctor. Prevalence rate acquired from questions is lower than the reality. People will see the doctors after the symptoms of disease have been getting worse. Blood pressure in Riskesdas 2007 was measured with digital tensimeter Omron type IA2 and the measurement was taken at the left arm according to the manual. In Riskesdas 2013, digital tensimeter Omron type IA1 is used. The preference to this type is because this instrument is no longer produced (discontinued) and according to the manual the measurement is taken from left arm. In Riskesdas 2007 questions of heart disease were merged (congenital/coronary heart/heart failure/rheumatic disease, etc.), i.e. whether the respondents have been diagnosed for coronary heart disease by doctors. If not, the questions were continued with questions relating to the symptoms of coronary heart disease according to "Rose Questionnaire" criteria. For heart failure disease the questions were whether the respondents had been diagnosed of heart failure by doctors. If not, the questions would be continued by asking heart failure symptoms. In Riskesdas 2013 the respondents are also quizzed about whether they have been diagnosed of chronic kidney failure and kidney stone by doctors. Questions for strokes and rheumatics are same as those in 2007, i.e. relating to diagnosis made by healthcare professionals and continued with the questions of symptoms of such diseases.

Information on NCD analysis results covering (1) asthma, (2) COPD, (3) cancer, (4) DM, (5) Hyperthyroid, (6) hypertension, (7) coronary heart, (8) heart failure, (9) stroke, (10) chronic kidney, (11) kidney stone and (12) joint/rheumatic disease are presented in tables. For some diseases, trend graphs are added both for 2007 and 2013. The tables show national and province prevalence rates and socio-demographic characteristics. "D" in the tables denotes disease prevalence set according to the diagnosis of doctors or healthcare professionals. Meanwhile, D/G means disease prevalence based on doctor/health worker diagnosis and symptoms experienced. For hypertension, if assessed based on diagnosis of healthcare professionals, initial "D" is attached. Meanwhile for hypertension

cases, which are detected according to diagnosis of healthcare professionals and self-medication this kind of cases is initialed with "DO" (Diagnosis and Self-Medication). The results based on measurement have initial U. Disease prevalence trends in Riskesdas 2007 and 2013 (DM, hypertension, stroke and joint/rheumatic diseases) are presented in graphs.

7.1. Asthma

Asthma is chronic inflammation in respiratory tracts. The basic causes of this disease are hyperactivities in bronchus and obstruction in respiratory tracts. Asthma symptoms include shortness of breath, obstructive coughing especially at night or approaching the dawn and chest tightness. These symptoms are getting worse at night, exposure to allergen (e.g. dust, cigarette smokes) or when in ill conditions suffering fever. The symptoms may disappear with or without medication. Someone is got asthma if he/she experiences shortness of breath under one or more conditions that follows: exposed to cold air and/or dust and/or cigarette smokes and/or flu or infection and/or tiredness and/or medicine allergy and/or food allergy coupled with one or more symptoms that follows: wheezing and/or difficult breathing abating or disappearing with medication and/or shortness of breath abating or disappearing without medication and/or shortness of breath getting worse at night or approaching the dawn and experiencing these symptoms for the first time at age <40 years old (the most vulnerable age group to asthma).

7.2. Chronic Obstruction Pulmonary Disease (COPD)

COPD is a chronic disease attacking respiratory tracks with indications of obstructed airflows especially expirative airflow and slowly progressive airflow when exposed to risk factors or smoking, air pollution both indoor and outdoor. The onset of this disease is normally at middle age. It can't be eliminated with medication. Someone is suffering COPD if his/her shortness of breath is aggravating when exercising and/or age increase compounded with phlegm coughing or shortness of breath combined with phlegm coughing and Brinkman Index value ≥ 200 . Brinkman Index is the number of cigarettes smoked, calculated from the duration of smoking (in year) multiplied with number of cigarettes smoked per day. The results acquired from questionnaires are lower than from spirometric examination since COPD is just observed when the pulmonary functions significantly decreased.

7.3. Cancer

Cancer or malignant tumor is the growth of uncontrollable cells/tissues. They continually grow, immortal. Cancer cells can penetrate to the surrounding tissues and can form subset. Diagnosis to cancer and the types of cancer is carried out based on interviews asking whether the respondents have been diagnosed for cancer by doctors or not.

Table 7.1 covers information of asthma, COPD and cancer prevalence rates in Indonesia hitting respectively 4.5 percent, 3.7 percent and 1.4 per mile. The highest asthma prevalence is found in Central Sulawesi (7.8%) followed by NTT (7.3%), DI Yogyakarta (6.9%) and South Sulawesi (6.7%). As to COPD the highest prevalence is detected in NTT (10.0%), followed by Central Sulawesi (8.0%), West Sulawesi and South Sulawesi at 6.7% respectively. The highest cancer prevalence is observed in DI Yogyakarta (4.1‰), followed by Central Java (2.1‰), Bali (2‰), Bengkulu, and DKI Jakarta at 1.9 per mile respectively.

Table 7.1 Asthma, COPD and Cancer Prevalence Rates by Province, Indonesia 2013

Province	Asthma*	COPD**	Cancer (‰)***
Aceh	4,0	4,3	1,4
North Sumatera	2,4	3,6	1,0
West Sumatera	2,7	3,0	1,7
Riau	2,0	2,1	0,7
Jambi	2,4	2,1	1,5
South Sumatera	2,5	2,8	0,7
Bengkulu	2,0	2,3	1,9
Lampung	1,6	1,4	0,7
Bangka Belitung	4,3	3,6	1,3
Riau Island	3,7	2,1	1,6
DKI Jakarta	5,2	2,7	1,9
West Java	5,0	4,0	1,0
Central Java	4,3	3,4	2,1
DI Jogjakarta	6,9	3,1	4,1
East Java	5,1	3,6	1,6
Banten	3,8	2,7	1,0
Bali	6,2	3,5	2,0
West Nusa Tenggara (NTB)	5,1	5,4	0,6
East Nusa Tenggara (NTT)	7,3	10,0	1,0
West Kalimantan	3,2	3,5	0,8
Central Kalimantan	5,7	4,3	0,7
South Kalimantan	6,4	5,0	1,6
East Kalimantan	4,1	2,8	1,7
North Sulawesi	4,7	4,0	1,7
Central Sulawesi	7,8	8,0	0,9
South Sulawesi	6,7	6,7	1,7
South-east Sulawesi	5,3	4,9	1,1
Gorontalo	5,4	5,2	0,2
West Sulawesi	5,8	6,7	1,1
Maluku	5,3	4,3	1,0
North Maluku	5,0	5,2	1,2
West Papua	3,6	2,5	0,6
Papua	5,8	5,4	1,1
Indonesia	4,5	3,7	1,4

*Interview to all ages based on symptoms

**Interview to respondents of ≥30 years old based on symptoms

***Interview to all ages based on doctor diagnosis

From Table 7.2 by characteristics, it is evident that asthma, COPD and cancer prevalence rates are to rise in line with the increasing age. Asthma prevalence at age group ≥45 years old started to decrease. A relatively high cancer prevalence rate is found in babies (0,3‰) and this rate is getting higher for population at age ≥15 years and records the highest rate in age ≥75 years (5‰). Asthma and cancer prevalence in female population outnumbers the male population. Higher COPD prevalence is found in men than in women. COPD prevalence in rural areas is higher than in urban areas. Cancer prevalence in urban areas is relatively higher than in rural areas. COPD prevalence is higher in population with low education and at the lowest wealth quantile index. Meanwhile, asthma prevalence is higher at population groups at the lowest wealth quantile index. As to cancer, higher prevalence is found in population with high education and at the highest wealth quantile index.

Table 7.2 Asthma, COPD and Cancer Prevalence by Characteristics, Indonesia 2013

Characteristics	Asthma*	COPD**	Cancer (%)***
Age Group (Year)			
< 1	1,5		0,3
1- 4	3,8		0,1
5-14	3,9		0,1
15-24	5,6		0,6
25-34	5,7	1,6	0,9
35-44	5,6	2,4	2,1
45-54	3,4	3,9	3,5
55-64	2,8	5,6	3,2
65-74	2,9	8,6	3,9
75+	2,6	9,4	5,0
Sexes			
Male	4,4	4,2	0,6
Female	4,6	3,3	2,2
Education			
Not Attend School	4,2	7,9	1,3
Not Graduate SD	4,4	6,0	1,1
Graduate SD	4,9	4,2	1,8
Graduate SMP	5,0	2,3	1,1
Graduate SMA	4,5	1,6	1,8
Graudate D1-D3/University	3,8	1,1	3,1
Professions			
Not Employed	4,8	4,3	2,0
Employees	4,3	1,4	1,6
Entrepreneurs	4,4	2,6	1,7
Farmers/Fishermen/Workers	4,9	4,7	1,2
Others	5,3	3,5	1,1
Residence			
Urban	4,5	3,0	1,7
Rural	4,5	4,5	1,1
Wealth Quantile Index			
Lowest	5,8	7,0	0,8
Middle - Low	4,7	4,8	1,4
Middle	4,4	3,6	1,2
Middle - High	4,3	2,7	1,5
Highest	3,6	1,8	1,8

*Interview to all ages based on symptoms

**Interview to respondents of ≥ 30 years old based on symptoms

***Interview to all ages based on doctor diagnosis

7.4. Diabetes Mellitus

Diabetes mellitus is a metabolic disease constituting a group of symptoms suffered by someone as a result of high blood sugar above normal rate. This disease is due to disturbed sugar metabolism resulting from lack of insulin in terms of absolute and relative. There are 2 types of diabetes mellitus, to wit: Type I/Juvenile Diabetes, which normally attacks since juvenile period and Type II, i.e. diabetes attacking at adult ages.

The symptoms of diabetes include: increased thirst (*polydipsia*), increased urination (*polyuria*) especially at night, increased hunger (*polyphagia*), abnormal weight loss, fatigue, paresthesia to hands and legs, blurred vision, impotence, slow healing of cuts, leucorrhoea, skin infections because of fungi under skin folds, and mothers delivering big babies of ≥ 4 kg. Someone will be deemed to have DM if he/she has been diagnosed of diabetes by doctor or in case of no doctor diagnosis experiencing the symptoms for the last 1 month i.e. increased hunger and increased thirst and increased urination and abnormal weight loss.

7.5. Hyperthyroid

Hyperthyroid is a condition when thyroid gland produces too much. This excessive gland function increases the production of thyroid hormone that in turn affects body metabolism. Hyperthyroid symptoms include: rapid heartbeat, sweating, sudden weight loss, nervousness, cool intolerance, etc. Respondents is defined to suffer hyperthyroid upon doctor diagnosis.

7.6. Hypertension

Hypertension is a condition in which blood pressure in the arteries persistently elevated. This occurs because the heart must work harder to supply oxygen and nutrition to the body. If left untreated, this disease can disrupt the functions of other organs especially vital organs of heart and kidney. Respondents are defined suffering hypertension if they have been diagnosed for hypertension by healthcare professionals (doctors/nurses/midwives) or otherwise during the interviews the respondents take anti-hypertension drugs (for self-medication). Hypertension criteria adopted in determining the cases refer to JNC VII 2003. i.e. systolic blood pressure measurement ≥ 140 mmHg or diastolic blood pressure ≥ 90 mmHg. JNC VII criteria 2003 are only applicable for respondents aged ≥ 18 years. Then hypertension prevalence is set based on blood pressure measurement to population ≥ 18 years old only. However, for this report such measurement is also conducted to population ≥ 15 years old. In light of that, the results of hypertension cases for respondents 15-17 years old, under JNC VII criteria 2003, will be reported in brief as additional information.

From Table 7.3 it is obvious that according to the interviews diabetes and hyperthyroid prevalence rates in Indonesia based on doctor diagnosis record 1.5 percent and 0.4 percent respectively. DM diagnosed by doctors or detected from the symptoms reaches 2.1 percent. The highest diabetes prevalence diagnosed by doctors is found in DI Yogyakarta (2.6%), DKI Jakarta (2.5%), North Sulawesi (2.4%) and East Kalimantan (2.3%). The highest diabetes prevalence based on doctor diagnosis or symptoms is observed in Central Sulawesi (3.7%), North Sulawesi (3.6%), South Sulawesi (3.4%) and NTT (3.3%). Meanwhile, the highest hyperthyroid prevalence is in DI Yogyakarta and DKI Jakarta at 0.7% respectively and East Java (0.6%) and West Java (0.5%).

Hypertension prevalence in Indonesia based on measurement to population aged ≥ 18 years is to record 25.8 percent. The highest rate is found in Bangka Belitung (29.6%) and West Java (29.4%). Based on questionnaires, it is identified that hypertension prevalence rates in Indonesia record 9.4 percent (according to diagnosis of healthcare professionals) and 9.5 percent (according to diagnosis of healthcare professionals or the on-going drug administration). Thus, there is 0.1 percent taking drugs for self-medication. Respondents with normal blood pressure but taking anti-hypertension medicine reach 0.7 percent. Hypertension prevalence in Indonesia is therefore 26.5 percent (25.8% + 0.7 %).

Table 7.3 Diabetes, Hyperthyroid Prevalence Rates of Population ≥15 Years Old and Hypertension Prevalence Rate of Population ≥18 Years Old by Province, Indonesia 2013

Province	Diabetes		Hyperthyroid	Hypertension		
	D	D/G		Interviews	Measurement	
	D	D/G	D	D	D/O	U
Aceh	1,8	2,6	0,3	9,7	9,8	21,5
North Sumatera	1,8	2,3	0,3	6,6	6,7	24,7
West Sumatera	1,3	1,8	0,3	7,8	7,9	22,6
Riau	1,0	1,2	0,1	6,0	6,1	20,9
Jambi	1,1	1,2	0,2	7,4	7,4	24,6
South Sumatera	0,9	1,3	0,1	7,0	7,0	26,1
Bengkulu	0,9	1,0	0,2	7,8	7,9	21,6
Lampung	0,7	0,8	0,2	7,4	7,4	24,7
Bangka Belitung	2,1	2,5	0,4	9,9	10,0	30,9
Riau Island	1,3	1,5	0,2	8,8	8,8	22,4
DKI Jakarta	2,5	3,0	0,7	10,0	10,1	20,0
West Java	1,3	2,0	0,5	10,5	10,6	29,4
Central Java	1,6	1,9	0,5	9,5	9,5	26,4
DI Jogjakarta	2,6	3,0	0,7	12,8	12,9	25,7
East Java	2,1	2,5	0,6	10,7	10,8	26,2
Banten	1,3	1,6	0,4	8,6	8,6	23,0
Bali	1,3	1,5	0,4	8,7	8,8	19,9
West Nusa Tenggara (NTB)	0,9	1,3	0,2	6,7	6,8	24,3
East Nusa Tenggara (NTT)	1,2	3,3	0,4	7,2	7,4	23,3
West Kalimantan	0,8	1,0	0,1	8,0	8,1	28,3
Central Kalimantan	1,2	1,6	0,2	10,6	10,7	26,7
South Kalimantan	1,4	2,0	0,2	13,1	13,3	30,8
East Kalimantan	2,3	2,7	0,3	10,3	10,4	29,6
North Sulawesi	2,4	3,6	0,5	15,0	15,2	27,1
Central Sulawesi	1,6	3,7	0,4	11,6	11,9	28,7
South Sulawesi	1,6	3,4	0,5	10,3	10,5	28,1
South-east Sulawesi	1,1	1,9	0,3	7,6	7,8	22,5
Gorontalo	1,5	2,8	0,3	11,1	11,3	29,0
West Sulawesi	0,8	2,2	0,3	9,5	9,6	22,5
Maluku	1,0	2,1	0,2	6,6	6,8	24,1
North Maluku	1,2	2,2	0,2	6,9	7,0	21,2
West Papua	1,0	1,2	0,2	5,0	5,2	20,5
Papua	0,8	2,3	0,2	3,2	3,3	16,8
Indonesia	1,5	2,1	0,4	9,4	9,5	25,8

Table 7.4 shows that diabetes mellitus prevalence based on doctor diagnosis and symptoms is to double in line with the increasing age. However, the rate starts to decline at age ≥65 years old. Hyperthyroid prevalence is to rise with the increasing age and starts to stable at age ≥ 45 years old. Hypertension prevalence based on diagnosis by healthcare professionals and measurement shows upward trend. DM, hypothyroid and hypertension prevalence rates tend higher in female population than in male population. Accordingly, DM, hyperthyroid and hypertension prevalence rates in urban areas are higher than in rural areas.

Higher DM prevalence is observed in population with higher education and at high wealth quantile index. Higher hypertension prevalence is found in population with low education and unemployed groups.

In hypertension analysis, which is limited to population 15-17 years old according to JNC VII criteria 2003, the nationwide hypertension prevalence is to reach 5.3 percent (male 6.0% and female 4.7%), rural (5.6%) which is higher than in urban areas (5.1%).

Table 7.4 Diabetes, Hyperthyroid, Hypertension Prevalence Rates by Characteristics, Indonesia 2013

Characteristics	Diabetes *		Hyperthyroid*	Hypertension**		
	D	D/G		Interview	Measurement	
	D	D/G	D	D	D/O	U
Age Group (Year)						
15-24	0,1	0,6	0,4	1,2	1,2	8,7
25-34	0,3	0,8	0,3	3,4	3,4	14,7
35-44	1,1	1,7	0,4	8,1	8,2	24,8
45-54	3,3	3,9	0,5	14,8	15,0	35,6
55-64	4,8	5,5	0,5	20,5	20,7	45,9
65-74	4,2	4,8	0,5	26,4	26,7	57,6
75+	2,8	3,5	0,5	27,7	27,9	63,8
Sexes						
Male	1,4	2,0	0,2	6,5	6,6	22,8
Female	1,7	2,3	0,6	12,2	12,3	28,8
Education						
Not Attend School	1,8	2,7	0,4	17,4	17,6	42,0
Not Graduate SD	1,9	2,8	0,4	13,9	14,1	34,7
Graduate SD	1,6	2,3	0,4	11,3	11,5	29,7
Graduate SMP	1,0	1,5	0,4	6,8	6,9	20,6
Graduate SMA	1,4	1,8	0,4	5,7	5,8	18,6
Graudate D1-D3/University	2,5	2,8	0,6	7,3	7,5	22,1
Professions						
Not Employed	1,8	2,4	0,5	12,4	12,5	29,2
Employees	1,7	2,1	0,5	6,3	6,4	20,6
Entrepreneurs	2,0	2,4	0,4	8,5	8,6	24,7
Farmers/Fishermen/Workers	0,8	1,6	0,3	7,8	7,8	25,0
Others	1,8	2,4	0,4	8,8	8,9	24,1
Residence						
Urban	2,0	2,5	0,5	9,9	10,0	26,1
Rural	1,0	1,7	0,4	8,8	8,9	25,5
Wealth Quantile Index						
Lowest	0,5	1,6	0,3	8,4	8,5	25,5
Middle - Low	0,9	1,6	0,4	9,6	9,7	27,2
Middle	1,2	1,8	0,4	9,6	9,7	25,9
Middle - High	1,9	2,4	0,5	9,6	9,7	25,1
Hlghest	2,6	3,0	0,5	9,4	9,5	25,4

*Age ≥ 15 years

**Age ≥ 18 years

7.7. Heart Disease

Heart diseases frequently attacking adult population include coronary heart and heart failure. In general, respondents are unable to differentiate the types of heart diseases. They just call heart disease. Symptoms of heart diseases have been asked to the respondents.

7.7.1 Coronary Heart

Coronary heart disease is the disrupted heart functions when heart muscles experience lack of blood because of narrowing coronary arteries. Clinically, this disease has symptoms of pains in chest or unbearable stress to chest when climbing/working hard or walking in rush along flat roads or long distance. Respondents are defined of suffering coronary heart disease if they have been diagnosed for coronary heart disease (angina pectoris and/or infarct miocard) by doctors or if not they experience coronary heart symptoms/history: pains in chest/unbearable stress to chest/uncomfortable feeling in chest/ and pain/uncomfortable feeling in the middle part of chest/the front left part of chest/spreading to left arm and pain/uncomfortable feeling in chest when climbing/going up stairs/walking in hurry and the pain/uncomfortable feeling in chest disappearing when the activities are stopped/take rest.

7.7.2 Heart Failure

Heart failure (weak heart) is the incapability of heart in pumping sufficient blood to the entire body indicated with shortness of breath when taking exercise and/or while lying down without pillow and/or leg swelling. Respondents are defined of suffering heart failure if they have been diagnosed for heart failure (decompensatio cordis) by doctor or if not they experience heart failure symptoms/history: shortness of breath when taking activities and while lying down without pillow and decreased physical activity capacity/extreme tiredness and leg swelling.

7.8. Stroke

Stroke is disease to the brain causing local and/or global nerve malfunction, attacking unexpected, progressive and fast. This disturbed nerve function is due to disruption to non-traumatic brain blood circulation. It causes symptoms of: numbness of face or limbs, trouble speaking, unclear speaking, trouble understanding, blurred vision, etc. Respondents are defined of suffering stroke if they have been diagnosed for stroke by healthcare professionals (doctors/nurses/midwives) or otherwise they experience sudden numbness of body at one side compounded with tingling sensation or face drooping without eyes muscle paralysis or trouble speaking/communication and or trouble understanding.

Table 7.5 shows coronary heart prevalence based on interviews in which the respondents admit of diagnosed for this disease by doctor or experience coronary heart symptoms, i.e. 1.5 percent. The highest coronary heart prevalence by doctor diagnosis is found in Central Sulawesi (0.8%) followed by North Sulawesi, DKI Jakarta, Aceh at 0.7 percent respectively. As to coronary heart prevalence by diagnosis or symptoms, the highest rate is observed in NTT (4.4%) followed Central Sulawesi (3.8%), South Sulawesi (2.9%) and West Sulawesi (2.6%).

Heart failure prevalence based on interviews in which the respondents admit of suffering heart failure under doctor diagnosis or experience heart failure symptoms records 0.3 percent. The highest prevalence rate of heart failure based on doctor diagnosis is detected in DI Yogyakarta (0.25%), followed by East Java (0.19%) and Central Java (0.18%). The highest heart failure prevalence based on doctor diagnosis and symptoms are found in NTT (0.8%) followed by South Sulawesi and Papua at 0.5 percent respectively.

Stroke prevalence in Indonesia based on diagnosis by healthcare professionals is at 7 per mile and 12.1 per mile if based on diagnosis of healthcare professionals and symptoms. The highest stroke prevalence based on diagnosis of healthcare professionals is in North Sulawesi (10.8‰), followed by DI Yogyakarta (10.3 ‰), Bangka Belitung and DKI Jakarta at 9,7 per mile respectively. The highest stroke prevalence based on diagnosis of healthcare professionals and symptoms is detected at South Sulawesi (17.9‰), DI Yogyakarta (16.9‰), Central Sulawesi (16.6 ‰), and East Java at 16 per mile.

Table 7.5 Coronary Heart, Heart Failure and Stroke Prevalence of Population ≥15 years old by Province, Indonesia 2013

Province	Coronary Heart		Heart Failure		Stroke (‰)	
	D	D/G	D	D/G	D	D/G
Aceh	0,7	2,3	0,10	0,3	6,6	10,5
North Sumatera	0,5	1,1	0,13	0,3	6,0	10,3
West Sumatera	0,6	1,2	0,13	0,3	7,4	12,2
Riau	0,2	0,3	0,12	0,2	4,2	5,2
Jambi	0,2	0,5	0,04	0,1	3,6	5,3
South Sumatera	0,4	0,7	0,07	0,2	5,2	7,8
Bengkulu	0,3	0,6	0,10	0,1	7,0	9,4
Lampung	0,2	0,4	0,08	0,1	3,7	5,4
Bangka Belitung	0,6	1,2	0,05	0,1	9,7	14,6
Riau Island	0,4	1,1	0,17	0,3	7,6	8,5
DKI Jakarta	0,7	1,6	0,15	0,3	9,7	14,6
West Java	0,5	1,6	0,14	0,3	6,6	12,0
Central Java	0,5	1,4	0,18	0,3	7,7	12,3
DI Jogjakarta	0,6	1,3	0,25	0,4	10,3	16,9
East Java	0,5	1,3	0,19	0,3	9,1	16,0
Banten	0,5	1,0	0,09	0,2	5,1	9,6
Bali	0,4	1,3	0,13	0,3	5,3	8,9
West Nusa Tenggara (NTB)	0,2	2,1	0,04	0,2	4,5	9,6
East Nusa Tenggara (NTT)	0,3	4,4	0,10	0,8	4,2	12,1
West Kalimantan	0,3	0,9	0,08	0,2	5,8	8,2
Central Kalimantan	0,3	1,7	0,07	0,2	6,2	12,1
South Kalimantan	0,5	2,2	0,06	0,3	9,2	14,5
East Kalimantan	0,5	1,0	0,08	0,1	7,7	10,0
North Sulawesi	0,7	1,7	0,14	0,4	10,8	14,9
Central Sulawesi	0,8	3,8	0,12	0,7	7,4	16,6
South Sulawesi	0,6	2,9	0,07	0,5	7,1	17,9
South-east Sulawesi	0,4	1,7	0,04	0,2	4,8	8,8
Gorontalo	0,4	1,8	0,06	0,2	8,3	12,3
West Sulawesi	0,3	2,6	0,07	0,3	5,9	15,5
Maluku	0,5	1,7	0,09	0,4	4,2	8,7
North Maluku	0,2	1,7	0,02	0,2	4,6	10,7
West Papua	0,3	1,2	0,08	0,2	4,2	5,8
Papua	0,2	1,3	0,07	0,5	2,3	9,4
Indonesia	0,5	1,5	0,13	0,3	7,0	12,1

Table 7.6 shows the prevalence of coronary heart disease based on interviews in which the respondents admit of diagnosed for this disease by doctors and based on doctor diagnosis and symptoms which tends to rise in line with the increasing age. The highest prevalence is found at age group 65-74 years old at 2.0 percent and 3.6 percent respectively. These figures are to decrease slightly at age group ≥ 75 years old. The prevalence of coronary heart disease based on doctor diagnosis or symptoms is higher in female group (0.5% and 1.5% respectively).

Higher coronary heart disease prevalence is observed in population never attending school and unemployed. According to doctor diagnosis, coronary heart disease is more attacking urban population. However, based on doctor diagnosis and symptoms, its prevalence is higher in rural areas with the lowest wealth quantile index.

Table 7.6 Coronary Heart Disease, Heart Failure and Stroke Prevalence of Population ≥15 Years Old by Characteristics, Indonesia 2013

Respondent Characteristics	Coronary Heath		Heart Failure		Stroke(%)	
	D	D/G	D	D/G	D	D/G
Age Group (Year)						
15-24	0,1	0,7	0,02	0,1	0,2	2,6
25-34	0,2	0,9	0,05	0,1	0,6	3,9
35-44	0,3	1,3	0,09	0,2	2,5	6,4
45-54	0,7	2,1	0,19	0,4	10,4	16,7
55-64	1,3	2,8	0,38	0,7	24,0	33,0
65-74	2,0	3,6	0,49	0,9	33,2	46,1
75+	1,7	3,2	0,41	1,1	43,1	67,0
Sexes						
Male	0,4	1,3	0,1	0,3	7,1	12,0
Female	0,5	1,6	0,2	0,3	6,8	12,1
Education						
Not Attend School	0,6	2,8	0,2	0,8	16,5	32,8
Not Graduate SD	0,6	2,3	0,2	0,5	12,0	21,0
Graduate SD	0,5	1,7	0,2	0,4	7,8	13,2
Graduate SMP	0,3	1,1	0,1	0,2	4,0	7,2
Graduate SMA	0,4	1,0	0,1	0,1	4,0	6,9
Graudate D1-D3/University	0,8	1,1	0,1	0,2	7,6	9,8
Professions						
Not Employed	0,7	1,6	0,2	0,4	11,4	18,0
Employees	0,4	0,9	0,1	0,1	3,9	6,2
Entrepreneurs	0,5	1,2	0,1	0,3	4,6	8,6
Farmers/Fishermen/Workers	0,3	1,6	0,1	0,3	3,7	8,8
Others	0,4	1,3	0,1	0,3	5,8	10,0
Residence						
Urban	0,6	1,4	0,2	0,3	8,2	12,7
Rural	0,4	1,6	0,1	0,3	5,7	11,4
Wealth Quantile Index						
Lowest	0,2	2,1	0,1	0,4	5,1	13,1
Middle - Low	0,4	1,6	0,1	0,3	6,9	12,6
Middle	0,5	1,4	0,1	0,3	6,9	12,0
Middle - High	0,6	1,3	0,1	0,2	7,6	11,8
Highest	0,7	1,2	0,2	0,2	7,7	11,2

The prevalence of heart failure is to rise in line with the increasing age. It reaches the highest rate at age 65-74 years old (0.5%) based on doctor diagnosis and a bit to decline at age ≥75 years (0.4%). However, for prevalence based on doctor diagnosis or symptoms, the highest prevalence rate is found at age ≥75 years (1.1%). For prevalence according to doctor diagnosis, this heart failure disease is more attacking female population (0.2%) than males (0.1%). As to prevalence of heart failure based on doctor diagnosis and symptoms the rates are relatively equal between male population and female population (0.3%). Higher prevalence based on doctor diagnosis as well as doctor diagnosis and symptoms is observed at population with low education. It is also observed that prevalence of doctor diagnosis is higher in urban areas with high wealth quantile index. As to

prevalence of doctor diagnosis and symptoms the rate is relatively equal in urban areas and rural areas.

Stroke prevalence of population diagnosed by healthcare professionals and those diagnosed by healthcare professionals and experiencing stroke symptoms tends to rise with the increasing age and reaches the highest rate at age ≥ 75 years (43.1‰ and 67.0‰ respectively). Stroke prevalence based on diagnosis of healthcare professionals or diagnosis and symptoms has relatively equal rate for males and females.

High stroke prevalence is more found at population with low education both upon diagnosis of healthcare professionals (16.5‰) as well as based on diagnosis of healthcare professionals and symptoms (32.8‰). Stroke prevalence in cities is higher than in villages, both based on diagnosis of healthcare professionals (8.2‰) or upon diagnosis of healthcare professionals and symptoms (12.7‰). Higher prevalence is also detected in population who are unemployed both according to diagnosis of healthcare professionals (11.4‰) and under diagnosis of healthcare professionals or symptoms (18‰). Stroke prevalence based on diagnosis and symptoms is higher at population with the lowest wealth quantile index and middle-low wealth quantile index recording respectively 13.1 per mile and 12.6 per mile.

7.9. Kidney Disease

Kidney disease is abnormality in kidney from various factors, for example, infections, tumors, hereditary abnormalities, metabolic disease or degenerative disease, etc. These abnormalities can aggravate kidney structure and functions with different severities. Patients may feel pains, suffer troubles in micturition, etc. Sometimes, the patients of kidney disease feel no symptoms of any kind. In the worst situation, this disease can turn into a life-threatening disease unless hemodialysis is taken on periodic basis or undergoes kidney transplantation to replace the damaged kidney. In Indonesia, the most frequently found kidney disease is chronic kidney failure or kidney stone. Respondents are defined of suffering chronic kidney failure if based on doctor diagnosis they have chronic kidney failure (min. for 3 consecutive months). And they are defined of suffering kidney stone if the doctor diagnosis confirms it.

7.10. Joint/Rheumatic/Arthritic Disease

Joint/rheumatic/arthritic disease is a chronic-systemic inflammation disease to the joints of body. They symptoms are pains to the joints compounded with joint stiffness, joint redness and joint swelling not because of collision/accident and continue chronically. The symptoms normally occur in the morning. Respondents are defined to suffer joint/rheumatic/arthritic disease based on diagnosis by healthcare professionals (doctors/nurses/midwives) or when wake up in the morning experience one of the following symptoms: joint pains, joint redness or joint stiffness or joint swelling not because of accident.

Table 7.7 shows the prevalence of chronic kidney failure based on doctor diagnosis in Indonesia reaching 0.2 percent. The highest prevalence is detected in Central Sulawesi at 0.5 percent followed by Aceh, Gorontalo, and North Sulawesi at 0.4 percent respectively. Meanwhile, prevalence rates in NTT, South Sulawesi, Lampung, West Java, Central Java, DI Yogyakarta and East Java record 0.3 percent respectively.

According to interviews, the prevalence rate of kidney stone based on doctor diagnosis in Indonesia is 0.6 percent. The highest prevalence is found in DI Yogyakarta (1.2%) followed by Aceh (0.9%), West Java, Central Java and Central Sulawesi at 0.8 percent respectively.

The prevalence of joint disease based on diagnosis by healthcare professionals in Indonesia is to reach 11.9 percent. According to diagnosis or symptoms, this prevalence rate is 24.7 percent. The highest prevalence based on diagnosis of healthcare professionals is observed in Bali (19.3%)

followed by Aceh (18.3%), West Java (17.5%) and Papua (15.4%). Joint disease prevalence based on diagnosis of healthcare professionals or symptoms records the highest rate in NTT (33.1%) and followed by West Java (32.1%) and Bali (30%).

Table 7.7 Chronic Kidney Failure, Kidney Stone and Joint Disease Prevalence Rates at Population of ≥ 15 Years Old by Province, Indonesia 2013

Province	Chronic Kidney Failure	Kidney Stone	Joint Disease	
	D	D	D	D/G
Aceh	0,4	0,9	18,3	25,3
North Sumatera	0,2	0,3	8,4	19,2
West Sumatera	0,2	0,4	12,7	21,8
Riau	0,1	0,2	6,8	10,8
Jambi	0,2	0,4	8,6	14,2
South Sumatera	0,1	0,3	8,4	15,6
Bengkulu	0,2	0,4	10,2	16,5
Lampung	0,3	0,5	11,5	18,9
Bangka Belitung	0,1	0,1	5,8	17,8
Riau Island	0,1	0,3	5,9	11,6
DKI Jakarta	0,1	0,5	8,9	21,8
West Java	0,3	0,8	17,5	32,1
Central Java	0,3	0,8	11,2	25,5
DI Jogjakarta	0,3	1,2	5,6	22,7
East Java	0,3	0,7	11,1	26,9
Banten	0,2	0,4	9,5	20,6
Bali	0,2	0,7	19,3	30,0
West Nusa Tenggara (NTB)	0,1	0,3	9,8	23,7
East Nusa Tenggara (NTT)	0,3	0,7	12,6	33,1
West Kalimantan	0,2	0,4	13,3	22,3
Central Kalimantan	0,2	0,4	12,6	21,8
South Kalimantan	0,2	0,4	9,5	25,8
East Kalimantan	0,1	0,4	8,2	16,0
North Sulawesi	0,4	0,5	10,3	19,1
Central Sulawesi	0,5	0,8	11,4	26,7
South Sulawesi	0,3	0,5	10,6	27,7
South-east Sulawesi	0,2	0,5	12,0	20,8
Gorontalo	0,4	0,6	10,4	17,7
West Sulawesi	0,2	0,2	8,0	22,5
Maluku	0,2	0,5	8,9	18,8
North Maluku	0,2	0,4	5,9	17,4
West Papua	0,2	0,3	8,3	15,4
Papua	0,2	0,4	15,4	26,5
Indonesia	0,2	0,6	11,9	24,7

Table 7.8 shows that according to interviews the prevalence of chronic kidney failure based on doctor diagnosis tends to rise in line with the increasing age and sharply goes up at age group 35-44 years (0.3%) followed at age group 45-54 years (0.4%) and age group 55-74 years (0.5%) with the highest rate found in age group ≥ 75 years (0.6%). Prevalence in male population is higher than female population i.e. (0.3%) to (0.2%). Accordingly, higher prevalence is observed from population groups of rural areas (0.3%), uneducated (0.4%), entrepreneurs, farmers/fishermen/workers (0.3%) and the lowest and middle-low wealth quantile index at 0.3 percent respectively.

According to interviews, the prevalence of kidney stone disease is to rise with the increasing age with the highest rate at age group 55-64 years (1.3%) and slightly declining at age group 65-74 years

(1.2%) and age group ≥ 75 years (1.1%). Higher prevalence is observed in male population (0.8%) than in female population (0.4%). Higher prevalence is also detected in uneducated population and those not graduating from SD (Elementary Education) and entrepreneurs (0.8%) with nearly similar economic status from middle-low wealth quantile index to middle-high wealth quantile index (0.6%). Prevalence in rural areas is relatively equal to urban areas (0.6%).

Table 7.8 Chronic Kidney Failure, Kidney Stone and Joint Disease Prevalence at Population ≥ 15 Years Old by Characteristics, Indonesia 2013

Characteristics	Chronic Kidney Failure	Kidney Stone	Joint Disease	
	D	D	D	D/G
Age Group (year)				
15-24	0,1	0,1	1,5	7,0
25-34	0,1	0,3	6,0	16,1
35-44	0,3	0,7	12,4	26,9
45-54	0,4	1,0	19,3	37,2
55-64	0,5	1,3	25,2	45,0
65-74	0,5	1,2	30,6	51,9
75+	0,6	1,1	33,0	54,8
Sexes				
Male	0,3	0,8	10,3	21,8
Female	0,2	0,4	13,4	27,5
Education				
Not Attend School	0,4	0,8	24,1	45,7
Not Graduate SD	0,3	0,8	19,8	38,0
Graduate SD	0,3	0,7	16,3	31,8
Graduate SMP	0,2	0,4	7,5	17,5
Graduate SMA	0,1	0,5	5,8	14,9
Graduate D1-D3/University	0,2	0,6	5,8	13,2
Professions				
Not Employed	0,2	0,5	11,5	23,4
Employees	0,2	0,7	6,3	15,4
Entrepreneurs	0,3	0,8	11,1	23,7
Farmers/Fishermen/Workers	0,3	0,7	15,3	31,2
Others	0,3	0,6	11,0	24,0
Residence				
Urban	0,2	0,6	10,0	22,1
Rural	0,3	0,6	13,8	27,4
Wealth Quantile Index				
Lowest	0,3	0,5	15,4	32,1
Middle - Low	0,3	0,6	14,5	29,0
Middle	0,2	0,6	12,3	25,4
Middle - High	0,2	0,6	10,1	22,0
Highest	0,2	0,6	8,6	18,1

According to interviews, the prevalence of joint disease based on diagnosis of healthcare professionals is to rise in line with the increasing age. This is also applicable for prevalence set according to diagnosis healthcare professionals and symptoms. The highest prevalence is found at age group ≥ 75 years (33% and 54.8%). Prevalence according to diagnosis of healthcare professionals is higher in female population (27.5%) than male population (21.8%). Higher prevalence is also detected in population who never attend school both for males and females as diagnosed by healthcare professionals (24.1%) or based on diagnosis of healthcare professionals and symptoms (45.7%). By profession, the highest prevalence is recorded in farmer/fishermen/

worker groups both based on diagnosis of healthcare professionals only or diagnosis of healthcare professionals and symptoms at 15.3% and 31.2% respectively. Prevalence in rural areas is 13.8% or higher than in urban areas at 10.0% based on diagnosis of healthcare professionals. Likewise, upon diagnosis of healthcare professionals and symptoms higher prevalence is observed in rural areas than in urban areas at 27.4% and 22.1% respectively. By groups, according to diagnosis of healthcare professionals the highest prevalence is at the lowest wealth quantile index (15.4%) and middle-low wealth quantile index (14.5%). Accordingly, based on diagnosis of healthcare professionals and symptoms, the highest prevalence is found at the lowest wealth quantile index (32.1%) and middle-low wealth quantile index (29.0%).

7.11. NCD Trends 2007 – 2013

The trends of some non communicable disease (NCD) can be seen from 2007 to 2013. They include DM prevalence based on interviews, hypertension prevalence based on interview and measurement, stroke and joint/rheumatic/arthritis disease based on interviews. The trends can be compared by provinces throughout Indonesia from which the prevalence trend of increase or decrease can be observed.

Figure 7.2 indicates DM prevalence trend based on interviews in 2013 reaching 2.1 percent (Indonesia), higher than 2007 (1.1%). Two provinces, i.e. West Papua and NTB record downward trends. The other 31 provinces show significant upward trends in DM prevalence, for example Maluku (from 0.5% to 2.1%), South Sulawesi (0.8% to 3.4%) and NTT (from 1.2% to 3.3%).

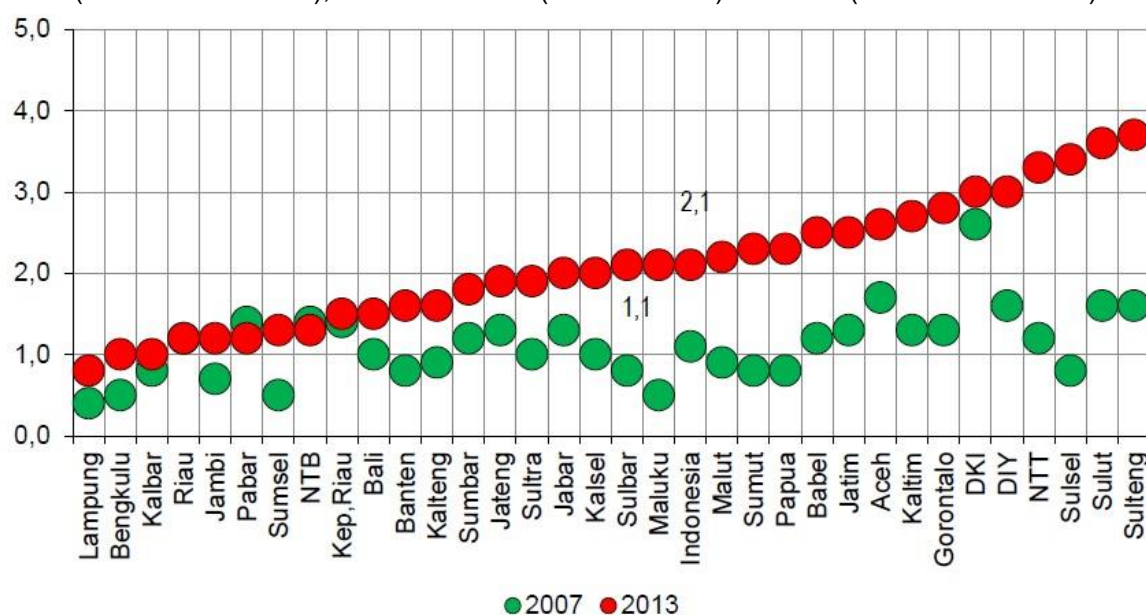


Figure 7.2 DM Prevalence Trend Based on Interviews to Population ≥ 15 Years Old by Province, Riskesdas 2007 and 2013

Figure 7.3 illustrates hypertension prevalence trend based on diagnosis of healthcare professionals, which according to interviews made in 2013 recording 9.5% or higher than 2007 (7.6%). Three provinces, i.e. Papua, West Papua and Riau record downward trend. Six provinces remain unchanged such as NTT, West Sumatera, Bengkulu, West Kalimantan, Aceh, and DKI Jakarta. Other provinces have upward hypertension prevalence trends.

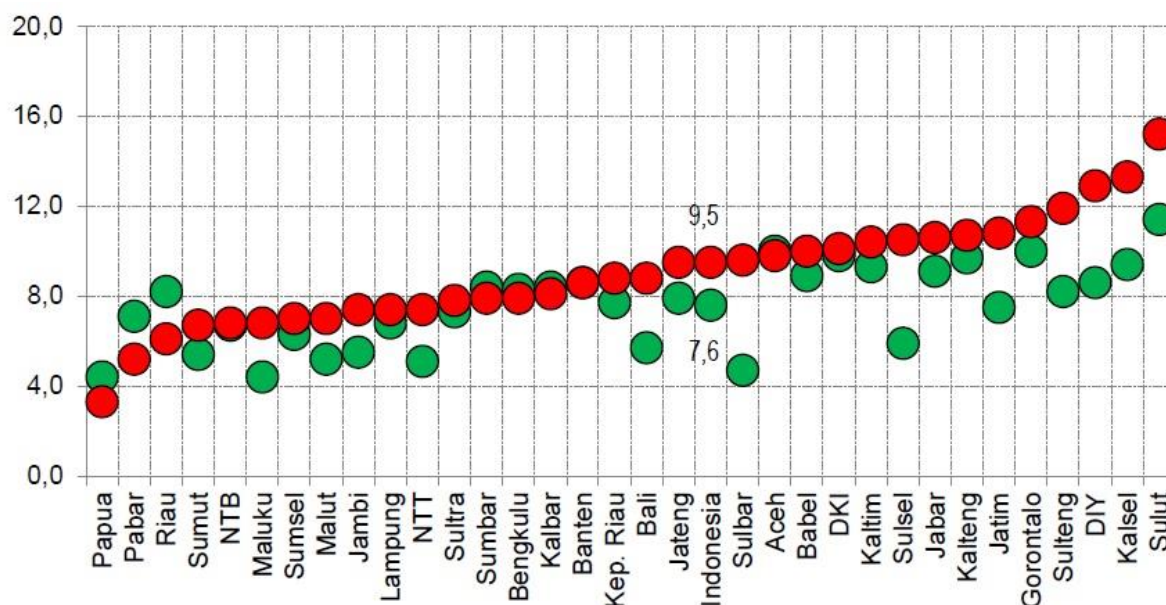


Figure 7.3 Hypertension Prevalence Trend Based on Interviews to Population ≥ 18 Years Old by Province, Riskesdas 2007 and 2013

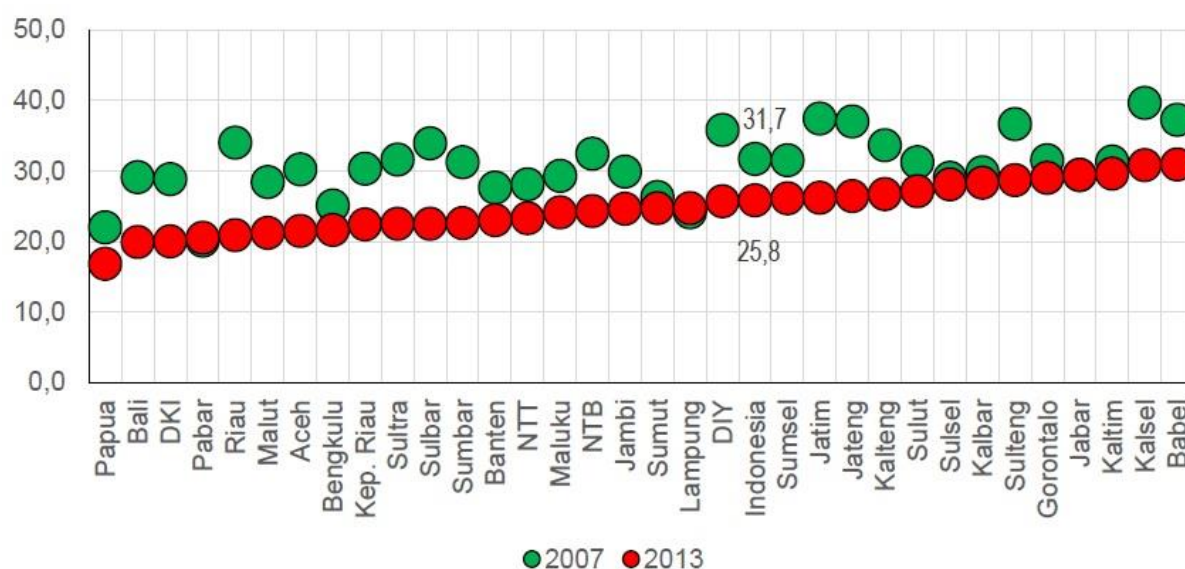


Figure 7.4 Hypertension Prevalence Trend Based on Measurement to Population ≥ 18 Years Old by Province, Riskesdas 2007 and 2013

Figure 7.4 shows hypertension prevalence trend based on measurement which indicates significant decrease from 31.7 percent in 2007 to 25.8 percent in 2013. It is assumed that this decrease is due to: (i) different measuring tools used in 2007 which are no longer produced (discontinue) in 2013, (ii) better public awareness in 2013. Assumption (ii) is obvious in Figure 3.5.3 in which hypertension prevalence based on diagnosis or symptoms is to rise. It indicates that population who sees healthcare professionals for checking is to increase slightly.

Figure 7.5 illustrates stroke prevalence trend which according to the interviews shows increase from 8.3 per miles in 2007 to 12.1 per miles. Significant downward trends are detected in two provinces, i.e. Riau Island and Aceh with the other provinces recording upward trends.

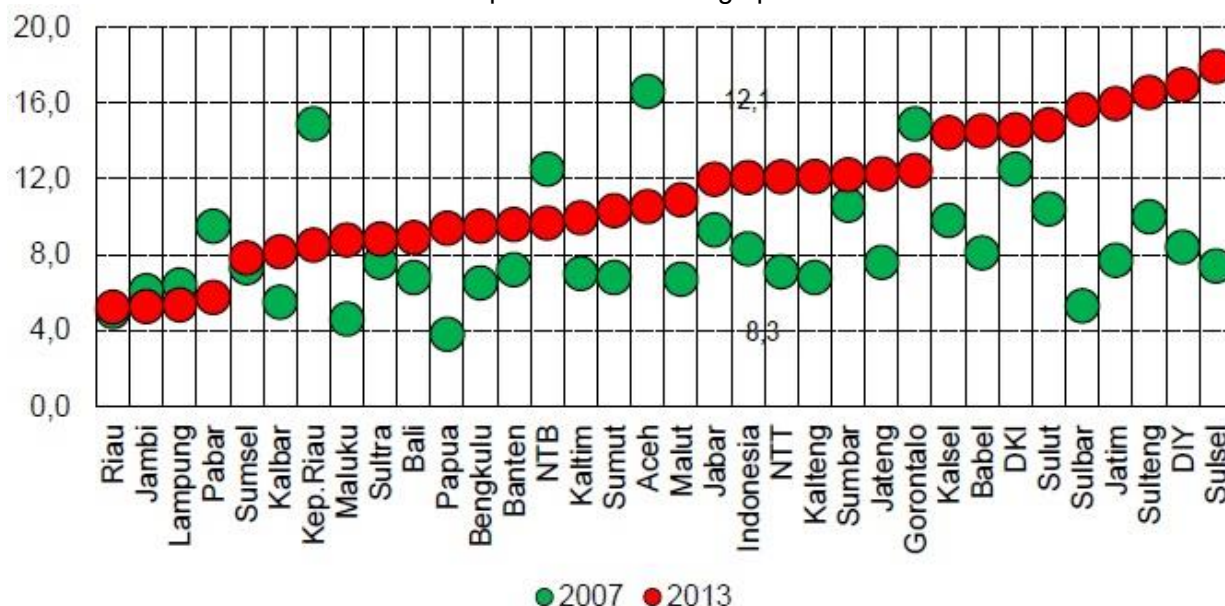


Figure 7.5 Stroke Prevalence Trends per Mile to Population ≥ 15 Years Old by Province, Riskesdas 2007 and 2013

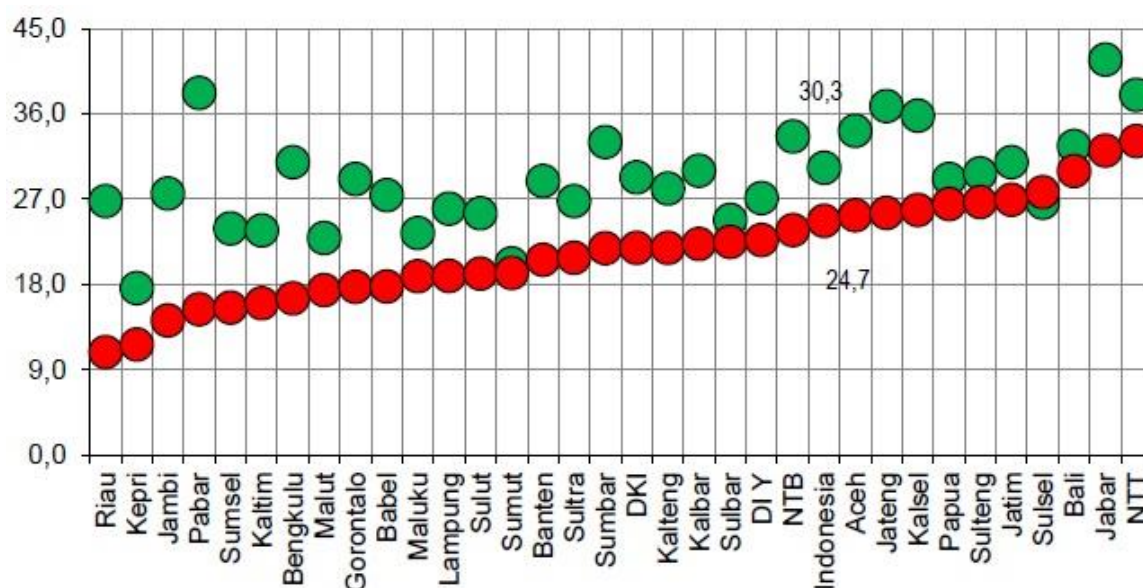


Figure 7.6 Joint/Rheumatic/Arthritic Disease Prevalence Trends based on Interviews to Population ≥ 15 Years Old by Province, Riskesdas 2007 and 2013

Figure 7.6 shows Joint/Rheumatic/Arthritic Disease Prevalence Trend, which based on interviews in 2013 records 24.7%, or lower than in 2007 (30.3). This declining prevalence trend is assumed due to better behaviors of people, such as taking exercises and dietary habits. However, further analysis is necessary.

Bibliographies

Eguchi K, Yacoub M, Jhalani J et al. Consistency of blood pressure differences between the left and right arms. *Arch Intern Med* 2007;167 (4): 388 – 93.

Kidney Disease: Improving Global Outcomes (KDIGO) CKD Work Group. KDIGO 2012 Clinical Practice Guideline for the Evaluation and Management of Chronic Kidney Disease. *Kidney inter., Suppl.* 2013; 3: 1—150.

Laporan Riskesdas 2007. Jakarta: Badan Penelitian dan Pengembangan Kesehatan, Depkes R.I.

[Riskesdas 2007 Report, Jakarta: Health Research and Development Body, the Ministry of Health]

National Heart, Lung, and Blood Institute, National Institute of Health, US. 2004. The seventh report of the Joint Committee on prevention, detection, evaluation, and treatment of high blood pressure. NIH Publication No. 04-5230, August 2004. (cited 2007 Nov 2). Available from: <http://www.nhlbi.nih.gov/guidelines/hypertension/jnc7full.pdf>.

Report of WHO. Definition and diagnosis of diabetes mellitus and intermediate hyperglycaemia. Geneva: WHO; 2006. P.9—43.

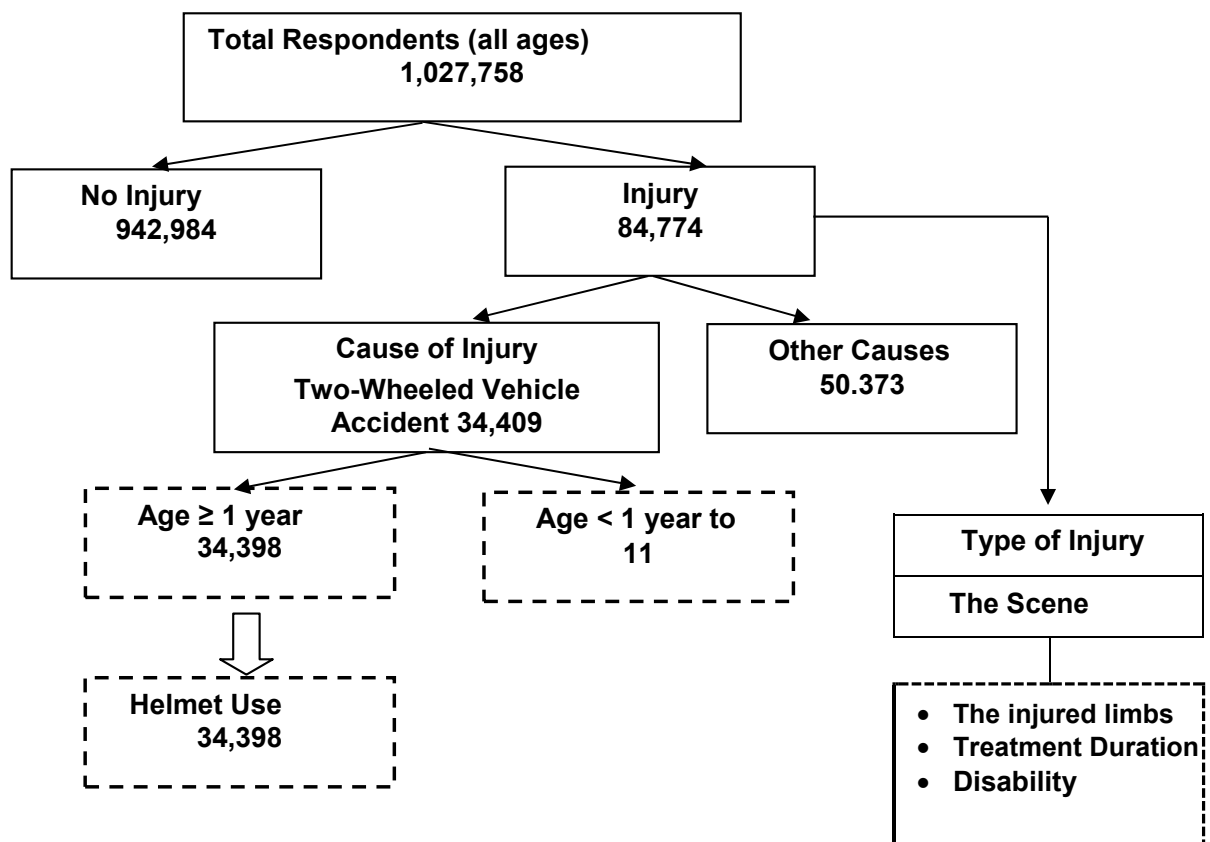
WHO, Media Centre. Nocommunicable diseases. Updated March 2013. Access 18 November 2013. <http://www.who.int/mediacentre/factsheets/fs355/en/>

CHAPTER 8. INJURIES

Woro Riyadina, Anna Maria Sirait, Sulistyowati Tuminah, FX Suharyanto, and Zainul Nantabah

Injury is physical damage to human body caused by intolerable and unexpected force (WHO, 2004). Injury cases are collected from interviews. Injuries asked during interviews relate to incidents experienced by respondents for the last 12 months at any age. In this Riskesdas, injuries are defined as incidents or events causing injuries that disturb the day-to-day activities. For injury cases which their incidents occur more than 1 time in 12 months, the questions to propose concern with the most severe injuries claimed by the respondents.

Total data for analysis record 1,027,758 persons at any age. Of them, 84,774 respondents admit of experiencing injuries and the other 942,984 respondents say that they never go through any injury. The injured respondents get their wounds mostly from traffic accidents, i.e. motorcycles (34,409 persons). Special for helmet use analysis, it is only applied to age group >1 year reaching 34,398 persons. The scheme of data analysis is as follows:



Legend:

 : can be found in Book 2: Riskesdas 2013 in Figures, pp 151 to 175

8.1. Injury Prevalence and the Causes

By causes, injuries can be differentiated into intentional injury and unintentional injury and undetermined intent (WHO, 2004). The causes of intentional injury include suicide, domestic violence such as beaten by parents/husbands/wives/children, assaults, violent actions/harassment, etc. For unintentional injury, the causes may be from: burns/hot water/chemical substances/falls from heights, animal bites/attacks, land/sea/air transportation accidents, occupational accidents, wounds from sharp/blunt objects/machines, fallen by objects, poisoning, natural disaster, radiation, burns, etc. The undetermined intent injury refers to wounds not included in intentional injury or unintentional injury. Injury causes depicted in this report deal with unintentional injury. The prevalence and proportion of injury causes are presented in Table 8.1.

The nationwide injury prevalence is 8.2 percent with the highest prevalence found in South Sulawesi (12.8%) and the lowest in Jambi (4.5%). The other fifteen (15) provinces record injury prevalence higher than national rate.

The most injury cause is falls (40.9%) and two-wheeled vehicles (40.6%). The next injury causes are sharp/blunt objects (7.3%), other land transportation (7.1%) and fallen by objects (2.5%). The other causes only have insignificant proportion.

Injury cause of two-wheeled vehicles is mostly found in Bengkulu (56.4%) and the least in Papua (19.4%). With regard to cause of other land transportation, the highest proportion is observed in South Kalimantan (10.1%) and the lowest in Papua (2.5%). The highest proportion of injury because of falls is in NTT (55.5%) and the lowest in Bengkulu (26.6%). The highest proportion for injury due to sharp/blunt objects is detected in Papua (29%) and the lowest in DI Yogyakarta (4.7%). Burned injury has the highest proportion in Papua (2%) and the lowest (no case) in East Kalimantan. Injury coming from animal bites is mostly found in DI Yogyakarta (2.6%) and the least in 3 provinces, to wit, Lampung, Banten and South Kalimantan (0.1%). The highest proportion of injury due to falls is recorded in Papua (10.1%) and the lowest in South Sumatra (1.3%). Generally speaking, no poisoning is found in the majority of province but in Jambi with miniscule proportion (0.10%).

The illustration of injury prevalence and the causes by respondent characteristics is presented in Table 8.2.

The highest injury prevalence by respondent characteristics is at age group 15-24 years (11.7%), males (10.1%), education: graduating SMP/MTS (9.1%), unemployed or working as employees (8.4%), residing in urban areas (8.7%) at middle-high wealth quantile index (8.7%).

Reviewed from the causes of injuries, the highest proportion is that of falls (91.3%) at age group < 1 year, women (49.3%), never attending schools (61.6%), unemployed (39.9%), residing in rural areas (42.3%) and at the lowest wealth quantile index (50.8%). In addition, injury caused by two-wheeled vehicle accidents is at the second highest proportion, i.e. 67.4% and found at age group 15-24 years, males (44.6%), graduating SMA/MA (63.9%), working as employees (65.3%), residing in urban areas (42.8%) and at the highest wealth quantile index (46.9%). As for injury due to other land transportation accidents, the highest proportion is observed at age group 5-14 years old (14.7%), males (7.3%), not graduating SD (12.7%), unemployed (7.5%) and residing in urban areas and at the highest wealth quantile index at 7.8 percent respectively.

Table 8.1 Injury Prevalence and the Causes by Province, Indonesia 2013

Province	Injury	Causes of Injury								
		Two- Wheeled Vehicles	Other Land Transp.	Falls	Sharp/ blunt Objects	Burnt	Animal Bites	Fallen	Poison	Other
Aceh	7,3	48,6	8,1	30,2	7,7	0,7	0,2	3,7	0	0,8
North Sumatera	7,2	36,3	8,8	38,9	10,1	0,9	0,4	4,1	0,06	0,6
West Sumatera	5,8	49,5	5,4	33,2	7,4	0,2	0,5	3,0	0,07	0,6
Riau	5,7	41,8	5,6	41,2	5,9	1,1	0,3	3,8	0	0,3
Jambi	4,5	46,8	6,0	36,2	6,0	0,4	0,5	3,7	0,10	0,4
South Sumatera	4,6	54,5	5,4	32,4	5,3	0,8	0,2	1,3	0	0,2
Bengkulu	5,8	56,4	4,7	26,6	7,4	0,6	0,9	3,0	0,03	0,3
Lampung	4,6	41,8	4,6	43,0	7,9	0,4	0,1	2,0	0	0,2
Bangka Belitung	8,1	49,0	7,1	28,8	10,2	1,4	0,4	2,7	0	0,4
Riau Island	5,9	48,1	6,2	33,5	6,3	0,7	0,5	4,3	0	0,4
DKI Jakarta	9,7	44,7	5,9	40,9	4,5	0,8	0,2	2,2	0	0,9
West Java	8,5	39,1	6,8	43,7	6,2	0,9	0,2	2,7	0	0,6
Central Java	7,7	40,1	8,1	42,1	6,7	0,6	0,2	1,6	0,02	0,7
DI Jogjakarta	12,4	39,2	9,9	41,0	4,7	0,7	2,6	1,7	0	0,2
East Java	9,3	37,9	8,5	43,2	7,2	0,7	0,3	1,7	0,03	0,5
Banten	9,0	45,1	7,5	38,4	6,2	0,6	0,1	1,9	0	0,2
Bali	8,6	43,3	5,8	37,7	8,7	0,7	1,2	1,9	0	0,8
West Nusa Tenggara	8,9	45,6	6,6	37,7	5,9	1,0	0,4	2,2	0,02	0,6
East Nusa Tenggara	12,1	30,4	3,8	55,5	6,1	0,4	0,7	2,7	0,06	0,3
West Kalimantan	5,2	41,7	7,7	38,0	7,2	0,7	0,2	3,7	0	0,8
Central Kalimantan	8,2	39,0	6,2	42,6	8,2	0,7	0,7	2,2	0,05	0,2
South Kalimantan	9,6	42,3	10,1	36,5	8,2	0,7	0,1	1,4	0,04	0,7
East Kalimantan	8,7	39,8	5,4	40,4	10,3	0,0	0,4	3,0	0,01	0,6
North Sulawesi	8,3	47,2	4,7	38,2	6,1	0,2	0,3	2,6	0,02	0,7
Central Sulawesi	8,8	47,7	6,2	32,7	8,9	0,4	0,2	3,3	0,02	0,5
South Sulawesi	12,8	43,6	6,8	37,6	8,1	0,5	0,5	2,5	0	0,4
South-east Sulawesi	10,0	38,6	7,6	40,5	8,4	0,6	0,5	3,5	0	0,3
Gorontalo	9,0	44,8	7,3	36,2	8,4	0,4	0,3	2,3	0	0,2
West Sulawesi	7,1	41,8	6,1	32,8	13,8	0,5	0,5	4,1	0,07	0,4
Maluku	7,0	34,5	4,2	44,7	9,9	0,9	0,6	4,5	0,02	0,6
North Maluku	6,5	38,6	4,5	41,3	8,9	0,9	0,7	4,5	0	0,6
West Papua	7,9	34,0	2,7	46,7	11,2	0,3	1,1	3,6	0	0,3
Papua	7,5	19,4	2,5	35,2	29,0	2,0	0,8	10,1	0	0,9
Indonesia	8,2	40,6	7,1	40,9	7,3	0,7	0,4	2,5	0,02	0,5

Table 8.2 Injury Prevalence and the Causes by Respondent Characteristics, Indonesia 2013

Characteristics	Injury	Causes of Injury								
		Two- Wheeled Vehicles	Other Land Transp.	Falls	Sharp/ blunt Objects	Burnt	Animal Bites	Fallen	Poison	Other
Age Group (year)										
< 1	1,9	2,8	1,0	91,3	2,5	0,7	0,0	0,9	0	0,9
1 – 4	8,2	6,5	5,4	79,4	4,2	1,5	0,3	2,3	0	0,5
5 – 14	9,7	19,0	14,7	57,3	5,4	0,6	0,3	2,4	0,003	0,4
15 – 24	11,7	67,4	4,1	20,4	5,7	0,5	0,2	1,5	0,013	0,3
25 – 34	7,3	56,6	4,4	25,0	9,6	0,9	0,3	2,4	0,026	0,8
35 – 44	6,6	49,8	4,5	29,9	10,6	0,9	0,5	3,3	0,046	0,6
45 – 54	6,4	40,8	5,7	37,7	10,3	0,6	0,6	3,6	0	0,6
55 – 64	6,6	30,3	5,6	49,4	9,3	0,6	0,8	3,4	0,039	0,6
65 – 74	6,9	15,3	5,8	67,1	6,5	0,3	0,8	3,4	0	0,9
75+	8,5	6,1	4,4	78,2	6,3	0,5	0,8	2,0	0,027	1,7
Sexes										
Males	10,1	44,6	7,3	35,7	8,1	0,6	0,4	2,7	0,014	0,6
Females	6,4	34,2	6,8	49,3	6,0	0,8	0,3	2,1	0,019	0,5
Education										
Not Attend School	8,6	16,1	8,5	61,6	8,5	0,7	0,8	3,2	0,008	0,7
Not Graduate SD/MI	8,8	21,2	12,7	54,6	7,0	0,6	0,4	2,8	0,029	0,6
Not Graduate SD/MI	7,9	43,0	6,7	37,3	8,7	0,5	0,4	2,9	0,012	0,5
Not Graduate SMP/MTS	9,1	59,9	4,5	24,2	7,8	0,7	0,3	2,1	0,012	0,5
Graduate SMA/MA	8,3	63,9	4,2	21,8	6,6	0,7	0,3	2,0	0,023	0,5
Graduate Diploma/Univ.	6,2	62,6	4,3	24,6	6,0	0,7	0,2	1,1	0	0,5
Profession										
Unemployed	8,4	43,4	7,5	39,9	5,8	0,6	0,3	2,0	0,010	0,5
Employees	8,4	65,3	4,3	20,0	6,8	0,7	0,3	2,1	0	0,6
Enterpreneurs	7,8	59,3	5,3	23,5	7,7	0,9	0,3	2,4	0,002	0,5
Farmer/Fishermen/Workers	8,0	43,9	4,5	33,5	12,6	0,6	0,7	3,6	0,053	0,5
Others	8,2	53,2	6,3	27,4	8,6	0,7	0,3	2,9	0	0,8
Residence										
Urban	8,7	42,8	7,8	39,7	5,8	0,8	0,3	2,3	0,010	0,5
Rural	7,8	38,2	6,4	42,3	8,9	0,6	0,4	2,7	0,022	0,5
Wealth Quantile Index										
Lowest	8,3	28,1	5,5	50,8	10,4	0,7	0,6	3,6	0,038	0,5
Middle-Low	8,4	37,0	7,2	43,6	8,0	0,5	0,4	2,6	0,024	0,6
Middle	8,4	41,5	7,2	40,0	7,2	0,8	0,3	2,5	0,009	0,4
Middle-High	8,7	45,1	7,4	37,9	6,0	0,7	0,3	2,1	0,002	0,5
Highest	7,5	46,9	7,8	35,7	5,8	0,9	0,2	2,0	0,014	0,6

Injury prevalence in Riskesdas 2007 and 2013 is collected with the same questions. Injury prevalence trend and the causes are illustrated in Figure 8.1.

Injury prevalence trend records a slight increase from 7.5 percent (RKD 2007) to 8.2 percent (RKD 2013). Injury causes which their trends can be compared from 2007 to 2013 are inclusive of land transportation (two-wheeled vehicles and other land transportation modes), falls and sharp/blunt objects. In the mean time, injury prevalence from land transportation shows significant increase, i.e. from 25.9 percent to 47.7 percent.

Some injury causes indicate decrease. They include falls from 58 percent to 40.9 percent and sharp/blunt objects from 20.6 percent to 7.3 percent.

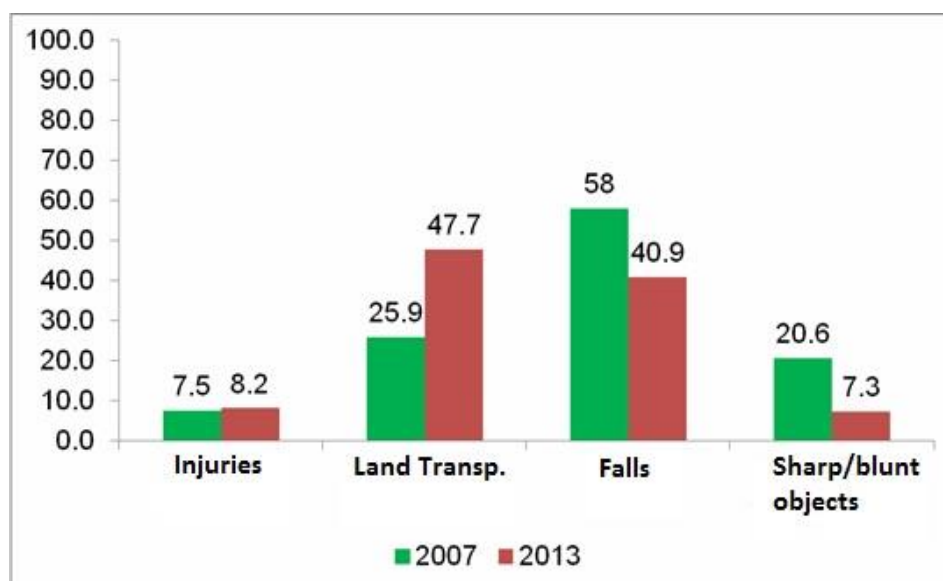


Figure 8.1 Injury Prevalence Trend and the Proportion of Causes, Riskesdas 2007 and 2013

8.2. Types of Injuries

Types of injuries indicate the type or kind of wounds as a result of trauma that can disrupt day-to-day activities. An injured person may experience minimum 1 type of injury (multiple injuries). The proportion of injury type by province is presented in Table 8.3.

Injuries in Indonesia are dominated by abrasion/bruise at 70.9 percent and mostly found in Banten (76.2%) and the least in Papua at 59.4 percent. The second dominant injury is that of dislocate recording 27.5 percent on average at nationwide. This kind of injury is mainly detected in South Kalimantan at 39.3 percent. The third ranking of injury type is cuts with the highest proportion in Papua, i.e. around 48.5 percent, much higher than national rate at 23.2 percent and the lowest in DI Yogyakarta (14.6%). Other types of injuries with small proportions include fractures 5.8 percent, cut body parts, eye injuries and concussion at 0.3 percent, 0.6 percent and 0.4 percent respectively.

The proportion of injuries by types and respondent characteristics is presented in Table 8.4. The three highest proportion of injuries include abrasion/bruise, dislocate and cuts respectively.

By age group, the injuries of abrasion/bruise, cuts, cut body parts and eye injury show similar trends, i.e. at age < 1 year with low proportion and increase at young age period and decline at adult age. Positive pattern is indicated by injury of fractures, i.e. the higher age the higher proportion. As to dislocate, the higher prevalence is found at age < 1 year and further rise in line with the increasing age. Age group most vulnerable to abrasion/bruise is 15-24 years (77.1%) followed by cuts at age group 25-34 years (26.9%), fractures at age group >75 years (10%), dislocate at age group 65-74 years (43.2%), cut body part at productive age (25-54 years) around 0.4 percent, eye injury at age group 35-64 years around 0.8 percent, concussion at age group 65-74 years (0.9%) and other injuries at age >75 years (3.8%).

Table 8.3 Proportion of Injury Types by Province, Indonesia 2013

Province	Injury Types							
	Abrasion /Bruise	Cuts	Fractures	Dislocate	Cut Body Part	Eye Injury	Concus sion	Others
Aceh	66,7	27,8	7,4	38,9	0,1	0,9	0,6	1,5
North Sumatera	68,9	31,4	5,1	26,3	0,5	0,7	0,2	1,3
West Sumatera	65,2	25,3	7,3	37,2	0,6	1,1	0,8	1,3
Riau	72,1	22,2	5,9	28,7	0,9	0,8	0,4	1,8
Jambi	71,5	20,9	6,9	28,3	0,5	0,3	0,7	2,4
South Sumatera	72,6	18,7	6,4	32,4	0,3	0,9	0,1	1,5
Bengkulu	73,1	24,6	6,8	31,3	0	1,4	0,9	1,5
Lampung	76,3	19,7	4,9	36,2	0,1	0,6	0,3	0,7
Bangka Belitung	65,8	24,5	7,4	25,9	0,1	0,3	0,9	2,0
Riau Island	63,3	22,5	6,8	23,5	1,2	0,8	0,5	1,8
DKI Jakarta	75,5	18,1	5,7	28,4	0	0,3	0,4	3,3
West Java	70,8	24,9	6,0	33,2	0,2	0,7	0,2	1,8
Central Java	72,6	16,7	6,2	26,6	0,2	0,5	0,4	2,1
DI Jogjakarta	73,7	14,6	4,8	24,1	0,2	0,3	0,5	2,9
East Java	68,0	22,7	6,0	27,3	0,3	0,5	0,7	1,7
Banten	76,2	20,1	6,1	29,0	0,2	0,4	0,2	1,6
Bali	68,2	24,9	5,4	21,6	0,1	0,2	0,6	2,1
West Nusa Tenggara	72,2	25,5	7,2	21,0	0,5	0,1	0,4	1,6
East Nusa Tenggara	72,4	36,4	4,9	19,8	0,2	0,3	0,4	1,0
West Kalimantan	71,1	23,2	6,0	25,4	0	0,6	0,7	1,7
Central Kalimantan	70,2	23,4	4,2	24,0	0,2	0,2	0	1,9
South Kalimantan	60,5	22,1	4,2	39,3	0,2	0,6	0,3	1,5
East Kalimantan	71,3	22,1	4,8	23,2	0,5	0,8	0,3	1,2
North Sulawesi	74,8	18,6	5,6	24,2	0	0,9	0,1	0,5
Central Sulawesi	69,9	25,7	5,4	22,1	0,1	0,2	0,5	1,4
South Sulawesi	74,6	24,3	4,3	14,1	0,2	0,6	0,4	1,6
South-east Sulawesi	71,6	25,5	6,2	24,2	0,2	0,6	0,2	0,8
Gorontalo	69,2	13,9	4,6	20,9	0	0	0,3	2,2
West Sulawesi	68,4	27,2	6,3	12,3	0,4	0,4	0,3	1,5
Maluku	65,7	28,4	6,8	16,9	0,1	0,8	0,6	1,4
North Maluku	68,9	26,0	7,5	24,9	0,6	0,2	0,2	2,0
West Papua	74,5	24,3	4,5	15,6	0,6	0,3	0,4	1,3
Papua	59,4	48,5	8,3	24,5	2,3	1,1	1,0	1,4
Indonesia	70,9	23,2	5,8	27,5	0,3	0,6	0,4	1,8

By sexes, in majority male proportions are higher than females proportions except for injury types of abrasion/bruise, dislocate and others.

By education, the proportion of injury types shows upward pattern in line with the increasing education level. There is a tendency that mainly the proportion of injury types increases at higher education, except for cuts. By professions, no particular pattern with regard to the proportion trend of injury types is identified.

By residence, in majority the proportion of injury types indicate no significant disparity between urban and rural areas; except for abrasion/bruise, which is higher in urban areas with higher cuts proportion found in rural areas.

Table 8.4 Proportion of Injury Types by Respondent Characteristics, Indonesia 2013

Characteristics	Types of Injuries							
	Abrasion/ Bruise	Cuts	Fracture	Dislocate	Cut Body Part	Eye Injury	Concussion	Others
Age Group (year)								
< 1	69,6	2,1	0,3	30,2	0	0	0	1,2
1 – 4	77,0	16,3	1,6	17,3	0,2	0,4	0,1	2,4
5 – 14	75,3	21,0	4,5	19,9	0,1	0,3	0,3	1,4
15 – 24	77,1	25,7	5,5	27,0	0,3	0,5	0,5	1,4
25 – 34	69,5	26,9	6,1	31,0	0,4	0,7	0,4	1,6
35 – 44	65,6	26,0	7,7	32,0	0,4	0,8	0,5	2,0
45 – 54	62,1	24,8	8,0	34,5	0,4	0,8	0,4	2,0
55 – 64	57,5	21,8	8,4	36,6	0,3	0,8	0,7	2,7
65 – 74	54,3	16,5	9,8	43,2	0,3	0,6	0,9	3,0
75+	54,9	11,2	10,0	40,6	0,3	0,6	0,4	3,7
Sexes								
Males	70,6	26,6	6,6	26,9	0,4	0,6	0,5	1,5
Females	71,2	17,8	4,6	28,6	0,1	0,4	0,3	2,1
Education								
Not Attend School	67,3	21,6	6,4	27,6	0,4	0,6	0,4	2,0
Not Graduate SD/MI	70,2	22,5	5,4	25,0	0,2	0,4	0,3	1,5
Not Graduate SD/MI	68,1	25,3	6,7	30,1	0,3	0,7	0,5	1,7
Not Graduate SMP/MTS	72,3	24,8	6,2	28,7	0,2	0,6	0,5	1,5
Graduate SMA/MA	71,9	24,5	6,5	31,0	0,4	0,6	0,5	1,9
Graduate Diploma/Univ.	72,4	20,6	7,5	29,8	0,3	0,7	0,6	2,7
Profession								
Unemployed	71,3	21,3	6,2	28,9	0,2	0,5	0,4	1,8
Employees	72,1	23,9	7,2	29,5	0,5	0,7	0,6	1,8
Enterpreneurs	70,2	25,8	7,3	31,6	0,3	0,7	0,5	1,7
Farmer/Fishermen/Workers	64,5	29,2	6,6	31,4	0,4	0,7	0,5	1,6
Others	70,2	24,7	7,4	30,2	0,4	0,8	0,6	1,8
Residence								
Urban	72,5	22,1	5,7	27,3	0,3	0,6	0,4	1,9
Rural	69,0	24,5	6,0	27,8	0,3	0,6	0,4	1,6
Wealth Quantile Index								
Lowest	66,5	26,9	5,7	29,4	0,3	0,6	0,5	1,5
Middle-Low	69,6	23,9	5,8	28,0	0,3	0,5	0,4	1,5
Middle	70,3	22,9	6,0	27,6	0,2	0,6	0,4	2,0
Middle-High	73,2	22,2	5,7	26,9	0,4	0,6	0,3	1,7
Highest	73,2	21,4	6,0	26,5	0,2	0,5	0,5	2,0

*Respondents suffer more than 1 type of injury (*multiple injuries*)

In terms of wealth quantile index, it is evident only 3 types of injuries with significant proportion. They include abrasion, cuts and dislocate. Abrasion shows positive pattern meaning that the higher wealth quantile index the higher proportion of abrasion will be. In contrast, the higher wealth quantile index the lower proportion is found.

8.3. The Scene

The scene is the location or area where the incident or event causing injury occurs. The scene of injury only informs data of location without clarifying activities being performed by the respondents when he/she gets injured. Information of houses and school includes the surrounding environment (indoor and outdoor). The scope of agriculture covers also plantation and equivalent sectors. Description of the scene at which the injury takes place is presented in Table 8.5.

At nationwide, injuries mostly occur at highways, i.e. 42.8 percent followed by houses (36.5%) and farming areas (6.9%) and schools (5.4%). Province with the highest proportion of injury scene at houses and the surroundings is Lampung (44%) and the lowest in Bengkulu (23%). As to the highest proportion of injury scene at schools it is detected in Central Kalimantan (8.2%) and the lowest in West Sulawesi (2.7%). Highways are the dominant location of injury at nationwide compared to other places. Twenty one (21) provinces record proportion of injury scene at highways exceeding the national rate. The highest proportion is found in Bengkulu (56%) and the lowest in Papua (21.5%). Injuries occurring at public places and industrial venues record smaller proportions than other locations. Meanwhile, the proportion of injury scene at farming areas exceeds the national rate, i.e. 30.4 percent in Papua and the lowest in DKI Jakarta (0.3%).

The illustration of injury scene proportions by respondent characteristics is presented in Table 8.6. By age group, it is indicated that houses record higher proportion of injury scene for age group <5 years and the elderly. Injuries at schools are normally experienced by population at age group 5-14 years. This is also true for injury scene at sport venues. Meanwhile, highways are the scene of injury for productive aged population with the highest proportion in age group 15-24 years at 66.7 percent. Public places, industrial premises and farming area show similar pattern, i.e. injuries at productive age, except in farming areas where the highest proportion of injuries is at age group 65-74 years (21.0%).

By sexes, male population records higher proportion of getting injured in nearly all injury locations than female population, except for injury scene at houses and schools. By education, negative pattern is identified, i.e. the higher education the lower proportion of injury taking place at houses, schools and farming areas. Meanwhile, injury locations at sport venues, highways and public places show positive pattern, i.e. the higher education the higher proportion of injuries.

According to professions, the highest proportion of respondents getting injured is found in unemployed population and in schools and sport venues. For highways, public places and industrial premises, the highest proportion of respondents getting injured in such places is those who have employee status or work as workers/farmers (21.4%).

Table 8.5 Proportion of Injury Scenes by Province, Indonesia 2013

Province	Locations of Injuries							
	Houses	School	Sport	High ways	Public Places	Industrial Premises	Farming Areas	Others
Aceh	30,7	4,9	3,6	47,3	2,0	0,8	9,9	0,8
North Sumatera	39,2	6,2	3,6	38,0	2,2	2,3	7,7	0,7
West Sumatera	31,1	4,9	1,6	48,7	2,5	1,3	9,3	0,5
Riau	36,7	5,6	4,9	41,8	1,7	2,0	6,8	0,5
Jambi	35,1	5,8	3,6	43,4	2,5	1,5	7,1	0,9
South Sumatera	29,0	5,7	2,1	50,6	3,1	1,2	7,8	0,5
Bengkulu	23,0	5,1	1,5	56,0	0,8	1,3	11,9	0,5
Lampung	44,0	6,0	2,6	33,4	1,3	1,5	10,8	0,5
Bangka Belitung	28,2	4,9	4,2	47,7	3,0	3,2	6,8	2,1
Riau Island	32,3	3,0	4,5	49,9	4,4	3,5	1,2	1,1
DKI Jakarta	37,1	7,0	4,2	46,7	3,6	0,5	0,3	0,6
West Java	37,4	4,9	4,2	42,1	2,7	2,6	5,3	0,6
Central Java	36,5	4,3	3,4	43,7	2,0	2,1	7,0	1,0
DI Jogjakarta	37,2	6,0	4,8	43,8	1,9	0,9	5,1	0,3
East Java	36,3	6,0	3,5	42,1	2,3	2,1	6,9	0,9
Banten	40,9	5,5	3,8	42,4	1,8	1,8	3,3	0,6
Bali	34,3	4,0	3,9	44,9	3,1	1,2	8,1	0,6
West Nusa Tenggara	31,5	4,7	3,5	49,8	1,5	0,6	7,4	1,0
East Nusa Tenggara	40,5	7,4	2,1	35,5	0,9	0,4	12,7	0,6
West Kalimantan	34,0	5,7	3,5	43,9	1,9	2,3	7,7	1,0
Central Kalimantan	35,6	8,2	2,4	37,1	2,1	3,5	9,8	1,3
South Kalimantan	35,6	6,0	3,0	43,1	2,1	1,2	7,4	1,6
East Kalimantan	39,3	5,8	4,0	40,2	1,9	2,0	5,1	1,7
North Sulawesi	32,6	3,9	2,6	50,5	1,8	0,8	6,9	0,8
Central Sulawesi	28,8	4,0	3,3	49,8	2,0	1,0	10,3	0,9
South Sulawesi	36,7	5,2	2,6	45,0	1,9	1,0	6,8	1,0
South-east Sulawesi	33,0	6,4	2,7	45,0	2,4	1,1	8,3	1,0
Gorontalo	35,0	3,8	2,2	49,1	3,4	0,8	5,1	0,8
West Sulawesi	37,2	2,7	2,8	43,3	2,7	0,3	9,7	1,2
Maluku	37,5	4,2	3,6	40,7	1,9	0,9	9,7	1,5
North Maluku	30,3	3,7	2,9	43,3	3,0	1,1	15,0	0,7
West Papua	41,9	7,5	2,4	36,9	1,7	1,0	6,5	2,0
Papua	35,8	7,1	2,5	21,5	1,6	0,6	30,4	0,5
Indonesia	36,5	5,4	3,5	42,8	2,3	1,8	6,9	0,8

By residence, urban population records higher proportion of getting injured than those in rural areas except in farming area.

By wealth quantile index, in majority the higher economic status the higher injury proportion will be, unless in houses and farming areas where opposite pattern is identified, i.e. the higher economic status the lower proportion of injuries.

Table 8.6 Proportion of Injury Scenes by Respondent Characteristics, Indonesia 2013

Characteristics	Locations of Injuries							
	Houses	School	Sport	Highways	Public Places	Industrial Premises	Farming Areas	Others
Age Group (year)								
< 1	97,7	0	0,4	1,6	0,1	0	0,2	0
1 – 4	87,0	2,4	1,0	8,0	0,5	0	0,5	0,5
5 – 14	52,9	14,4	4,9	24,2	1,0	0,1	2,1	0,4
15 – 24	15,9	4,6	5,9	66,7	2,2	1,5	2,7	0,6
25 – 34	21,0	1,5	3,3	58,0	3,7	3,8	7,9	0,9
35 – 44	24,9	1,7	1,9	50,5	3,4	3,8	12,3	1,6
45 – 54	29,2	1,6	0,8	44,3	3,4	3,0	16,1	1,5
55 – 64	39,1	1,3	1,0	34,0	2,6	2,0	18,7	1,3
65 – 74	52,2	1,1	1,2	20,5	2,3	0,9	21,0	0,9
75+	74,5	0,9	2,0	10,5	1,7	0,1	9,4	1,0
Sexes								
Males	29,9	5,0	5,0	46,6	2,5	2,6	7,5	1,0
Females	47,1	6,2	1,2	36,7	1,9	0,4	6,0	0,5
Education								
Not Attend School	55,5	5,8	2,4	19,8	1,4	0,7	13,5	0,9
Not Graduate SD/MI	47,5	11,0	3,4	26,9	1,5	0,9	7,9	0,9
Not Graduate SD/MI	29,1	5,6	3,0	45,0	2,3	2,2	11,7	1,2
Not Graduate SMP/MTS	20,3	4,2	4,4	60,3	2,5	2,7	5,0	0,6
Graduate SMA/MA	18,6	2,2	4,9	64,2	3,6	2,8	2,9	0,6
Graduate Diploma/Univ.	19,5	2,3	5,7	64,7	4,4	0,9	1,8	0,7
Profession								
Unemployed	34,4	8,2	5,2	45,6	1,6	0,4	4,0	0,5
Employees	14,9	1,6	4,8	66,3	4,9	4,6	2,1	0,8
Entrepreneurs	21,5	1,7	2,3	61,9	3,8	3,0	5,1	0,9
Farmer/Fishermen/Workers	22,1	1,4	1,4	44,9	2,9	4,1	21,4	1,7
Others	24,0	2,5	4,1	57,7	4,1	2,2	4,4	1,0
Residence								
Urban	36,8	5,5	4,2	45,5	2,9	2,1	2,3	0,7
Rural	36,2	5,4	2,7	39,7	1,5	1,4	12,0	0,9
Wealth Quantile Index								
Lowest	39,4	5,3	2,2	31,2	1,5	1,3	17,5	1,5
Middle-Low	37,5	5,0	2,6	40,1	1,9	1,5	10,5	0,9
Middle	36,8	5,0	3,4	43,7	2,3	2,2	5,8	0,8
Middle-High	35,1	5,7	3,9	47,1	2,7	2,2	2,6	0,7
Highest	34,7	6,2	5,1	47,8	2,6	1,2	1,8	0,4

Bibliographies

International Statistical Classification of Diseases and Related Health Problems. Vol 1. Tenth Revision (ICD-10). World Health Organization. Geneva, 1992. vol 1, p: 891 – 1010.

Laporan Hasil Riset Kesehatan Dasar (Riskesdas) Indonesia tahun 2007. Badan Penelitian dan Pengembangan Kesehatan. Departemen Kesehatan RI. Desember 2008, hal: 160 – 169.

[Basic Health Research / Riskesdas Report of 2007, Health Research and Development Body, the Ministry of Health. December 2008, pp: 160 – 169]

Pedoman Pengisian Kuesioner. Riset Kesehatan Dasar 2007. Badan Penelitian dan Pengembangan Kesehatan. Departemen Kesehatan RI. Jakarta. 2007, hal: 59 – 60.

[Questionnaire Completion Manual. Basic Health Research 2007. Health Research and Development Body, the Ministry of Health. Jakarta 2008, pp: 59 – 60]

Riyadina, W,. Pola dan Determinan Cedera di Indonesia. Laporan hasil analisis lanjut data Riskesdas, Pusat Penelitian dan Pengembangan Biomedis dan Farmasi. Badan Penelitian dan Pengembangan Kesehatan. Departemen Kesehatan RI. Jakarta. 2008.

[Riyadina, W,. Injury Pattern and Determinant in Indonesia. Riskesdas Data Analysis Report, Biomedical and Pharmacy Research and Development Center. Health Research and Development Body, the Ministry of Health. Jakarta 2008]

Sethi D et. al., Guidelines for conducting community surveys on injuries and violence. World Health Organization. Geneva.2004.

Undang-undang nomor 23 tahun 2004 tentang Penghapusan Tindakan Kekerasan dalam Rumah Tangga.

[Law Number 23 of 2004 concerning Domestic Violence Eradication]

CHAPTER 9. DENTAL AND ORAL CARE

Indirawati Tjahja N, Tince Jovina, Sintawati, Magdarina. D. Agtini, CH. Kristanti, Sekartuti, dan Putisari

The first survey on dental health was carried out by National Institute Of Health Research And Development through Household Health Survey Survei (SKRT) in 1986. Thereafter, this kind of survey is conducted on periodic basis, i.e. Household Health Survey (SKRT) 1995, SKRT 2001, SKRT 2004, Basic Health Research (Riskesdas) 2007 and Riskesdas 2013.

Riskesdas 2013 is to collect comprehensive data of dental healthcare including dental health status indicators, dental healthcare service coverage and dental care practice indicators. Data are compiled from interviews or dental and oral examination with total samples reaching 1,027,763 respondents. Interviews have been made to respondents of any age. Questions of dental and oral care habits are proposed to respondents at age group ≥ 10 years. Dental and oral examinations have been made to respondents ≥ 12 years old. The results are then compared to those gathered in Riskesdas 2007 to evaluate the success of various program interventions in dental and oral healthcare for Indonesian people. In table by respondent characteristics, age group classification set by WHO has been added. This addition is important since at age ≥ 12 years, all teeth and incisors until molar 2 have completely grown. This dentogram evaluation is applied for permanent teeth only. Likewise, at age 35-54 years and ≥ 65 years, it is expected that 20 teeth be properly functional. The detailed results can be seen in Book 2: Riskesdas 2013 in Figure, pp. 176 to 196.

9.1. Effective Medical Demand

Effective Medical Demand (EMD) is defined as the percentage of population experiencing dental and oral troubles for the last 12 months x percentage of population receiving dental care or treatment from dental medical personnel (specialist dentists, dentists, dental nurses).

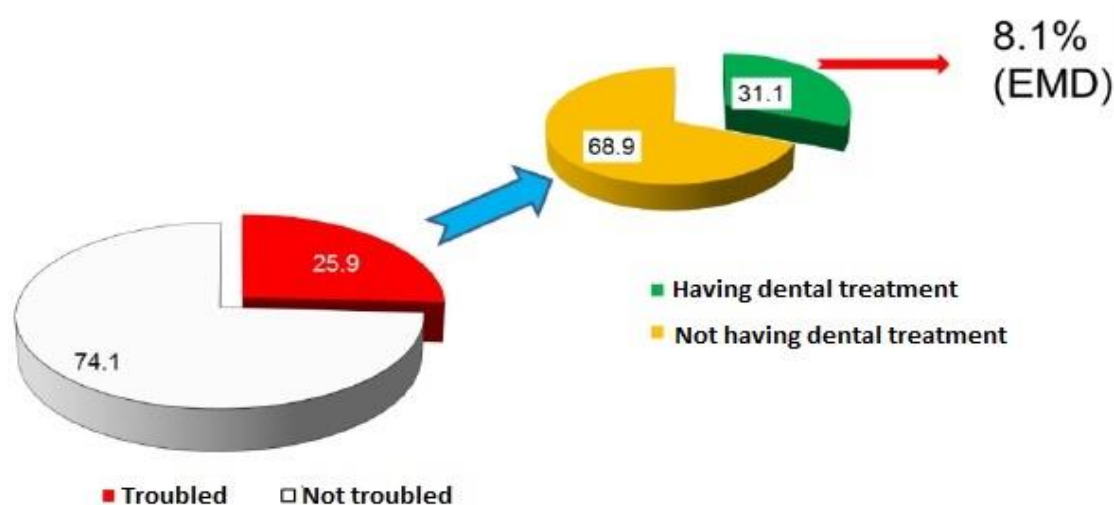


Figure 9.1 Proportion of Population at Any Age Group Experiencing Dental and Oral Troubles and Those Receiving Cares and EMD, Indonesia 2013

Based on the interviewes, it is identified that 25.9 percent of Indonesian people admit of experiencing dental and oral troubles for the last 12 months (potential demand). Of them, 31.1 percent receive cares and treatment from dental medical personnel (dental nurses, dentists or special dentists) with the other 68.9 percent receiving no treatment. In general, service coverage/capacity to access healthcare from dental medical personnel/EMD is just to reach 8.1 percent (see Figure 9.1.).

Table 9.1 Dental and Oral Trouble Prevalence for the Last 12 Months according to Effective Medical Demand by Province, Indonesia 2013

Province	Dental and Oral Troubles (%)	Receive Treatment from Dental Medical personnel	Effective medical Demand (%)
Aceh	30,5	45,9	14,0
North Sumatera	19,4	25,3	4,9
West Sumatera	22,2	35,3	7,8
Riau	16,2	33,2	5,4
Jambi	16,8	36,2	6,1
South Sumatera	19,5	29,3	5,7
Bengkulu	18,4	31,1	5,7
Lampung	15,3	33,2	5,1
Bangka Belitung	23,0	30,3	7,0
Riau Island	23,1	32,5	7,5
DKI Jakarta	29,1	31,2	9,1
West Java	28,0	33,4	9,4
Central Java	25,4	31,0	7,9
DI Jogjakarta	32,1	31,9	10,3
East Java	28,6	30,0	8,6
Banten	23,7	33,1	7,9
Bali	24,0	38,8	9,3
West Nusa Tenggara (NTB)	26,9	34,0	9,2
East Nusa Tenggara (NTT)	27,2	27,0	7,3
West Kalimantan	20,6	28,4	5,9
Central Kalimantan	24,3	21,5	5,2
South Kalimantan	36,1	22,2	8,0
East Kalimantan	24,1	36,4	8,8
North Sulawesi	31,6	25,1	7,9
Central Sulawesi	35,6	18,0	6,4
South Sulawesi	36,2	28,5	10,3
South-east Sulawesi	28,6	31,2	8,9
Gorontalo	30,1	28,1	8,4
West Sulawesi	32,2	24,5	7,9
Maluku	27,2	24,6	6,7
North Maluku	26,9	19,3	5,2
West Papua	20,6	33,4	6,9
Papua	18,6	35,9	6,7
Indonesia	25,9	31,1	8,1

Table 9.1 illustrates the proportion of population going through dental and oral troubles and receiving treatment of dental medical personnel for the last 12 months by province. Three provinces, i.e. South Sulawesi, South Kalimantan and Central Sulawesi have dental and oral prevalence rates relatively high (>35%) with EMD 10.3 percent, 8 percent and 6.4 percent respectively.

Table 9.2 Proportion of Population with Dental and Oral Troubles for the Last 12 Months by Respondent Characteristics, Indonesia 2013

Respondent Characteristics	Dental and Oral Troubles	Receive Treatment from Dental Medical Personnel	Effective medical demand
Age Group			
< 1	1,1	36,9	0,4
1 – 4	10,4	25,8	2,7
5 – 9	28,9	35,1	10,1
10 – 14	25,2	28,3	7,1
15 – 24	24,3	26,2	6,4
25 – 34	28,5	32,5	9,3
35 – 44	30,5	33,8	10,3
45 – 54	31,9	33,4	10,6
55 – 64	28,3	29,5	8,3
65 +	19,2	24,7	4,8
Age Group (WHO)			
12	24,8	28,4	7,0
15	23,1	25,7	5,9
18	24,0	24,8	5,9
35-44	30,5	33,8	10,3
45-54	31,9	33,4	10,6
55-64	28,3	29,5	8,3
≥ 65	19,2	24,7	4,8
Sexes			
Male	24,8	28,6	7,1
Female	27,1	33,4	9,1
Education			
Not Attending School	27,0	28,9	7,8
Not Graduate SD	29,2	30,2	8,8
Graduate SD	28,6	28,6	8,2
Graduate SLTP	26,9	30,5	8,2
Graduate SLTA	26,4	34,4	9,1
Graduate University	24,8	45,7	11,3
Professions			
Unemployed	26,5	31,3	8,3
Employees	26,1	37,5	9,8
Enterprenurs	28,4	32,2	9,1
Farmers/Fishermen/Worker	29,2	26,6	7,8
Others	30,3	29,2	8,8
Residence			
Urban	26,0	33,1	8,6
Rural	25,9	29,1	7,5
Wealth Quantile Index			
Lowest	27,1	22,7	6,2
Middle-Low	27,2	27,8	7,6
Middle	26,4	30,9	8,1
Middle - High	26,3	33,3	8,8
Highest	23,0	39,0	9,0

Table 9.2 indicates the proportion of population with dental and oral troubles (potential demand) by respondent characteristics. The highest proportion is found at productive age 35 – 44 years at 30.5 percent and 45-54 years at 31.9 percent. As to EMD, the proportions in such productive age groups are 10.3 percent and 10.6 percent respectively. EMD proportion in male population (9.1%)

is higher than female proportion (7.1%). There is an upward trend for EMD proportion at higher education level (11.3%). By professions, employees record the highest EMD (9.8%). By residence, those who live in the cities have higher EMD (8.6%) than those in villages (7.5%) and this proportion will further increase at higher wealth quantile index.

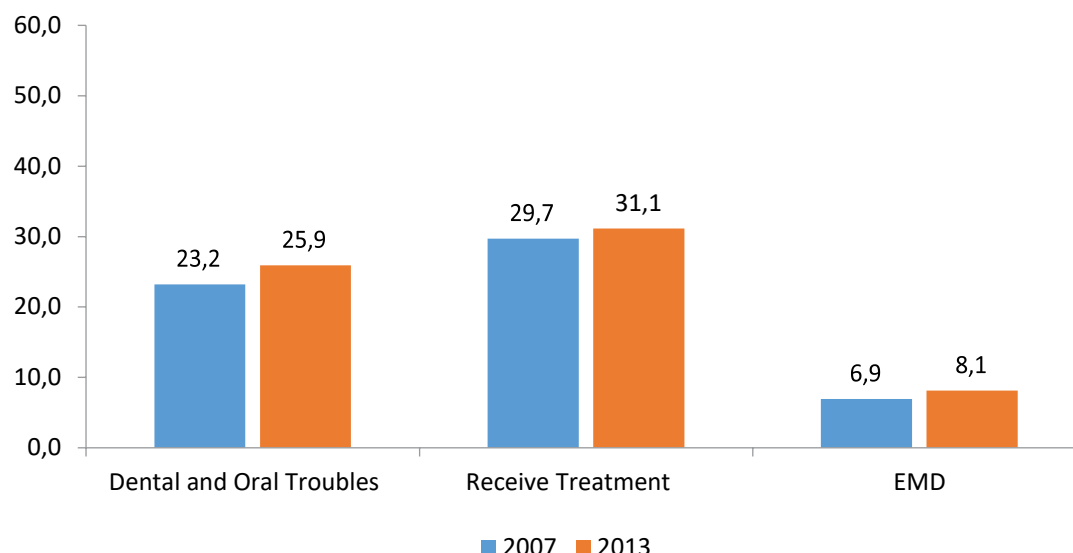


Figure 9.2 The Trends of Population with Dental and Oral Troubles, Those Who Receive Treatment from Healthcare Professionals and EMD in Riskesdas 2007 and 2013

Table 9.3 shows the proportion of population who see dentists by province. The highest proportion of population taking dental care to specialist dentists is found in DI Yogyakarta (16.4%). More respondents are identified to see dentists in big cities of DKI Jakarta (76.3%) and Banten (61.5%). The least use of dentist services is found in West Kalimantan (19.5%). As to dental nurses, their services are mainly maximized in West Kalimantan (51.2%) and the lowest in DKI Jakarta (5.8%).

The proportion of population taking dental care by dentist medical personnel and respondent characteristics can be found in Riskesdas 2013 in Figures.

Table 9.3 Proportion of Population Taking Dentist Services by Dental Medical Personnel by Province, Indonesia 2013

Province	Specialist Dentist	Dentist	Dental Nurses	Other Paramedic	Toothsmith	Others
Aceh	3,1	25,0	34,4	38,2	1,7	8,9
North Sumatera	4,4	42,6	9,6	41,9	2,4	5,4
West Sumatera	3,6	42,1	12,8	35,1	1,7	10,2
Riau	3,2	49,3	9,1	34,0	2,7	6,6
Jambi	2,0	38,6	33,2	24,3	3,7	6,0
South Sumatera	4,7	32,3	24,7	34,8	0,9	10,4
Bengkulu	4,5	27,5	9,7	50,9	0,9	11,5
Lampung	2,3	25,0	28,6	40,4	0,6	7,9
Bangka Belitung	3,6	49,0	24,9	25,6	2,6	3,9
Riau Island	4,0	58,9	8,4	22,7	4,8	4,3
DKI Jakarta	11,4	76,3	5,8	5,0	1,6	4,9
West Java	5,3	49,0	21,9	21,2	1,0	7,5
Central Java	5,8	42,7	17,6	28,5	1,3	10,0
DI Jogjakarta	16,4	60,3	7,4	15,3	1,3	5,4
East Java	6,0	50,7	12,4	25,2	1,5	8,1
Banten	5,5	61,5	11,0	18,3	0,4	10,1
Bali	6,1	59,1	12,8	17,6	0,5	9,8
West Nusa Tenggara	2,2	33,9	36,1	29,3	2,4	4,8
East Nusa Tenggara	1,5	27,4	39,7	34,4	1,1	2,9
West Kalimantan	1,6	19,5	51,2	29,2	1,9	1,1
Central Kalimantan	3,6	28,0	28,6	35,9	2,2	7,9
South Kalimantan	4,8	33,7	30,8	24,8	2,0	12,1
East Kalimantan	7,0	60,6	17,5	17,6	2,2	3,3
North Sulawesi	7,3	33,3	35,1	26,5	1,3	3,6
Central Sulawesi	5,5	33,1	18,6	35,0	7,9	4,9
South Sulawesi	4,6	52,4	25,2	19,5	5,4	2,8
South-east Sulawesi	1,4	38,0	25,3	32,2	7,2	3,3
Gorontalo	5,7	34,8	28,8	33,1	0,8	1,8
West Sulawesi	1,7	39,6	15,6	35,2	7,6	7,4
Maluku	4,8	28,0	15,0	44,3	3,7	6,1
North Maluku	5,0	44,2	10,4	30,4	10,4	3,8
West Papua	1,6	40,7	33,0	30,5	1,6	0,4
Papua	3,3	36,0	19,4	49,5	1,4	4,0
Indonesia	5,4	46,6	19,2	25,8	1,8	7,3

9.2. Toothbrushing Habits of Population ≥ 10 Years Old

We must maintain our dental and oral health with proper toothbrushing technique to prevent dental caries. The questions relating to toothbrushing practices in this Riskesdas 2013 aim to identify the toothbrushing habits and timing. Samples for age group ≥10 years old reach 835,256 respondents. Proper toothbrushing practices are defined as habits of brushing the teeth after breakfast and before going to bed everyday. Table 9.4 shows that out of population ≥10 years old 93.8% brush their teeth everyday. The highest proportion is DKI Jakarta (98.1%) and the lowest in Papua (49.6%). The majority of population also admits that they clean the teeth when taking bath in the afternoon, i.e. 79.7% on average with the highest rate in Bengkulu at 94.2 percent and the lowest in South Sulawesi 43.2 percent. In general, people clean their teeth everyday when taking baths in the morning and afternoon. This incorrect practice is relatively high in nearly age groups. Proper toothbrushing practices are only applied by 2.3 percent of population. Province with the highest proportion of proper toothbrushing practices is that of West Sulawesi at 8.0 percent.

Table 9.5 illustrates the proportion of population ≥ 10 years who brush the teeth everyday in proper manner by respondent characteristics. By residence, more respondents in urban areas apply proper toothbrushing technique than those in rural areas. By sexes, male population record less proportion of proper toothbrushing practices than the females. The higher education and wealth wealth quantile index, the better toothbrushing habits will be. By professions, employees record the highest proportion in proper toothbrushing.

Province	Toothbrushing Timing								Proper Toothbrushing
	Everyday	Morning Bath	Afternoon Bath	After Breakfast	After Waking Up	Before Going to Bed	After Lunch	Morning and Afternoon Baths	
Aceh	89,9	91,9	75,1	4,1	10,1	29,7	5,8	71,7	2,2
North Sumatera	94,4	94,5	83,5	2,6	4,2	17,2	3,0	79,1	1,2
West Sumatera	93,7	94,3	73,5	2,5	7,9	21,6	2,7	70,8	1,4
Riau	95,6	97,0	84,1	3,5	9,0	24,1	3,9	82,5	2,3
Jambi	95,7	95,8	88,6	4,5	3,9	17,8	3,1	86,8	3,2
South Sumatera	96,0	97,9	88,6	3,5	4,2	18,8	5,3	87,7	2,2
Bengkulu	96,0	99,1	94,2	3,8	3,9	12,7	2,8	93,7	1,9
Lampung	96,1	99,1	95,3	1,2	1,3	8,5	1,9	94,7	0,4
Bangka Belitung	91,7	94,4	78,6	4,9	6,4	39,9	9,0	76,7	3,6
Riau Island	94,6	95,4	68,6	3,4	6,4	38,6	6,0	67,1	1,9
DKI Jakarta	98,1	94,7	73,5	4,9	5,2	43,4	5,5	71,4	3,5
West Java	97,0	95,9	81,4	3,2	6,1	29,5	7,5	79,6	1,8
Central Java	94,6	93,0	86,0	2,9	7,2	21,2	4,5	82,3	1,7
DI Jogjakarta	93,6	88,6	77,4	5,2	10,6	34,8	6,6	72,7	3,4
East Java	93,5	95,2	84,0	2,8	5,1	22,6	9,2	81,4	1,5
Banten	97,1	96,9	84,2	2,4	4,1	29,1	5,0	82,8	1,5
Bali	91,8	86,8	69,5	5,7	6,9	33,7	4,0	64,0	4,1
West Nusa Tenggara	93,8	95,7	74,7	5,2	4,6	28,4	6,6	73,1	2,5
East Nusa Tenggara	74,7	80,7	57,1	9,2	17,0	17,3	3,0	51,8	4,8
West Kalimantan	94,1	93,2	65,9	4,8	8,0	38,9	5,7	64,4	3,5
Central Kalimantan	95,5	92,7	81,3	4,8	8,0	25,0	6,7	78,5	2,9
South Kalimantan	94,7	89,6	64,0	6,7	9,1	43,0	11,8	61,1	5,0
East Kalimantan	96,4	95,5	83,1	4,7	8,3	33,8	4,7	81,4	3,2
North Sulawesi	95,3	83,6	70,0	5,0	19,7	32,4	6,3	62,0	3,3
Central Sulawesi	90,1	89,4	74,4	7,5	12,0	33,6	8,2	68,7	4,0
South Sulawesi	89,4	89,3	43,2	7,9	7,6	58,0	9,8	40,5	5,6
South-east Sulawesi	91,4	90,6	61,2	10,0	8,0	47,6	8,1	58,5	6,6
Gorontalo	96,1	93,4	80,9	8,7	15,8	39,5	9,8	78,6	6,0
West Sulawesi	90,1	89,3	58,9	11,3	9,0	43,9	8,6	55,4	8,0
Maluku	92,4	91,5	78,1	7,5	16,7	27,9	7,4	73,4	4,2
North Maluku	88,0	89,7	72,0	5,7	13,5	25,3	7,8	66,1	2,8
West Papua	90,7	93,5	72,7	4,6	7,0	28,8	3,6	69,9	2,7
Papua	49,6	93,6	60,0	5,8	7,2	26,4	4,8	57,6	3,4
Indonesia	93,8	94,2	79,7	3,8	6,5	27,3	6,2	77,1	2,3

Table 9.5 Percentage of Population ≥10 Years Old Who Brush Their Teeth Everyday with Proper Toothbrushing Techniques by Respondent Characteristics, Indonesia 2013

Characteristics	Everyday		Timing for Toothbrushing					Proper Toothbrushing
	Mornin g Bath	Afternoon Bath	After Breakfrast	After Waking Up	Before Going to Bed	After Lunch	Morning and Afternoon Baths	
Age Group (year)								
10 – 14	95,7	79,6	3,2	4,3	22,4	4,3	78,1	1,7
15 – 24	97,8	80,4	4,1	6,6	32,3	6,1	78,2	2,6
25 – 34	97,2	79,7	4,0	6,9	30,6	6,1	77,2	2,5
35 – 44	96,6	80,0	3,7	7,0	27,9	6,7	77,1	2,3
45 – 54	94,4	80,2	3,7	7,1	24,6	7,1	77,0	2,3
55 – 64	87,2	78,5	3,7	6,9	20,8	7,3	74,9	2,0
65 +	62,8	76,0	3,8	6,8	16,9	7,1	72,0	1,9
Age Group (year)								
12	95,7	78,7	3,4	4,3	23,1	4,3	77,4	1,8
15	97,4	81,5	3,7	5,4	29,5	5,4	79,6	2,2
18	97,8	80,9	4,3	6,4	32,7	6,5	78,9	2,6
35-44	96,6	80,0	3,7	7,0	27,9	6,7	77,1	2,3
45-64	94,4	80,2	3,7	7,1	24,6	7,1	77,0	2,3
55-64	87,2	78,5	3,7	6,9	20,8	7,3	74,9	2,0
≥65	62,8	76,0	3,8	6,8	16,9	7,1	72,0	1,9
Sexes								
Males	93,4	78,8	3,6	5,7	23,6	5,4	76,0	2,0
Females	94,2	80,7	3,9	7,3	30,9	7,1	78,2	2,5
Education								
Not Attending School	73,8	77,6	3,3	6,2	15,9	7,4	73,9	1,4
Not Graduate SD	89,4	79,5	3,1	5,8	19,1	6,4	76,4	1,5
Graduate SD	93,8	82,0	3,1	6,2	20,5	6,6	79,1	1,6
Graduate SLTP	97,3	81,2	3,6	6,5	27,3	5,9	78,7	2,1
Graduate SLTA	98,2	77,6	4,5	7,0	36,9	5,6	75,6	3,0
Graduate University	99,7	73,2	7,8	8,7	53,8	6,8	71,9	6,2
Profession								
Unemployed	93,8	79,7	3,8	6,5	29,0	6,2	77,7	2,3
Employees	98,4	76,5	5,3	6,6	41,5	6,2	75,0	3,9
Enterprenurs	97,1	79,9	3,6	7,0	28,4	6,1	77,5	2,2
Farmers/Fishermen/Workers	90,3	81,5	2,9	6,2	16,1	6,3	77,2	1,3
Others	95,1	77,8	4,5	7,8	30,3	7,2	76,1	2,8
Residence								
Urban	96,2	78,5	4,1	6,5	34,3	6,2	76,5	2,7
Rural	91,4	81,1	3,5	6,6	19,7	6,3	77,8	1,9
Wealth Quantile Index								
Lowest	83,4	78,6	3,4	6,3	15,0	7,0	74,5	1,5
Middle - Low	92,6	81,2	3,2	6,5	19,0	6,7	77,7	1,6
Middle	95,1	81,4	3,4	6,3	23,7	6,1	78,6	1,9
Middle - High	96,8	79,6	3,6	6,2	31,2	6,0	77,6	2,2
Highest	97,4	77,6	5,1	7,3	41,0	5,8	76,0	3,8

9.3. DMF-T Index and D-T, M-T, F-T Components

Samples for population ≥ 12 tahun reach 789,771 respondents. (X) is to express the average of D, average of M, average of F and average of DF. DMF-T index is the total of D-, M-T and F-T components, which indicate the number of tooth decay experienced by someone that may consist of Decay (D) (number of permanent teeth suffering caries and not yet treated or filled), Missing (M) (number of permanent teeth removed or consisting of tooth root) and Filling (F) is number of teeth filled. DMF-T Index illustrates the severity of damage to permanent teeth.

Table 9.6 D, M, F Components, and DMF-T Index by Province, Indonesia 2013

Province	D - T	M - T	F - T	DF - T	DMF - T
Aceh	1,4	2,6	0,08	0,02	4,0
North Sumatera	1,3	2,3	0,05	0,02	3,6
West Sumatera	1,7	3,1	0,06	0,03	4,7
Riau	1,6	2,3	0,12	0,03	4,0
Jambi	2,3	3,1	0,04	0,01	5,5
South Sumatera	1,9	3,3	0,09	0,03	5,3
Bengkulu	1,3	2,0	0,09	0,03	3,3
Lampung	2,1	2,3	0,07	0,02	4,5
Bangka Belitung	3,0	5,5	0,05	0,01	8,5
Riau Island	1,6	3,2	0,11	0,03	4,9
DKI Jakarta	1,1	2,5	0,32	0,08	3,8
West Java	1,6	2,5	0,08	0,02	4,1
Central Java	1,4	2,9	0,05	0,01	4,3
DI Jogjakarta	1,3	4,5	0,13	0,02	5,9
East Java	1,6	3,8	0,08	0,03	5,5
Ranten	1,6	2,0	0,09	0,02	3,7

Table 9.7 D, M, F Components and DMF-T Index by Respondent Characteristics, Indonesia 2013

Characteristics	D – T $\bar{x}$	M – T $\bar{x}$	F – T $\bar{x}$	DF-T $\bar{x}$	DMF – T $\bar{x}$
Age Group (WHO)					
12	1,02	0,34	0,04	0,02	1,4
15	1,07	0,34	0,05	0,01	1,5
18	1,14	0,45	0,07	0,03	1,6
35 – 44	2,00	3,35	0,11	0,03	5,4
45 – 54	2,13	5,65	0,14	0,04	7,9
55 – 64	2,15	10,13	0,09	0,03	12,3
65 +	1,84	17,05	0,06	0,02	18,9
Age Group (year)					
12-14	1,02	0,33	0,04	0,01	1,4
15-24	1,22	0,51	0,06	0,02	1,8
25-34	1,78	1,91	0,11	0,03	3,8
35-44	2,00	3,35	0,11	0,03	5,4
45-54	2,13	5,65	0,14	0,04	7,9
55-64	2,15	10,13	0,09	0,03	12,3
≥ 65	1,84	17,05	0,06	0,02	18,9
Sexes					
Males	1,58	2,49	0,07	0,02	4,1
Females	1,59	3,30	0,10	0,03	4,9
Education					
Not Attending School	2,10	8,51	0,04	0,02	10,6
Not Graduate SD	1,70	4,19	0,04	0,01	5,9
Graduate SD	1,64	3,00	0,05	0,02	4,7
Graduate SLTP	1,45	1,70	0,07	0,02	3,2
Graduate SLTA	1,49	2,18	0,15	0,03	3,8
Graduate University	1,39	2,36	0,38	0,05	4,1
Profession					
Unemployed	1,35	2,31	0,07	0,02	3,7
Employees	1,60	2,23	0,22	0,04	4,0
Enterprenurs	1,80	3,61	0,13	0,03	5,5
Farmers/Fishermen/WOr	2,07	4,30	0,05	0,02	6,4
Others	1,78	3,64	0,07	0,02	5,5
Residence					
Urban	1,46	2,76	0,12	0,03	4,3
Rural	1,71	3,06	0,05	0,02	4,8
Wealth Quantile Index					
Lowest	1,84	3,23	0,03	0,02	5,1
Middle - Low	1,65	3,21	0,04	0,01	4,9
Middle	1,63	3,10	0,05	0,02	4,8
Middle - High	1,50	2,70	0,10	0,02	4,3
Highest	1,36	2,41	0,19	0,04	3,9

Table 9.7 shoes DMF-T index by respondent characteristics. DMF-T index is to rise in line with the increasing age, i.e. 1.4 at age group 12 years and 1.5 at age 15 years, and 1.6 at age 18 years. Accordingly at age 34-44 years, age 45-54 years, age 55-63 years and age ≥ 65 years, this index will increase. However, from wealth quantile index, the higher wealth quantile index the lower DMF-T index will be. This is particularly true at the lowest wealth quantile index where DMF-T value is 5.1 meanwhile for the highest wealth quantile index, DMF-T value is lower, i.e. 3.9.

Bibliographies

Depkes RI. Badan Penelitian & pengembangan 1997. Statistik Kesehatan Gigi 1995. Seri SKRT 1995. Seri Survei Kesehatan Rumah tangga no 13.

[Ministry of Health, Research & Development Body 1997. Dental Health Statistics 1995, Serie SKRT 1995. Household Health Survey Series No. 13]

Depkes RI. Badan Penelitian & pengembangan 1997. Status Kesehatan Gigi 1995. Seri SKRT 1995. Seri Survei Kesehatan Rumah Tangga no 7.

[Ministry of Health, Research & Development Body 1997. Dental Health Statistics 1995, Serie SKRT 1995. Household Health Survey Series No. 7]

Depkes RI. Badan Penelitian dan Pengembangan Kesehatan 2002. Status Kesehatan Gigi dan Mulut di Indonesia 2001. Analisis Data Survei kesehatan Rumah Tangga . Jakarta 2001.

[Ministry of Health, Research & Development Body 2002. Dental and Oral Health Status in Indonesia 2001. Household Health Survey Data Analysis. Jakarta 2001]

Depkes RI. Hasil Riskesdas Indonesia 2007. Jakarta 2008.

Depkes

[Ministry of Health. Riskesdas Indonesia 2007. Jakarta 2008. Ministry of Health]

RI. Profil Kesehatan Gigi dan mulut. Jakarta 1999

[Dental and Oral Health Profile, Jakarta 1999]

Kristanti Ch M Dkk. Pemetaan Status Kesehatan Gigi dan Mulut di Indonesia. Jakarta 2012.

[Kristanti Ch M et al. Dental and Oral Health Status Mapping in Indonesia, Jakarta 2012]

Kristanti, Ch M, Budiarto, Ratna. Persepsi dan Motivasi Masyarakat Untuk berobat Gigi, Survei Kesehatan Rumah Tangga. Jakarta , Prosiding Seminar SKRT 1986.

[Kristanti, Ch M. Budiarto, Ratna. Public Perception and Motivation To See Dentists. Household Health Survey, Jakarta. Proceeding Seminar SKRT 1986]

WHO, 1995. Oral Health Care, Needs of the Community. A. Public Health Report.

CHAPTER 10. DISABILITY STATUS

Betty Roosierhermatie, Siti Isfandari, Julianti Pradono, Sri Prihatini

Discussion on disability aims to get full comprehension on the life experience of population based on their health conditions including diseases or injuries. Every individual plays his/her unique roles such as to work and perform routine activities as necessary. Questionnaires on disability have been developed by WHO to collect information of to what extent an individual can fulfill his/her roles at home, work place, school or other social area and what he/she can't do or difficult to do in day-to-day activities (WHO 2010). Information on the magnitude of disability problems can be used to set priorities and evaluate the effectiveness and performance of health programs.

Instrument to collect disability data in this Riskesdas 2013 has been adapted from WHODAS 2 as the operationalization of International Classification of Functioning (ICF), which consist of 12 statements/components to gather information regarding the disability status of an individual. This instrument can be used by non-medical enumerators. Respondents for this disability topic are population at age group ≥ 15 years old. The data collected include the existence of disability conditions in one month before the survey. There are five answer options for respondent, to wit: (1) No Difficulty; (2) Mild Difficulty; (3) Moderate Difficulty; (4) Severe Difficulty, and (5) Extreme Difficulty/Cannot do. Respondents who give answers 2, 3, 4 or 5 are then asked how long (in days) they suffer such difficulties. It is differentiated into the number of days they totally cannot perform routine activities and number of days they can perform the routine activities *albeit* not optimal. More detailed results of Disability Status Block can be seen in Book 2: Riskesdas 2013 in Figures, pp. 197 to 199.

Table 10.1 Proportion of Population Experiencing Difficulty by Disability Component, Indonesia 2013

	No Difficulty	Mild	Moderate	Severe	Extreme Difficulty
1. Standing for Long Period such as 30 minutes?	88,9	5,3	3,1	2,2	0,5
2. Taking care of your household responsibilities	90,1	5,3	2,8	1,5	0,4
3. Learning a new task, for example, learning how to get a new place, new game, new recipe	90,4	4,9	2,6	1,6	0,4
4. How much a problem do you in joining in community activities (for example, festivities, religious or other activities) in the same way as any one else can?	91,3	4,8	2,2	1,2	0,4
5. How much have you been affected emotionally by your health problems	90,1	5,5	3,0	1,1	0,3
6. Concentrating on doing something in 10 minutes?	90,9	5,1	2,5	1,1	0,3
7. Walking a long distance, such as a kilometer?	88,5	4,6	2,9	2,9	1,0
8. Washing your whole body?	94,1	4,1	1,1	0,5	0,2
9. Getting dressed?	94,5	3,9	1,0	0,4	0,2
10. Dealing with people you don't know?	92,9	4,6	1,7	0,6	0,2
11. Maintaining a friendship?	93,3	4,5	1,5	0,5	0,2
12. Your day-to-day works?	91,9	4,7	1,9	1,0	0,4

Table 10.1 shows that difficulty of walking a long distance is experienced by 12 per 100 persons in Indonesia including 6.8 percent who encounter this difficulty at moderate and extreme level, followed by difficulty of standing for 30 minutes. Difficulty of washing whole body is faced by nearly 6 percent of population including 1.8 percent who suffer this difficulty at moderate to extreme/cannot do level unless with help.

Table 10.2 WHODAS 2 Scoring Percentile

Score	Indonesia Population Percentile	WHODAS2 Percentile
0,0	83,3	50,0
2,8	85,0	63,2
5,6	86,8	73,3
8,3	88,2	78,1
11,1	89,3	82,0
13,9	90,2	86,5
16,7	91,0	89,6
19,4	91,7	92,4
22,2	92,3	93,0
25,0	92,9	93,8
27,8	93,5	94,7
30,6	94,0	94,9
41,7	97,2	97,2
58,3	98,9	99,7
100,0	100,0	100,0

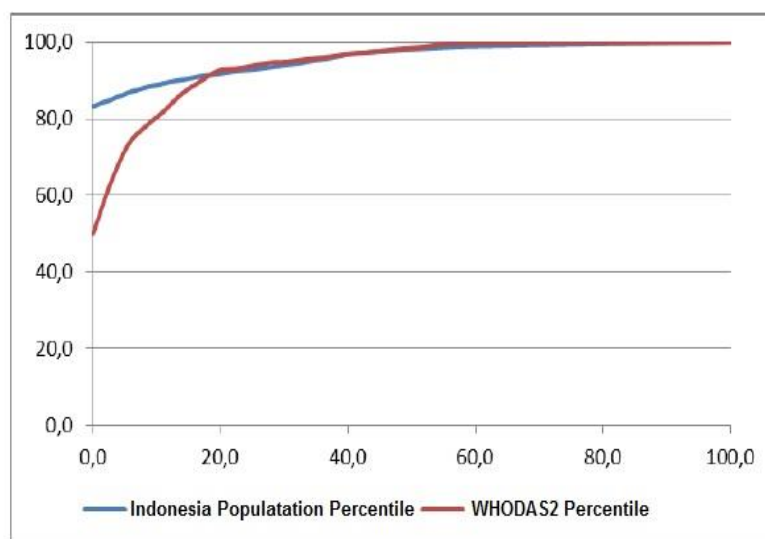


Figure 10.1 Disability Scoring Percentile

Table 10.2 and Figure 10.1 indicate that 83 percent of Indonesian people face no difficulty in performing their routine activities for the last 1 month before the survey. WHODAS2 Report, from surveys conducted in several countries, conclude that 50 percent of respondents encounter no difficulty in running their day-to-day activities.

Percentile for Indonesian population and percentile as reported by WHO indicate consistency with regard to higher disability, i.e. score 19.4 implying that 8.3 percent of Indonesian people and 7.6 percent of population based on WHO report experience disability at score 19.4 or higher. It can be interpreted that the consistency of Indonesian people proportion and population under WHO report starts to stable at disability level with score 19.4.

The proportion of Indonesian people with mild disability (score <19.4) reaches 8.4 percent. Meanwhile, WHO 2010 reported 42.4 percent of population suffered mild disability. Another interpretation of the above table and figure is that Indonesian people disregard minor disability as a factor that will hamper their day-to-day activities.

Table 10.3 Prevalence Trend of Population by Disability Components, Riskesdas 2007 and 2013

No	Componen	2007	2013
1.	Getting Dressed	2.5	1.6
2.	Washing whole body	2.8	1.8
3.	Maintaining a frienship	5.4	2.2
4.	Dealing with people you don't know	6.6	2.5
5.	Your day-to-day works	5.2	3.3
6.	Problems in joining in community activities	8.2	3.9
7.	Concentrating on doing something for 10 minutes	9.2	3.9
8.	How much you have been affected by your health problem	6.9	4.4
9.	Taking care of your household responsibilities	6.8	4.6
10.	Standing for a long period	8.8	5.8
11.	Walking a long distance	11.6	6.8

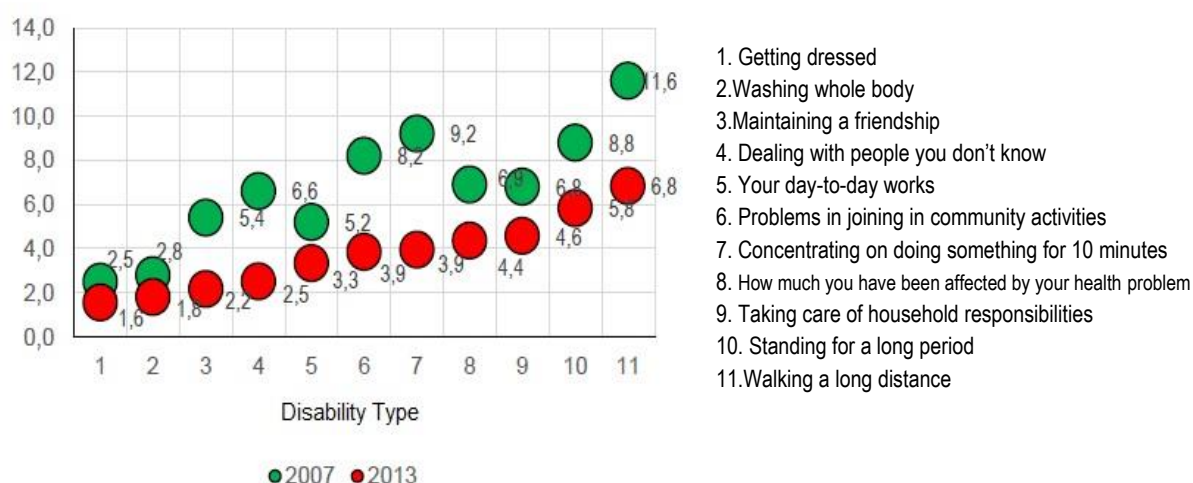


Figure 10.2 Prevalence Trends by Disability Components, Riskesdas 2007 and 2013

Disability measurement in 2013 uses instrument adapted from WHODAS 2. For 2007 instrument adapted from Washington Group (WG) was applied. These two instruments have 11 components which are identical, so that their prevalence in 2007 and 2013 can be compared. Prevalence disparities of 11 components in 2007 and 2013 are presented in Table 10.3 and Figure 10.2. Minor disparities are found in components “getting dressed” and “washing whole body. The highest disparities are found in component “problems in joining in community activities”, concentrating”, standing for a long period” and “walking a long distance”

Table 10.4 and Table 10.5 shows disability prevalence, average scores, average lost productive days and total lost days by province and respondent characteristics. Prevalence of Indonesian people with disability of moderate difficulty to extreme difficulty is 11 percent varying from the highest in South Sulawesi (23.8%) and the lowest in West Papua (4.6%). Average score is acquired from WHODAS 2 scoring system with maximum average score 100. The higher average score the more difficult disability will be. Average score for Indonesian people is 25.24. The highest average score is detected in Gorontalo (31.85) with the lowest in DI Yogyakarta (17.05) and DKI Jakarta (17.92). Average lost productive days are the number of days during which an individual can't function optimally in a month because of disability. Indonesian people fail to function in optimal manner for 6.7 days on average. The highest average lost productive days are in Bali (10.1 days) and the lowest in Papua and North Maluku (at 4.8 days respectively).

Table 10.4 Disability Indicators by Province, Indonesia 2013

Province	Prevalence	Avg Score	Avg. Lost Productive Days		
			Total	Incapable	Still Capable
Aceh	12,7	28,16	6,0	2,3	3,8
North Sumatera	9,3	25,71	6,8	1,8	5,0
West Sumatera	13,1	30,18	7,4	1,8	5,6
Riau	8,5	27,32	5,3	1,2	4,0
Jambi	5,8	25,96	5,5	1,8	3,7
South Sumatera	8,1	27,76	5,0	1,8	3,1
Bengkulu	6,0	30,24	6,9	1,9	5,1
Lampung	5,0	27,71	7,5	2,5	5,0
Bangka Belitung	10,1	23,15	6,5	1,8	4,7
Riau Island	6,7	23,55	7,1	1,3	5,8
DKI Jakarta	8,0	17,92	6,1	1,4	4,7
West Java	12,7	22,88	5,5	1,5	4,0
Central Java	10,3	26,94	8,2	1,9	6,4
DI Jogjakarta	11,5	17,05	8,4	1,0	7,5
East Java	11,6	24,27	8,2	1,9	6,3
Banten	5,1	22,95	5,1	1,6	3,5
Bali	10,6	25,08	10,1	1,5	8,6
West Nusa Tenggara (NTB)	15,9	30,29	5,8	1,9	4,0
East Nusa Tenggara (NTT)	19,2	28,01	6,6	2,2	4,4
West Kalimantan	6,4	23,17	6,5	1,6	4,8
Central Kalimantan	7,7	27,08	6,0	1,8	4,2
South Kalimantan	14,4	24,58	6,3	1,5	4,9
East Kalimantan	7,5	27,30	5,4	2,2	3,3
North Sulawesi	10,0	29,01	7,4	2,6	4,7
Central Sulawesi	19,6	27,56	6,1	1,8	4,4
South Sulawesi	23,8	29,01	5,8	1,5	4,3
South-east Sulawesi	12,9	29,16	5,0	2,2	2,8
Gorontalo	17,6	31,85	5,5	1,9	3,6
West Sulawesi	13,4	25,74	7,4	1,5	6,0
Maluku	8,4	26,12	6,4	2,7	3,7
North Maluku	11,3	24,98	4,8	2,1	2,7
West Papua	4,6	22,48	5,8	2,1	3,6
Papua	7,0	22,41	4,8	2,1	2,7
Indonesia	11,0	25,24	6,7	1,7	4,9

West Papua is the province with the lowest average lost productive days since the local people have the lowest difficulty due to small population and prevalence in this province.

Population at age group ≥ 75 years is the most vulnerable with the highest disability indicator. More lost productive days in age group 65-74 years may be due to higher proportion of population in this age group than those in ≥ 75 years. Females are more vulnerable for disability than male population. The same phenomenon is also found in population groups who never attending schools and at the lowest quantile index. Compared to urban population, villagers have higher prevalence, average scores and lost productive days as well as total lost productive days. Despite the lowest prevalence, the exceeding lost productive days at unemployed population group is from the high average lost productive days.

Table 10.5 Disability Indicators by Respondent Characteristics, Indonesia 2013

Characteristics	Prevalence	Avg. Score	Avg Lost Productive Days		
			Total	Incapable	Still Capable
Age group					
15-24 years old	6,2	21,1	4,3	1,2	3,2
25-34 years old	7,1	20,9	4,5	1,2	3,3
35-44 years old	7,9	20,9	4,8	1,2	3,6
45-54 years old	10,9	22,2	5,9	1,4	4,4
55-64 years old	18,6	25,8	7,5	1,9	5,6
65-74 years old	34,6	33,0	10,3	2,6	7,7
75+ years old	55,9	43,4	13,8	3,9	9,9
Sexes					
Male	9,2	25,1	6,5	1,8	4,7
Female	12,8	25,4	6,8	1,7	5,1
Education					
Not Attending School	29,8	29,2	10,8	2,8	7,9
Not Graduate SD	18,0	18,3	8,0	2,1	5,9
Graduate SD	11,7	19,9	6,6	1,8	4,9
Graduate SLTP	7,6	23,0	5,0	1,3	3,7
Graduate SLTA	7,0	21,6	4,6	1,2	3,5
Graduate D1-D3/Univ.	6,4	35,7	4,8	1,2	3,6
Professions					
Unemployed	14,4	29,2	8,2	2,3	5,9
Employees	6,0	18,34	4,0	0,9	3,1
Entrepreneurs	8,0	19,9	5,1	1,1	4,1
Farmers/Fishermen/Workers	10,2	23,0	5,6	1,4	4,3
Others	9,2	21,64	5,1	1,2	4,0
Residence					
Urban	10,8	23,5	6,3	1,6	4,7
Rural	11,2	27,1	7,1	1,9	5,2
Wealth Quantile Index					
Lowest	15,2	28,9	7,3	2,1	5,2
Middle - Low	12,8	27,4	7,6	2,0	5,6
Middle	10,8	24,5	6,8	1,7	5,0
Middle - High	9,6	22,6	6,1	1,5	4,6
Highest	8,3	22,9	5,6	1,5	4,1

Bibliographies

Departemen Kesehatan Republik Indonesia. Laporan Hasil Riset Kesehatan Dasar Indonesia (Riskesdas). 2007

[Ministry of Health, Basic Health Research (Riskesdas) Report. 2007]

World Health Organization. 2000. WHO Disability Assessment Schedule 2.0 WHODAS 2.0 <http://www.who.int/classifications/icf/whodasii/en/>

CHAPTER 11. MENTAL HEALTH

Sri Idaiani, Indri Yunita, Sri Prihatini, and Lely Indrawati

Mental health indicators assessed in Riskesdas 2013 include severe mental disorder, emotional mental disorder and the treatment. Severe mental disorder is a mental health problem which is indicated with poor capacity in assessing the reality and insight. The symptoms accompanying this disorder include hallucination, illusion, thinking process disorder, faulty perception, and abnormal behaviors such as aggressivity or catatonic. This severe mental disorder is also known as psychosis, which includes schizophrenia.

Severe mental disorder can cause burdens to the Government, families and the communities since the productivity of patient will drop and in turn incur enormous financial burdens to the patient and family. From the Government perspective, this disorder will require health service budget in huge amounts. To date, *pemasungan* (practice of chaining the patient to wood logs) remains adopted as a method in dealing with insane patients in Indonesia on top of other inappropriate treatment ways. It is a result of inadequate medication and access to mental health service. An attempt taken by the Government, c.q. the Ministry of Health is to eliminate such *pemasungan* practices, which are inhuman and in violation with human rights.

Apart from severe mental disorder, Riskesdas 2013 also assesses emotional mental disorder of Indonesian population as in Riskesdas 2007. Emotional mental disorder is synonymous to psychologic distress. It is a condition indicating that someone is experiencing psychological changes. At variance with psychosis and schizophrenia, emotional mental disorder may be experienced all people at certain conditions but likely recoverable to the original condition. Yet, This disorder may grow into a more serious condition unless appropriately treated.

The prevalence of emotional mental disorder of Indonesian people according to Riskesdas 2007 was 11.6 percent, which varied in provinces and regencies/municipalities. In Riskesdas 2013, this emotional mental disorder is re-assessed with same measuring tools and methods. Emotional mental disorder will not turn into serious disorder if appropriately dealt with or early treatments to health service center or medication to competent doctors are taken.

The coverage of treatment is measured based on the frequency of visits to health service facilities or doctors including visits by healthcare professionals. More detailed information of Mental Health block can be seen in Book 2: Riskesdas 2013 in Figures, pp. 200 to 207.

11.1. Severe Mental Disorder

Severe mental disorder can be evaluated through a series of questions proposed by enumerators to household heads or household members representing the household heads. Basically, the questions are to ask whether there is any household member (regardless of the age) suffering severe mental disorder (psychosis or schizophrenia) in the house. The acquired prevalence is that of life time prevalence. A household, which part of household members is found insane will be further quizzed whether such patient used to be chained (*pemasungan*) during his/her life. With short training, enumerators will be adept in making clarification or verification to the replies given by household heads or other household members representing them.

The weaknesses of data collection through interviews are that of potential unreported cases and inappropriate diagnosis to this severe mental disorder. To overcome such shortcomings, it is decided that the assessment under this Riskesdas 2013 is limited to severe mental disorder (psychosis or schizophrenia) that can be identified by communities in general. Thus, data on severe mental disorder requiring particular diagnosis and diagnostic capacity of specialist doctors will be disregarded.

Table 11.1 Severe Mental Disorder Prevalence by Province, Indonesia 2013

Province	Severe Mental Disorder (psychosis & schizophrenia) percentile
Aceh	2,7
North Sumatera	0,9
West Sumatera	1,9
Riau	0,9
Jambi	0,9
South Sumatera	1,1
Bengkulu	1,9
Lampung	0,8
Bangka Belitung	2,2
Riau Island	1,3
DKI Jakarta	1,1
West Java	1,6
Central Java	2,3
DI Jogjakarta	2,7
East Java	2,2
Banten	1,1
Bali	2,3
West Nusa Tenggara (NTB)	2,1
East Nusa Tenggara (NTT)	1,6
West Kalimantan	0,7
Central Kalimantan	0,9
South Kalimantan	1,4
East Kalimantan	1,4
North Sulawesi	0,8
Central Sulawesi	1,9
South Sulawesi	2,6
South-east Sulawesi	1,1
Gorontalo	1,5
West Sulawesi	1,5
Maluku	1,7
North Maluku	1,8
West Papua	1,6
Papua	1,2
Indonesia	1,7

Number of households for analysis reaches 294,959 consisting of 1,027,763 household members at any age. Of them, 1,655 households admit that they have insane members, i.e. 1,500 households with 1 insane member, 62 households with 2 insane members, 4 households with 3 insane members and 1 household with 4 insane members. In total, based on Riskesdas 2013, a slew of 1,728 household members are reported to suffer severe mental disorder.

Based on Table 11.1 it is evident that the highest psychosis prevalence is in DI Yogyakarta and Aceh (at 2.7‰ respectively), with the lowest in West Kalimantan (0.7‰). At nationwide, the prevalence of this severe mental disorder records 1.7 per mile. As to its prevalence rates by residence and wealth quantile index, see Riskesdas 2013 in Figures.

At globalwide, life time prevalence of schizophrenia varies from 4 per mile to 1.4 percent (Lewis *et al.*, 2001). Some literatures said that in general schizophrenia prevalence is around 1 percent of population. The proportion of households used to chain their insane members is also indicated.

Table 11.2 Proportion of Households with Members Suffering Severe Mental Disorder with *Pemasungan* (Chained) History by Residence and Wealth Quantile Index, Indonesia

Respondent Characteristics	Household with <i>Pemasungan</i> History (%)
Residence	
Urban	10,7
Rural	18,2
Wealth Quantile Index	
Lowest	19,5
Middle-Low	17,3
Middle	12,7
Middle-High	7,3
Highest	7,4
Indonesia	14,3

The proportion of households having members with severe mental disorder and chained (*pemasungan*) is calculated from 1,655 households with insane members. *Pemasungan* (chained) not only refers to traditional means (e.g. clamp the legs of patients to wook logs or chained) but also other improper treatments that limit the mobility, isolation, containment and neglecton.

The proportion of households that chained their members suffering severe mental disorder is to reach 14.3 percent and usually found in rural households. They are mostly categorized at the lowest wealth quantile index. The proportion of households bringing their insane members to health facilities or to see doctors can be seen in Riskesdas 2013 in Figures.

11.2. Emotional Mental Disorder

In questionnaires of Riskesdas 2013, the questions relating to emotional mental disorder are indicated in individual questionnaires point F01-F20. Emotional mental disorder is assessed using Self-Reporting Questionnaires (SRQ) consisting of 20 questions. SQR questions are proposed by enumerators to household members ≥ 15 years old complying with inclusion criteria. These 20 questions had reply options of "Yes" and "No". The cut off point set for this survey is 6. It implies that if a respondent answers minimum 6 or more with "Yes" replies, then he/she is indicated to get emotional mental disorder. This cut off point is consistent with validity test research of Hartono, 1995. Data collected from SRQ instrument have limitation since the data only reveal temporary individual emotional status (± 30 days) and not designed to diagnose specific mental disorder.

Number of household members aged ≥ 15 years old taking emotional mental disorder assessment is to reach 703,946 persons. They must directly reply the questions proposed by enumerators. For respondents who must be represented by other household members during interview because of severe mental disorder with faulty communication ability or other disability hampering the same respondents in answering the questions, they will go through further analysis.

Table 11.3 Emotional Mental Disorder Prevalence to Population aged ≥ 15 Years based on Self Reporting Questionnaire-20*) by Province, Indonesia 2013

Province	Emotional Mental Disorder (%)
Aceh	6,6
North Sumatera	4,5
West Sumatera	4,5
Riau	2,7
Jambi	1,6
South Sumatera	4,6
Bengkulu	2,2
Lampung	1,2
Bangka Belitung	6,0
Riau Island	2,6
DKI Jakarta	5,7
West Java	9,3
Central Java	4,7
DI Jogjakarta	8,1
East Java	6,5
Banten	5,1
Bali	4,4
West Nusa Tenggara (NTB)	6,4
East Nusa Tenggara (NTT)	7,8
West Kalimantan	2,5
Central Kalimantan	3,2
South Kalimantan	5,1
East Kalimantan	3,2
North Sulawesi	5,9
Central Sulawesi	11,6
South Sulawesi	9,3
South-east Sulawesi	4,1
Gorontalo	4,9
West Sulawesi	6,1
Maluku	4,9
North Maluku	5,4
West Papua	2,5
Papua	4,2
Indonesia	6,0

* cut off point ≥ 6

The prevalence of population with emotional mental disorder at nationwide is 6.0% (37,728 persons of total subjects analyzed). Province with the highest emotional mental disorder prevalence is Central Sulawesi (11.6%) with the lowest in Lampung (1.2%). Emotional mental disorder prevalence based on individual characteristics and the coverage of life time treatment and the last 2 weeks can be seen in Book II: Riskesdas 2013 in Figures.

Emotional mental disorder in 2007 and 2013 is assessed using questionnaires and the same data collection method. The national prevalence and respondent characteristics-based prevalence in this respect are shown in Figure 11.1.

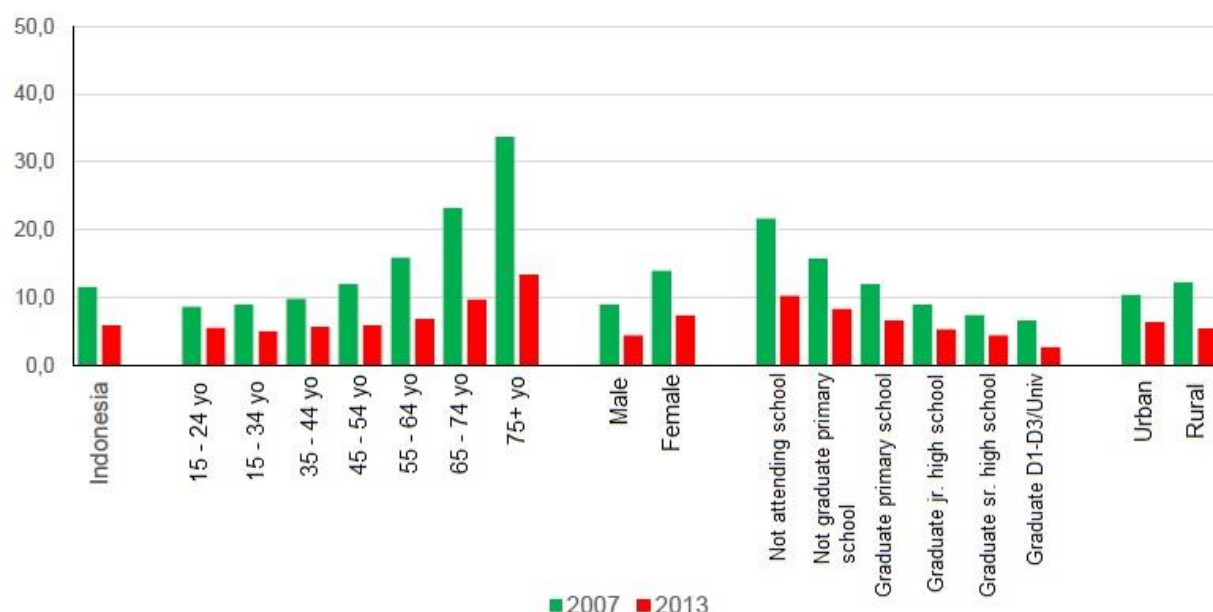


Figure 11.1
Emotional Mental Disorder by Respondent Characteristics, Riskesdas 2007 and 2013

Figure 11.1 shows that emotional mental disorder prevalence by age group and sexes of household members indicates identical pattern, i.e. the higher age the higher emotional mental disorder both in 2007 and 2013. By education, the higher education, the lower incidents of emotional mental disorder will be. By residence, in Riskesdas 2007 emotional mental disorder prevalence in rural areas is higher than urban areas but in Riskesdas 2013, the opposite prevalence is found.

Bibliographies

Departemen Kesehatan Republik Indonesia. Laporan Hasil Riset Kesehatan Dasar Indonesia (Riskesdas). 2007

[Ministry of Health, Basic Health Research (Riskesdas) 2007]

Hartono, I. G. 1995. *Psychiatric morbidity among patients attending the Bangetayu community health centre in Indonesia*. Thesis, University of Western Australia.

Lewis, G. H., Thomas, H. V., Cannon, M. & Jones, P. B. 2001. Epidemiological methods. In: Thornicroft, G. & Szukler, G. (eds.) *Textbook of community psychiatry*. New York: Oxford University Press.

CHAPTER 12. KNOWLEDGE, ATTITUDE AND BEHAVIOR

Ninieki L. Pratiwi, Julianty Pradono, Nunik Kusumawardhani, and Ingan Ukur Tarigan

Data on knowledge, attitude and behavior are collected from population aged ≥ 10 years with total samples hitting 835,258 persons. The topics include hygienic behavior, tobacco consumption, physical activities, fruit and vegetable consumption, risk foods (sweet foods/drinks, salty foods, fatty foods, grilled/roasted foods, processed foods with preservatives, seasonings, caffeine drinks and processed foods with wheat flour. More detailed results of this Knowledge, Attitude and Behavior block can be seen in Book 2: Riskesdas 2013 in Figures, pp. 208 to 265.

12.1. Hygienic Behavior

Hygienic behavior that collected in this study was include defecation behavior and handwashing behavior.

Table 12.1 Proportion of Population Aged ≥ 10 Years Practicing Appropriate Excretion and Handwashing by Province, Indonesia 2013

Province	Excretion Practice	Handwashing Habit
Aceh	73,1	33,6
North Sumatera	85,0	32,9
West Sumatera	74,1	29,0
Riau	86,6	37,7
Jambi	82,0	44,1
South Sumatera	77,0	45,3
Bengkulu	81,1	34,5
Lampung	83,6	46,7
Bangka Belitung	87,0	55,6
Riau Island	93,7	55,4
DKI Jakarta	98,9	59,2
West Java	87,8	45,7
Central Java	82,7	49,5
DI Jogjakarta	94,2	49,8
East Java	77,0	48,1
Banten	83,3	48,3
Bali	91,1	66,7
West Nusa Tenggara (NTB)	73,3	39,3
East Nusa Tenggara (NTT)	77,5	38,1
West Kalimantan	76,0	60,3
Central Kalimantan	75,1	58,8
South Kalimantan	75,5	32,3
East Kalimantan	92,0	53,2
North Sulawesi	88,9	65,9
Central Sulawesi	73,2	44,3
South Sulawesi	82,7	54,8
South-east Sulawesi	78,9	55,1
Gorontalo	77,5	64,9
West Sulawesi	69,8	63,2
Maluku	77,4	51,4
North Maluku	83,5	59,5
West Papua	83,2	54,6
Papua	57,0	29,5
Indonesia	82,6	47,0

Excretion practice is deemed appropriate if the respondents dispose their human waste into toilets. Appropriate handwashing habit refers to handwashing practice before preparing meals, whenever the hands get dirty (e.g after holding moneys, pets and working in the gardens), after excretion, after cleaning the feces of babies/children, after using pesticides/insecticides and before breastfeeding (Promkes, 2011).

Table 12.1 shows the nationwide average proportion of handwashing practices in proper manner at 47.0 percent with the lowest proportions in five provinces of West Sumatra (29.0%), Papua (29.5%), South Kalimantan (32.3%), North Sumatra (32.9%) and Aceh.

At nationwide, excretion practices using toilets record 82.6 percent on average. The lowest five provinces are Papua (57.0%), West Sulawesi (69.8%), Aceh (73.1%), Central Sulawesi (73.2%) and NTB (73.3%).

According to trend analysis, in Figure 12.1 it is evident that at nationwide the average proportion of populated aged ≥ 10 years old practicing handwashing in correct manner is to rise from 23.2% in 2007 to 47.0 percent in 2013.

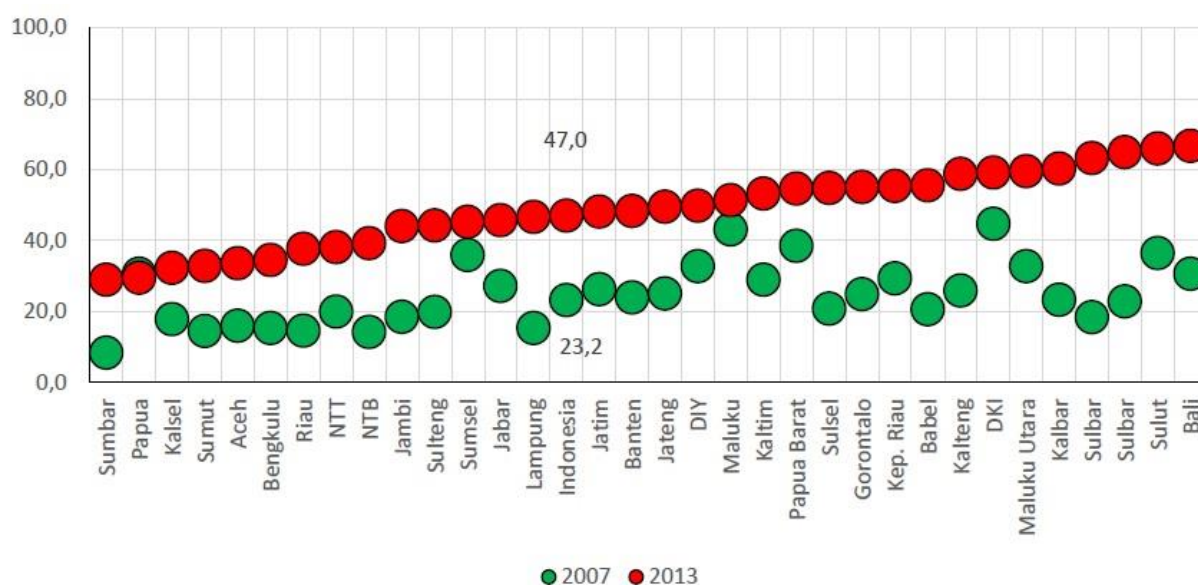


Figure 12.1 Proportion Trend of Population Aged ≥ 10 Years Practicing Handwashing in Correct Manner by Province, Riskesdas 2007 and 2013

Figure 12.2 indicates that population ≥ 10 years old applying appropriate excretion practices shows upward trend, i.e. from 71.1 percent in 2007 to 82.6 percent in 2013.

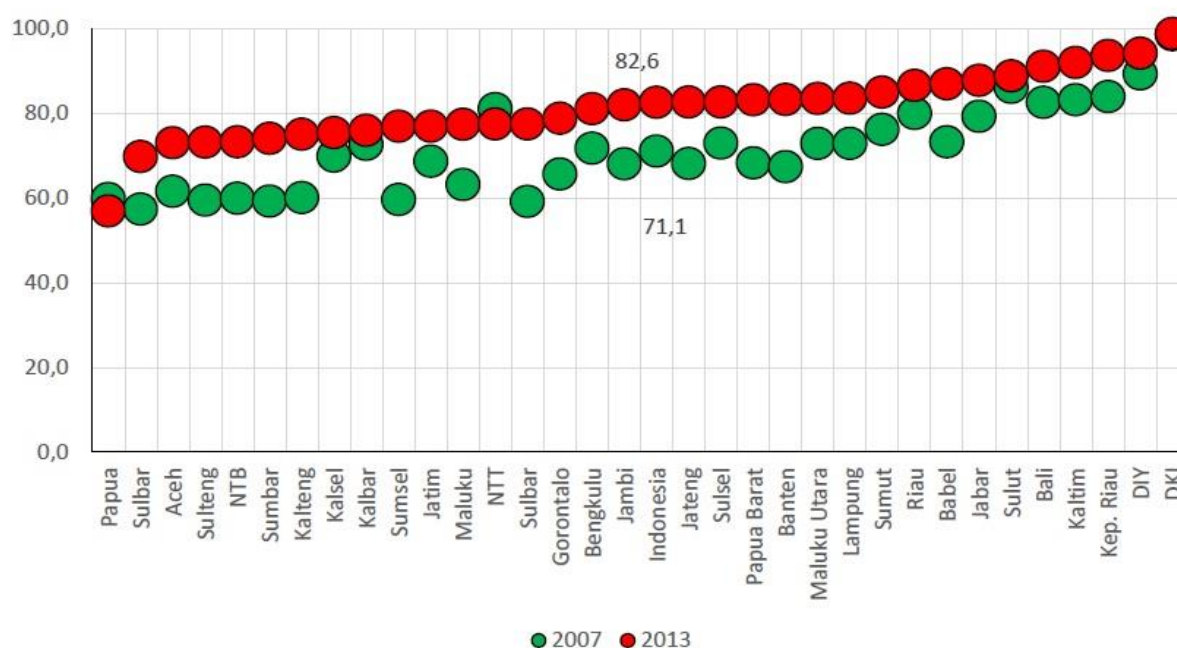


Figure 12.2 The Proportion Trend of Population Aged ≥ 10 Years Practicing Appropriate Excretion by Province, Riskesdas 2007 and 2013

12.2. Tobacco Consumption

Information on tobacco consumption in Riskesdas 2013 is divided into two groups, i.e. smoking and chewing. This division is important since the side effects of smoking are different from those of chewing. Smoking causes pollution to passive smokers and the surroundings. Chewing only gives effects to the users concerned.

Table 12.2 indicates that the proportion of smokers in Indonesia at present records 29.3 percent on average. The highest proportion is found in Riau Islands with 27.2 percent who smoke everyday and 3.5 percent on occasional basis.

Table 12.2 Proportion of Population Aged ≥ 10 Years by Smoking Habits and Province, Indonesia 2013

Province	Currently Active Smokers		Non-Smokers	
	Everyday	Occasionally	Former Smoker	Non Smoker
Aceh	25,0	4,3	2,5	68,2
North Sumatera	24,2	4,2	3,3	68,2
West Sumatera	26,4	3,9	3,1	66,0
Riau	24,2	4,1	3,2	68,5
Jambi	22,9	4,7	2,9	69,5
South Sumatera	24,7	5,4	3,4	66,6
Bengkulu	27,1	3,3	2,4	67,2
Lampung	26,5	4,8	2,6	66,0
Bangka Belitung	26,7	3,1	3,6	66,6
Riau Island	27,2	3,5	4,8	64,4
DKI Jakarta	23,2	6,0	6,0	64,8
West Java	27,1	5,6	4,5	62,8
Central Java	22,9	5,3	4,3	67,6
DI Jogjakarta	21,2	5,7	9,1	64,1
East Java	23,9	5,0	4,1	67,0
Banten	26,0	5,3	3,3	65,3
Bali	18,0	4,4	4,6	73,0
West Nusa Tenggara (NTB)	26,8	3,5	2,2	67,5
East Nusa Tenggara (NTT)	19,7	6,2	2,4	71,6
West Kalimantan	23,6	3,1	2,7	70,0
Central Kalimantan	22,5	4,0	3,1	69,8
South Kalimantan	22,1	3,6	4,6	69,8
East Kalimantan	23,3	4,4	4,2	68,1
North Sulawesi	24,6	5,9	6,2	63,3
Central Sulawesi	26,2	4,5	4,4	64,9
South Sulawesi	22,8	4,2	4,6	68,5
South-east Sulawesi	21,8	4,2	2,8	71,1
Gorontalo	26,8	5,5	3,4	64,3
West Sulawesi	22,0	4,2	3,6	70,2
Maluku	22,1	6,5	2,0	69,4
North Maluku	25,8	6,1	4,1	64,0
West Papua	22,1	6,0	2,6	69,3
Papua	16,3	5,6	2,8	75,4
Indonesia	24,3	5,0	4,0	66,6

Table 12.3 shows the proportion of populated aged ≥ 10 years by respondent characteristics. The largest proportion of active smokers who consume cigarettes everyday is found at age group 30-34 years at 33.4 percent, age group 35-39 years at 32.2 percent. The proportion of male active smokers outnumbers female proportion, i.e. 47.5% to 1.1% respectively. By professions, the largest proportion of active smokers who smoke everyday is found to population working as farmers/fishermen/workers (44.5%), which higher than other professions. The proportion of active smokers tends to decrease in population at higher wealth quantile index.

Table 12.3 Proportion of Population ≥10 Years by Smoking Habits and Characteristics, Indonesia 2013

Characteristics	Currently Active Smoker	
	Everyday	Occasionally
Age Group (year)		
10-14	0,5	0,9
15-19	11,2	7,1
20-24	27,2	6,9
25-29	29,8	5,0
30-34	33,4	5,1
35-39	32,2	5,2
40-44	31,0	5,4
45-49	31,4	5,5
50-54	31,4	5,3
55-59	30,3	5,0
60-64	27,6	4,8
65+	21,7	5,1
Sexes		
Male	47,5	9,2
Female	1,1	0,8
Education		
Not Attending School	19,7	3,1
Not Graduate SD	18,3	3,2
Graduate SD	25,2	4,5
Graduate SMP	25,7	5,7
Graduate SMA	28,7	6,6
Graduate D1-D3/Univ.	18,9	5,6
Professions		
Unemployed	6,9	3,0
Employees	33,6	7,4
Entrepreneurs	39,8	6,5
Farmers/Fishermen/Workers	44,5	6,9
Others	32,4	5,8
Residence		
Urban	23,2	5,1
Rural	25,5	4,9
Wealth Quantile Index		
Lowest	27,3	5,0
Middle-Low	26,9	5,1
Middle	25,5	5,1
Middle-High	23,5	5,0
Highest	19,5	4,7

From table 12.4 it is obvious that Indonesian smokers consume 12.3 cigarettes per day per person on average (equivalent to 1 pack of cigarette). The highest average is found in Bangka Belitung (18 cigarettes) and Riau (16-17 cigarettes).

Table 12.4 Cigarette Consumption of Population Aged ≥ 10 Years by Province, Indonesia 2013

Province	Cigarette
Aceh	15,3
North Sumatera	14,9
West Sumatera	15,8
Riau	16,5
Jambi	14,4
South Sumatera	13,4
Bengkulu	14,0
Lampung	12,1
Bangka Belitung	18,3
Riau Island	15,1
DKI Jakarta	11,6
West Java	10,7
Central Java	10,1
DI Jogjakarta	9,9
East Java	11,5
Banten	12,3
Bali	12,0
West Nusa Tenggara (NTB)	11,6
East Nusa Tenggara (NTT)	10,8
West Kalimantan	14,9
Central Kalimantan	15,0
South Kalimantan	16,7
East Kalimantan	15,6
North Sulawesi	13,2
Central Sulawesi	13,8
South Sulawesi	14,6
South-east Sulawesi	14,4
Gorontalo	12,4
West Sulawesi	14,9
Maluku	12,0
North Maluku	12,4
West Papua	12,8
Papua	13,0
Indonesia	12,3

Table 12.5 Proportion of Population Aged ≥ 10 Years with Chewing Habits by Province, Indonesia 2013

Province	Currently Chewing Tobacco	
	Everyday	Occasionally
Aceh	4,0	7,3
North Sumatera	3,1	3,0
West Sumatera	2,7	2,4
Riau	2,0	1,5
Jambi	1,4	1,0
South Sumatera	3,0	1,2
Bengkulu	2,9	1,0
Lampung	1,3	0,8
Bangka Belitung	2,1	1,4
Riau Island	1,1	0,9
DKI Jakarta	1,1	0,6
West Java	1,6	0,9
Central Java	2,0	0,7
DI Jogjakarta	2,2	1,1
East Java	1,9	0,8
Banten	1,7	0,8
Bali	3,8	1,2
West Nusa Tenggara (NTB)	3,1	1,7
East Nusa Tenggara (NTT)	17,7	12,1
West Kalimantan	2,9	2,5
Central Kalimantan	2,9	2,8
South Kalimantan	1,5	0,7
East Kalimantan	1,8	1,1
North Sulawesi	2,5	1,1
Central Sulawesi	3,0	1,3
South Sulawesi	1,8	1,1
South-east Sulawesi	2,7	1,0
Gorontalo	2,6	1,0
West Sulawesi	2,1	1,1
Maluku	5,7	4,1
North Maluku	7,1	8,0
West Papua	11,4	8,8
Papua	6,7	7,3
Indonesia	2,5	1,6

Table 12.5 depicts the proportion of population aged ≥ 10 years who are accustomed to chew tobacco or consume smokeless tobacco by province. It is evident that 2.5 percent of Indonesian people practice this chewing or smokeless habit everyday with the other 1.6 percent on occasional basis. The highest proportion is found in NTT (17.7%), West Papua (11.4%), North Maluku (7.1%) and Maluku (5.7%).

To identify smoking trends in 2007, 2010 and 2013, refer Figure 12.3 illustrating data that combine smoking and chewing habits at age group ≥ 15 years. It is obvious that the proportion of population at age ≥ 15 years who smoke and chew tobacco tends to rise from 34.2 percent in Riskesdas 2007, 34.7 percent in Riskesdas 2010 to 36.3 percent in Riskesdas 2013. The highest proportion is found in NTT (55.6%).

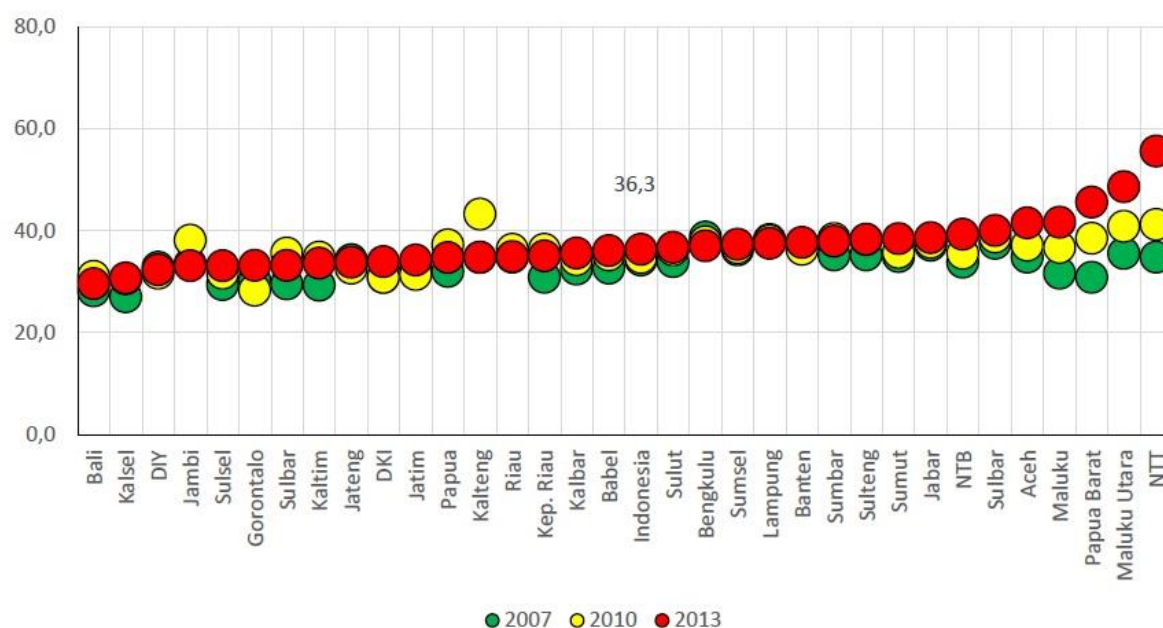


Figure 12.3 The Proportion Trend of Population Aged ≥ 15 Years with Smoking and Chewing Tobacco Habits by Province, Riskesdas 2007, 2010 and 2013

In Indonesia, analysis to tobacco consumption survey is differentiated into smoking tobacco and chewing tobacco. This is not only applied in Riskesdas, Global Adults Tobacco Survey (GATS) also introduce the same approach.

Figure 12.4 shows the proportion of population aged ≥ 15 years old according to the above 2 surveys, i.e. GATS 2011 and Riskesdas 2013. It is indicated that the proportion of male smokers records 67.0 percent in 2011 and increased to 64.9 in 2013. Accordingly, for female smokers, the proportion, according to GATS, is to reach 2.7 percent in 2011 and 2.1 percent under Riskesdas 2013.

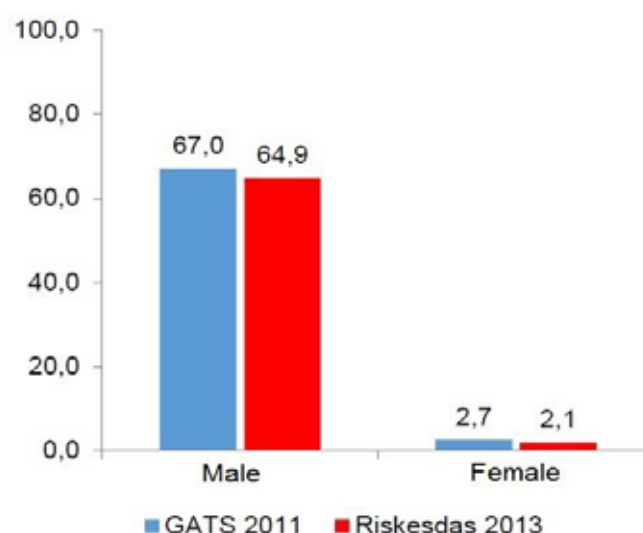


Figure 12.4 The Proportion Trend of Smokers Aged ≥ 15 Years Based on GATS 2011 and Riskesdas 2013

Figure 12.5 depicts the proportion of population chewing tobacco by Sexes based on GATS 2011 and Riskesdas 2013. This proportion is slightly to rise in Riskesdas 2013 compared to GATS 2011. In 2011 the proportion of male population chewing tobacco recorded 1.5 percent and 2.7 percent for female population. Meanwhile, according to Riskesdas 2013, the proportions are 3.9 percent for males and 4.8 percent for females.

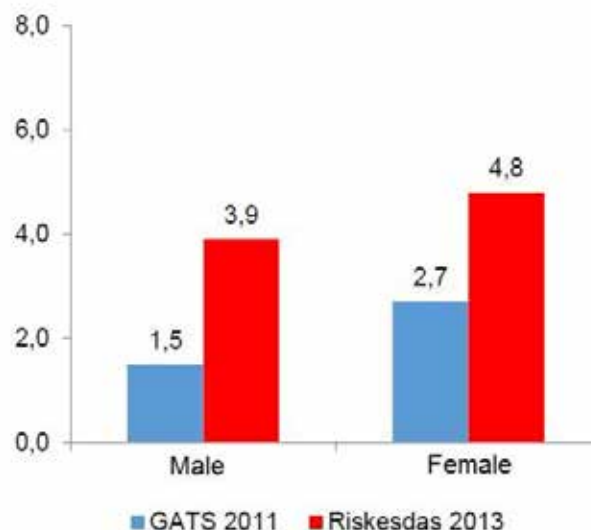


Figure 12.5 The Proportion Trend of Population Aged ≥ 15 Years Chewing Tobacco According to GATS 2011 and Riskesdas 2013

12.3. Physical Activities

Physical activities performed on regular basis are beneficial to control weights and strengthen heart system and blood arteries. Data collected from this issue includes frequency of physical activities in the last one week taken by population aged ≥ 10 years. Vigorous-intensity physical activities refer to physical activities lasting for 10 minutes continually that increase breathing and heart rate from the normal conditions (e.g. fetching water, climbing mountains, running fast, felling trees, shoveling, etc.) for minimum three days in a week with total activity time of ≥ 1500 MET minute. MET Minute for vigorous-intensity physical activities expresses the time (minutes) necessary to conduct physical activities in a week multiplied by weight of 8 calories. Moderate-intensity physical activities refer to physical activities which are moderate character (e.g. sweeping the floor) minimum five days or more with total activity time 150 minutes in a week. There are also light-intensity physical activities (WHO GPAQ, 2012; WHO STEPS, 2012).

In this Riskesdas 2013, criteria of “active” physical activities refer to individuals performing vigorous-intensity physical activities or moderate-intensity physical activities or both of them. Meanwhile “inactive” criteria are denoted to individuals who perform neither vigorous-intensity physical activities nor moderate-intensity physical activities.

Sedentary behavior is relaxed activities such as sitting, lying, etc., at work place (working before computer sets, reading, etc.), at home (watching TV, playing games, etc.), and at journey/transportation (buses, trains, cars) but not including sleeping time.

Research in US concerning sedentary behavior setting cut off points < 3 hours, 3-5.9 hours and ≥ 6 hours indicates that reducing sedentary activities until < 3 hours per day can increase life expectancy 2 years. (Katzmarzyk, P & Lee, 2012).

Sedentary behavior is a risky habit that may cause deep vein thrombosis, heart disease and affect adversely to life expectancy.

Table 12.6 depicts the proportion of population engaged in “active” and “inactive” physical activities. As to the former, the proportion reaches 26.1 percent. Twenty two (22) provinces have the proportion of inactive population exceeding the national average. The five highest provinces are DKI Jakarta (44.2%), Papua (38.9%), West Papua (37.8%), South-East Sulawesi and Aceh (37.2% respectively).

Table 12.6 Proportion of Population Aged ≥ 10 Years by Physical Activities and Province, Indonesia 2013

Province	Physical Activities	
	Active	Inactive
Aceh	62,8	37,2
North Sumatera	76,5	23,5
West Sumatera	71,2	28,8
Riau	69,4	30,6
Jambi	68,8	31,2
South Sumatera	73,3	26,7
Bengkulu	70,4	29,6
Lampung	76,2	23,8
Bangka Belitung	80,0	20,0
Riau Island	66,5	33,5
DKI Jakarta	55,8	44,2
West Java	74,6	25,4
Central Java	79,5	20,5
DI Jogjakarta	79,2	20,8
East Java	78,7	21,3
Banten	77,1	22,9
Bali	85,8	14,2
West Nusa Tenggara (NTB)	66,0	34,0
East Nusa Tenggara (NTT)	71,3	28,7
West Kalimantan	67,8	32,2
Central Kalimantan	74,7	25,3
South Kalimantan	80,2	19,8
East Kalimantan	64,3	35,7
North Sulawesi	68,3	31,7
Central Sulawesi	73,0	27,0
South Sulawesi	69,0	31,0
South-east Sulawesi	62,8	37,2
Gorontalo	68,0	32,0
West Sulawesi	72,5	27,5
Maluku	63,2	36,8
North Maluku	68,1	31,9
West Papua	62,2	37,8
Papua	61,1	38,9
Indonesia	73,9	26,1

Table 12.7 shows that nearly half of population aged ≥ 10 years old engages in sedentary behavior for 3-5.9 hours (41.0%). As to sedentary activities ≥ 6 hours per day, the proportion is almost one of four persons. Five provinces with sedentary activities ≥ 6 hours are Riau (39.1%), North Maluku (34.5%), East Java (33.9%), West Java (33.0%) and Gorontalo (31.5%).

Table 12.7 Proportion of Population ≥ 10 Years Old Performing Sedentary Activities by Province, Indonesia 2013

Province	Sedentary Activities		
	<3 hours	3- 5,9 hours	≥ 6 hours
Aceh	52,3	36,6	11,2
North Sumatera	42,9	41,3	15,7
West Sumatera	24,1	45,5	30,3
Riau	25,2	35,7	39,1
Jambi	42,2	41,2	16,5
South Sumatera	39,5	42,8	17,8
Bengkulu	43,5	42,0	14,5
Lampung	39,0	49,4	11,7
Bangka Belitung	36,7	38,9	24,4
Riau Island	32,8	48,9	18,3
DKI Jakarta	48,1	39,0	12,9
West Java	24,8	42,2	33,0
Central Java	33,1	43,2	23,1
DI Jogjakarta	42,1	40,7	17,1
East Java	22,7	43,5	33,9
Banten	25,9	50,2	23,9
Bali	35,0	36,3	28,7
West Nusa Tenggara (NTB)	37,1	47,8	15,1
East Nusa Tenggara (NTT)	66,6	29,9	3,5
West Kalimantan	50,7	41,3	8,0
Central Kalimantan	43,1	42,3	13,9
South Kalimantan	35,0	44,7	20,4
East Kalimantan	41,9	37,8	20,2
North Sulawesi	42,3	38,9	18,8
Central Sulawesi	33,6	35,5	30,9
South Sulawesi	46,6	36,2	17,2
South-east Sulawesi	60,3	36,0	3,1
Gorontalo	36,4	32,1	31,5
West Sulawesi	43,3	34,4	22,3
Maluku	36,2	38,2	25,5
North Maluku	33,9	31,6	34,5
West Papua	50,4	40,8	8,8
Papua	47,0	42,9	10,1
Indonesia	33,9	42,0	24,1

Table 12.8 indicate the proportion of sedentary activities by population aged ≥ 10 years. By age group, there is tendency that the higher age the lower proportion of sedentary behavior $\geq$ hours. However, this proportion will rise again at age ≥ 50 years. Sedentary behavior ≥ 6 hours is more found in female, low educated, unemployed and urban population and in population with higher wealth quantile index than those at lower index.

Table 12.8 Proportion of Population ≥ 10 Years Old Performing Sedentary Activities by Respondent Characters, Indonesia 2013

Characteristics	Sedentary Activities		
	<3 hours	3 - 5,9 hours	≥ 6 hours
Age Group (year)			
10-14	28,2	42,7	29,1
15-19	30,9	43,1	25,5
20-24	33,8	43,0	23,2
25-29	35,4	42,5	22,1
30-34	36,7	42,3	21,0
35-39	37,1	42,1	20,8
40-44	37,5	41,8	20,6
45-49	37,7	41,7	20,6
50-54	36,1	41,9	22,0
55-59	34,4	41,1	24,5
60-64	32,8	40,3	26,9
65+	25,9	36,7	37,4
Sexes			
Male	34,7	43,1	22,2
Female	33,0	40,9	26,1
Education			
Not Attending School	32,8	40,3	26,9
Not Graduate SD	32,0	41,4	26,6
Graduate SD	33,4	42,3	24,3
Graduate SMP	34,4	42,6	23,1
Graduate SMA	35,4	42,1	22,4
Graduate D1-D3/Univ.	34,9	41,2	23,9
Professions			
Unemployed	30,0	41,1	28,9
Employees	36,8	42,2	21,0
Entrepreneurs	35,2	42,7	22,1
Farmers/Fishermen/Workers	38,8	43,4	17,8
Others	36,6	40,9	22,6
Residence			
Urban	32,3	41,6	26,1
Rural	35,4	42,5	22,1
Wealth Quantile Index			
Lowest	37,6	41,2	21,2
Middle-Low	33,6	42,1	24,3
Middle	32,4	42,8	24,8
Middle-High	33,1	41,9	25,0
Highest	33,9	41,7	24,3

12.4. Fruit and Vegetable Consumption

Information on the frequency and portion of consuming fruits and vegetables are collected by calculating total consumption days in a week and total average portion per day. Respondents are categorized as "sufficiently" consuming fruits and/or vegetables if they eat minimum 5 portions per day for 7 days in a week. It will be categorized "insufficient" if the fruit and vegetable consumption is less than the above standard. Riskesdas 2007 and 2013 collect data on this issue, from which the proportion trend of population aged ≥ 10 years consuming insufficient fruits and vegetables can be analyzed.

Figure 12.6 shows that at nationwide no significant change is identified between 2007 and 2013 data. The most significant change is though detected in Gorontalo where the proportion of population consuming insufficient fruits and vegetables is to increase from 83.5 percent to 92.5 percent.

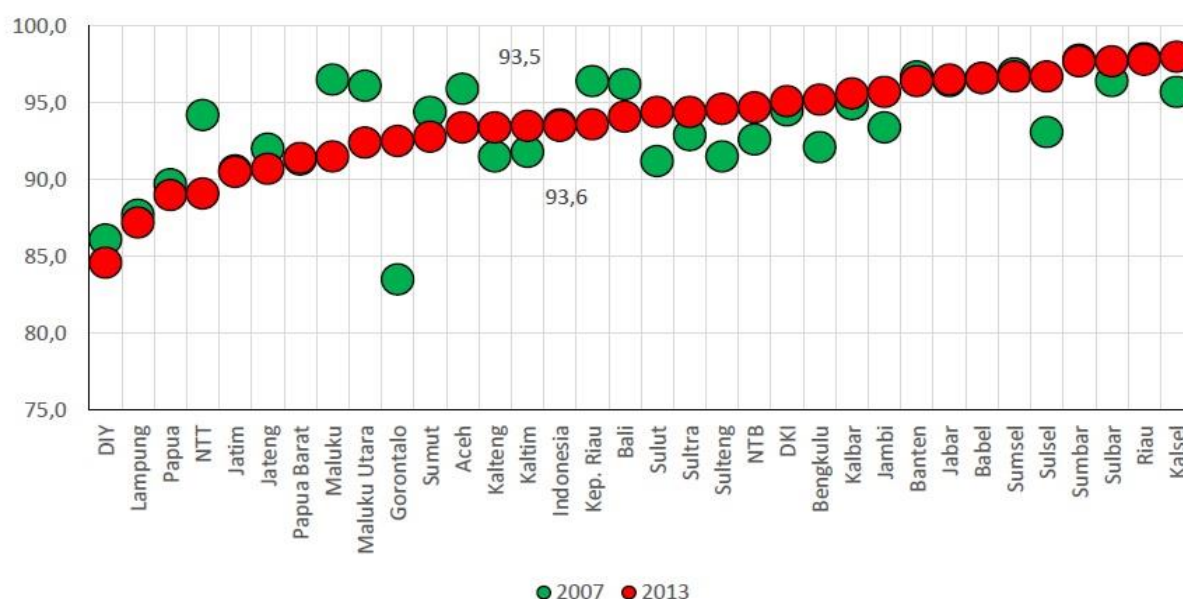


Figure 12.6 Proportion Trend of Population ≥ 10 Years Old Consuming Insufficient Fruits and Vegetables by Province, Riskesdas 2007 dan 2013

12.5. Particular Dietary Pattern

Behavior of consuming particular foods refers to habits of eating certain foods, such as sweet, salty, fatty, grilled/roasted, preservative and caffeine-contained and seasoned foods/drinks. This dietary pattern is classified as "often" if the respondents consume the foods in question one time or more in a day.

Table 12.9 represents the proportion of population aged ≥ 10 years old consuming certain foods by province. Consumption of sweet foods/drinks ≥ 1 time at nationwide is to reach 53.1 percent (Figure 12.7). Five provinces with the highest proportion are reported in South Kalimantan (70.4%), DI Yogyakarta (69.2%), Central Kalimantan (67.6%), South Sumatra (63.3%) and North Sumatra (62.5%). (Table 12.9).

Proportion of population consuming fatty, cholesterol and fried foods ≥ 1 time in a day is to record 40.7 percent (Figure 12.7). Five provinces with the highest proportion exceeding national average are Central Java (60.3%), DI Yogyakarta (50.7%), West Java (50.1%), East Java (49.5%) and Banten (48.8%). (Table 12.9).

Nearly four of five persons in Indonesia consume seasoned foods for ≥ 1 time a day (77.3%) (Figure 12.7) with the highest proportion in Bangka Belitung (87.4%) and the lowest in Aceh (37.9%). (Table 12.9). To identify the characteristics of population ≥ 10 years old consuming certain foods, see Book II: Riskesdas 2013 in Figures.

Table 12.9 Proportion of Population aged ≥ 10 Years Consuming Certain Foods ≥ 1 times a day by Province, Indonesia 2013

Province	Consumption of certain foods ≥ 1 time per day						
	Sweet	Salty	Fatty	Grilled/ Roasted	Animal-based food with Preservatives	Seasoning	Caffein Drinks
Aceh	52,3	12,3	21,2	3,6	4,0	37,9	36,0
North Sumatera	62,5	15,9	21,4	2,7	2,8	44,6	15,3
West Sumatera	48,1	6,8	34,3	2,6	4,0	48,5	23,5
Riau	54,9	15,6	25,2	4,0	6,3	78,1	19,2
Jambi	52,3	22,8	17,7	3,6	3,6	74,5	23,8
South Sumatera	63,3	37,8	26,9	2,9	3,1	79,6	41,0
Bengkulu	42,6	21,5	21,2	2,8	4,3	84,1	37,4
Lampung	59,3	32,4	21,4	1,7	2,2	82,7	35,9
Bangka Belitung	42,5	7,9	22,4	6,1	2,7	87,4	37,0
Riau Island	60,5	8,7	34,2	4,4	3,9	75,9	26,8
DKI Jakarta	61,4	20,3	47,8	4,2	6,9	77,8	32,1
West Java	50,1	45,3	50,1	3,2	5,4	87,1	34,2
Central Java	62,0	30,4	60,3	2,4	3,1	83,1	21,9
DI Jogjakarta	69,2	12,4	50,7	2,2	4,0	77,8	18,5
East Java	47,8	24,3	49,5	2,6	3,4	80,5	37,5
Banten	47,1	33,6	48,8	3,3	3,9	82,9	33,0
Bali	22,4	6,4	18,4	2,0	4,7	72,5	51,9
West Nusa Tenggara	32,2	10,9	26,1	5,6	4,4	84,8	38,8
East Nusa Tenggara	30,0	8,2	7,9	4,1	2,4	69,6	48,5
West Kalimantan	58,8	30,0	25,9	3,8	6,5	74,7	48,8
Central Kalimantan	67,6	23,4	41,8	5,5	5,4	81,7	33,0
South Kalimantan	70,4	16,6	35,8	4,1	5,8	82,6	30,6
East Kalimantan	60,6	15,6	23,9	4,0	5,5	69,1	24,7
North Sulawesi	53,8	5,8	42,7	11,5	2,3	75,0	36,5
Central Sulawesi	49,8	9,3	30,6	17,1	1,8	76,5	31,8
South Sulawesi	50,8	19,4	25,0	10,4	4,0	77,1	30,0
South-east Sulawesi	44,4	11,5	17,9	12,1	3,0	68,6	22,4
Gorontalo	51,8	8,4	44,4	15,0	1,6	74,7	28,6
West Sulawesi	52,1	30,1	17,6	11,2	1,3	64,0	38,2
Maluku	62,2	9,2	33,0	12,7	6,8	82,6	24,5
North Maluku	50,6	13,1	38,0	11,6	3,1	66,2	26,8
West Papua	61,0	9,0	27,0	11,8	4,8	70,7	24,4
Papua	42,6	11,0	20,2	48,1	8,4	48,4	26,7
Indonesia	53,1	26,2	40,7	4,4	4,3	77,3	31,5

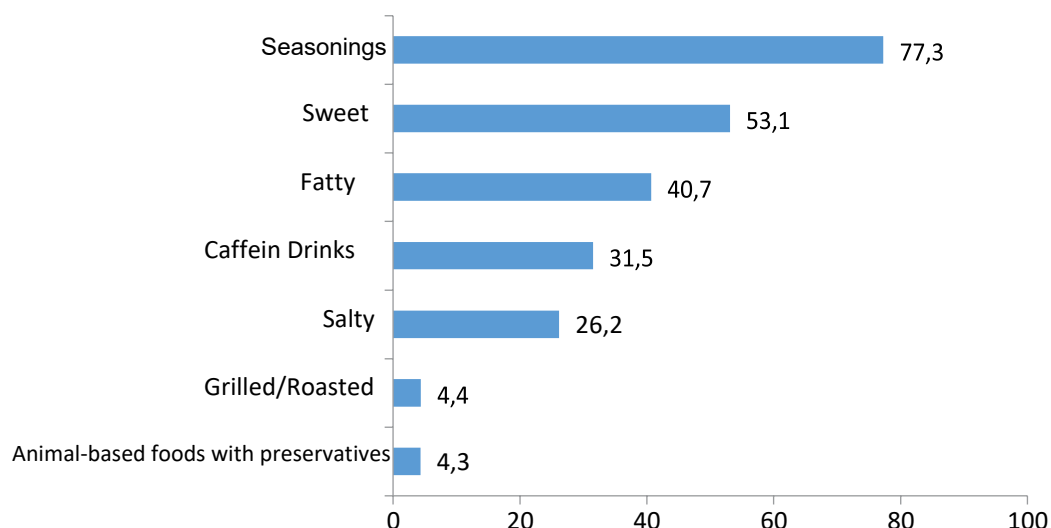


Figure 12.7 Proportion (%) of Population ≥ 10 Years Old Consuming Certain Foods ≥ 1 time per day, 2013

The comparison of particular dietary pattern trend analysis 2007 and 2013 has been made to four food groups only, i.e. grilled/roasted foods, salty foods, sweet foods/drinks and seasoning foods.

Figure 12.8 shows the habit of population in consuming grilled/roasted foods, sweet foods/drinks and seasoning foods which in 2013 records a decrease from 2007. Meanwhile, consumption of salty foods indicates an increase.

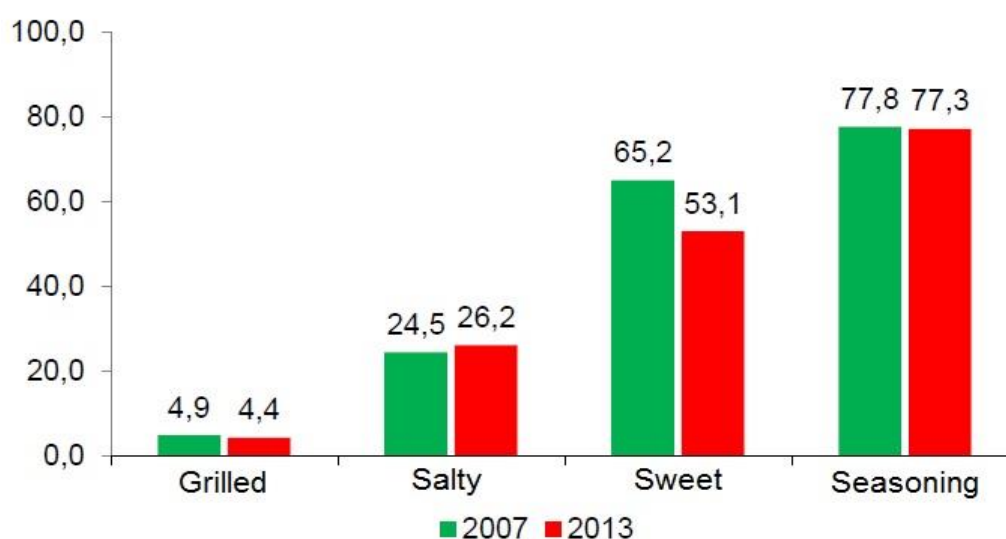


Figure 12.8 The Trend of Population Aged ≥ 10 Years in the Consumption of Certain Foods ≥ 1 times, Indonesia 2007 and 2013

12.6. Processed Foods Made of Wheat Flour

Data on behavior of consuming processed foods made of wheat flour are also collected in this Riskesdas 2013. Some wheat flour-based processed foods include instant noodles, wet noodles, bread and biscuits. The analysis results on this kind of foods can be seen in Figure 12.9.

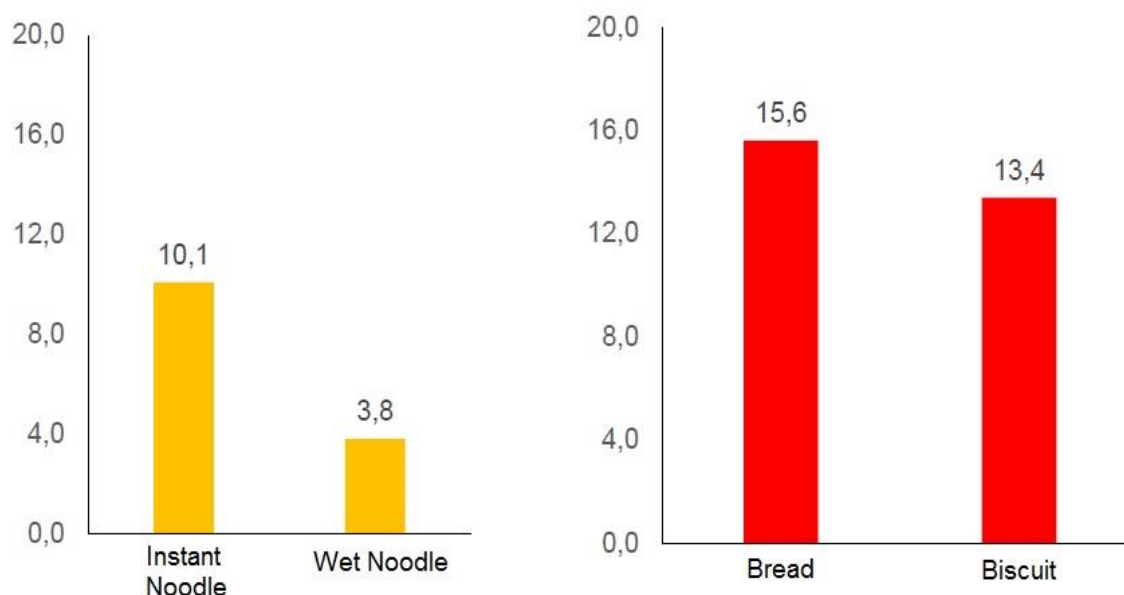


Figure 12.9 Proportion of Population Aged ≥ 10 Years Old by Frequency of Consuming Wheat Flour-Based Foods ≥ 1 time/day

Table 12.10 shows average instant noodles consumption by Indonesian population. One of ten persons in this country eats instant noodle ≥ 1 time per day. Seven provinces with the highest instant noodle consumption ≥ 1 time per day above the national average are South-East Sulawesi (18.4%), South Sumatra (18.2%), South Sulawesi (16.9%), Papua (15.9%), Central Kalimantan (15.6%), Maluku and West Kalimantan (14.8% respectively). Only 3.8 percent consume wet noodle ≥ 1 time per day. 13.4 percent of Indonesian people consume biscuit ≥ 1 time per day. Proportion of population consuming biscuit exceeding the national average can be found in Riau Island (29.8%), North Sumatra (21.1%), DKI Jakarta (19.6%), West Sumatra (18.7%), South Kalimantan and East Kalimantan (17.2% respectively).

The same information by respondent characteristics can be seen in Book II: Riskesdas 2013 in Figures.

Table 12.10 Proportion of Population Aged ≥ 10 Years Consuming Wheat Flour-Based Processed Foods ≥ 1 time per day by Province, Indonesia 2013

Province	Wheat Flour-Based Processed Foods ≥ 1 time per day			
	Instant Noodle	Wet Noodle	Bread	Biscuit
Aceh	9,6	6,7	17,1	15,9
North Sumatera	5,6	3,6	25,0	21,1
West Sumatera	4,1	3,0	23,2	18,7
Riau	9,9	4,7	19,2	16,0
Jambi	10,3	5,2	19,2	15,0
South Sumatera	18,2	3,1	12,1	9,5
Bengkulu	7,5	2,5	9,3	8,3
Lampung	6,4	2,4	7,9	8,2
Bangka Belitung	14,2	3,4	18,1	13,1
Riau Island	10,0	3,0	34,2	29,8
DKI Jakarta	12,4	4,8	24,1	19,6
West Java	13,8	5,7	16,4	14,6
Central Java	6,5	2,6	12,3	11,1
DI Jogjakarta	5,1	1,6	16,2	13,4
East Java	6,7	2,3	9,4	8,3
Banten	11,8	3,3	19,0	14,6
Bali	5,3	1,7	20,5	16,2
West Nusa Tenggara (NTB)	13,9	4,4	14,3	13,1
East Nusa Tenggara (NTT)	7,7	2,4	8,0	7,3
West Kalimantan	14,8	5,1	18,9	16,9
Central Kalimantan	15,6	4,3	14,7	14,6
South Kalimantan	13,5	3,0	20,3	17,2
East Kalimantan	12,6	4,6	17,7	17,2
North Sulawesi	5,8	4,0	20,9	15,2
Central Sulawesi	10,9	2,3	12,6	11,8
South Sulawesi	16,9	6,4	14,6	14,7
South-east Sulawesi	18,4	4,8	20,0	13,2
Gorontalo	5,5	2,6	10,7	10,3
West Sulawesi	9,6	2,5	10,0	8,5
Maluku	14,8	4,4	43,1	15,7
North Maluku	11,2	3,0	24,2	16,2
West Papua	11,6	5,2	15,2	10,8
Papua	15,9	6,6	11,1	12,1
Indonesia	10,1	3,8	15,6	13,4

12.7. Clean and Hygienic Behavior (CHB)

Clean and Hygienic Behavior (CHB) consists of ten indicators covering individual behavior and household description (Promkes 2009). CHB Data in 2007 referred to CHB indicators set in 2004. As to individual indicators, they include help to childbirth process by healthcare professionals, 0-6 months old infants receiving exclusive breastfeeding, healthcare insurance participation, non-smoker population, population with sufficient physical activities, and population consuming fruits and vegetables. Household indicators consist of accessibility to clean water, hygienic toilets, suitability of floor area and number of occupants ($\geq 8\text{m}^2/\text{person}$), and households living in houses with tiled floors. For CHB 2007, households with members aged under five years old were assessed with 10 indicators so that the highest score was 10; for households without members < 5 years old they were assessed with 8 indicators and the maximum score was therefore eight (8). "Poor"

score is given if the household with members under five years old gets score less than six (6) and less than five (5) for household without member under five years old.

In 2011 new CHB indicators were formulated which were a bit different from previous CHB indicators. The new CHB indicators set in 2011 by Health Promotion Center of the Ministry of Health covered 10 indicators, i.e.: 1) Childbirth Process with Help of Healthcare professionals; 2) Weighing of Infants and Children under Five Years Old; 3) Exclusive Breastfeeding; 4) Clean Water Consumption; 5) Handwashing with Clean Water and Soap; 6) Wiggler Eradication; 7) Use Hygienic Toilet; 8) Consume Fruits and Vegetables Everyday; 9) Perform Physical Activities Everyday; and 10) Not Smoke Inside the House. In 2013, for households having members under five years old have been assessed with 10 indicators with maximum score of 10; for households without children under five, they are assessed with 7 indicators with maximum score of 7. CHB assessment is applied with the same limitation to those introduced in 2007. Households are deemed to record Good CHB if they get score 6 or higher for those with children under five years old or for households without children under five they must collect score 5 or higher. Samples selected for this CBH assessment record 294,959 households (220,895 households having no children under five years old and the other 74,964 households caring children under five years old in their houses).

In Riskesdas 2013, indicators used in CHB assessment are consistent with CHB criteria set by Pusat Promkes (Health Promotion Center) in 2011, namely: eight individual indicators (handwashing, using toilet for excretion, consuming fruits and vegetables, physical activities, not smoking inside the house, childbirth with assistance of healthcare professionals, exclusive breastfeeding and weighting) and two household indicators (clean water sources and wiggler eradication).

Operational definitions for each CHB indicator in Riskesfas 2013 are slightly different from those applied in health service coverage. Indicators applied in CHB of this Riskesdas 2013 can be defined as follows:

1. Childbirth by Healthcare professionals. The data are collected from the household members including mother who have childbirth history in three years time before survey. The data are acquired from the last childbirth with help of healthcare professionals in the last three years of childbirth history before the survey (2010 – 2013)
2. Weight Infants and Children < 5 Year Old. This indicator uses variable of individual aged 0 to 59 months with weighing history for the last six month despite only 1 weighing in the last six month. In growth monitoring sub-chapter, data on weighing frequency are further divided into ≥ 4 times and 1-3 times in the last 6 months.
3. Exclusive Breastfeeding. This indicator uses data of exclusive breastfeeding to toddlers (0 – 23 months). In this analysis, exclusive breastfeeding means that infants ≤ 6 months only receives breastfeeding intake for the last 24 hours during interviews and breastfeeding history for 2 years old babies as from they receive complementary foods for the first time. In Breastfeeding Pattern sub-chapter, the data are taken from respondents aged 0-6 months.
4. Handwashing with clean water and soap. This indicator depicts households having members applying proper handwashing practices including to wash hands with clean water and soap when and before preparing meals, whenever the hands get dirty, after excretion, after using pesticides (if appropriate), after cleaning feces from babies and before breastfeeding (if appropriate).

5. Use Hygienic Toilets. Households using hygienic toilets are assessed from the number of members applying proper excretion practices using toilet.
6. Perform physical activities everyday. This indicator is assessed from the number of household members performing vigorous or moderate physical activities in seven days a week. In physical activity sub-chapter, this issue is assessed individually.
7. Consume fruits and vegetables everyday. Behavior of consuming fruits and vegetables is assessed from the number of household individuals consuming fruits and vegetables for seven days in a week.
8. Not Smoke inside the house. It refers to households with individual who will not smoke at home when other household members are in the same house and those who have no smoking members.
9. Use clean water. Behavior of using clean water is assessed from the data of households accessing to “good” clean water source (piped water/PAM, artesian wells, protected wells, protected springs, rainwater basin) for domestic purposes.
10. Eradicate Wiggers. This indicator refers to households cleaning bathroom one time of more in a week or not using bathroom and not taking bath in the river.

Some indicators used in this Riskesdas 2013 are different from indicators adopted in Riskesdas 2007. Thus, it is impossible to identify the trend of proportion of households applying Clean and Hygienic Behavior (CHB) either to increase or, otherwise to decrease.

Below is the proportion of households with 10 CHB indicators collected in Riskesdas 2013.

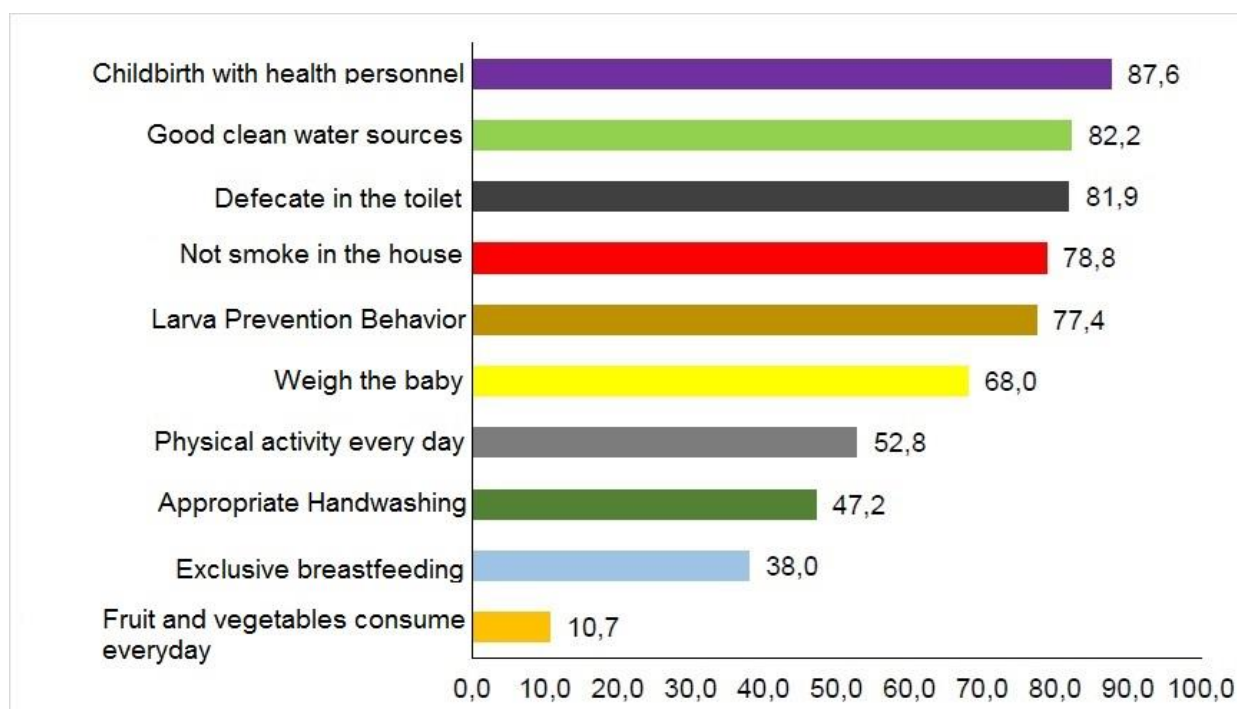
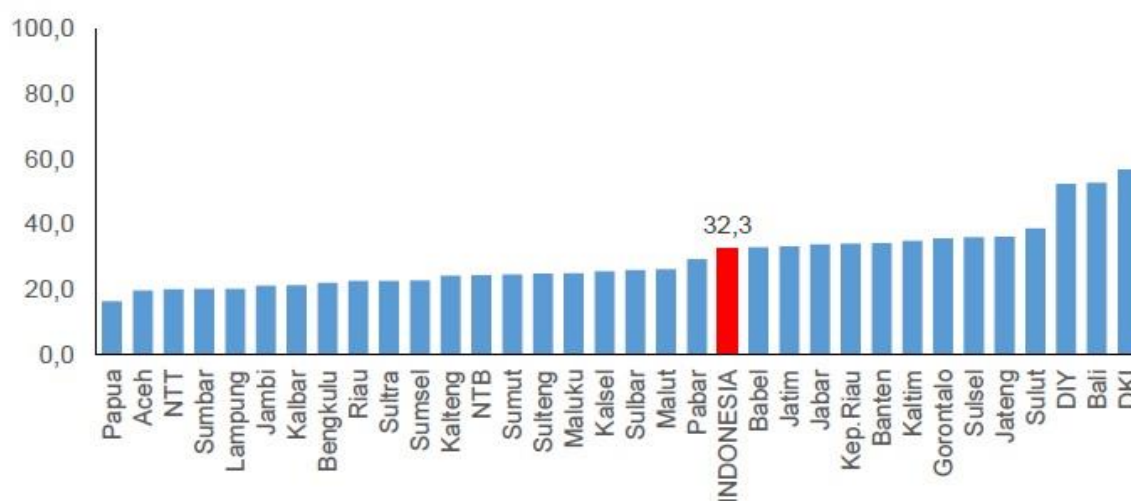


Figure 12.10 Proportion of Households Introducing CHB based on 10 Indicators, 2013



Note: Good CHB refers to households complying with criteria $\geq$ six indicators for households having children under five years old and $\geq$ 5 indicators for households without children $<$ years old.

Figure 12.11 Proportion of Households Complying With Clean and Hygienic Behavior Criteria by Province, Indonesia 2013

Figure 12.11 shows that at nationwide the proportion of households introducing Good CHB reaches 32.3 percent with the highest proportion in DKI Jakarta (56.8%) and the lowest in Papu (16.4%). Of 33 provinces, 22 provinces record proportion below national average with regard to this CHB practices. In 2007, the nationwide proportion of households adopting CHB criteria was 38.7%.

Figure 12.12 reveals that urban areas record higher proportion of households introducing CHB criteria than in rural areas, i.e. 41.5% to 22.8%. The proportion of households with Good CHB tends to rise in line with the increasing wealth quantile index (lowest 9.0%, highest 48.3%).

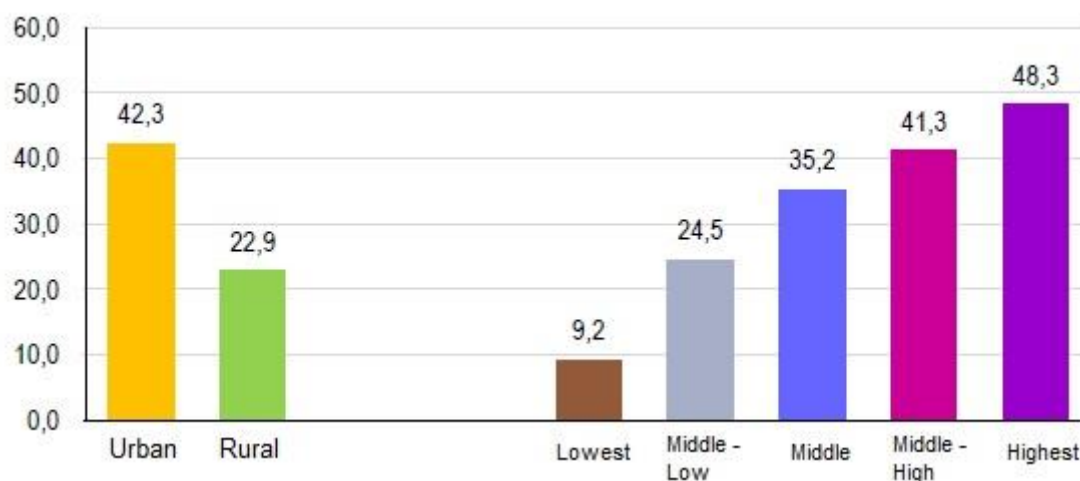


Figure 12.12 Proportion of Households Complying with Clean and Hygienic Behavior (CHB) Criteria by Respondent Characteristics, Indonesia 2013

Bibliographies

Katzmarzyk PT, Lee I-M. Sedentary behaviour and life expectancy in the USA: a cause-deleted life table analysis. *BMJ Open* 2012;2: e000828. doi:10.1136/ bmjopen-2012-000828.

Kementrian Kesehatan. 2011. Pedoman Pembinaan Perilaku Hidup Bersih dan Sehat (PHBS). Kementrian Kesehatan Republik Indonesia.

[The Ministry of Health 2001. Clean and Hygienic Behavior (CHB) Development Manual. The Ministry of Health]

Pusat promosi Kesehatan, departemen Kesehatan RI, 2009. Rumah Tangga berperilaku hidup bersih dan sehat

[Health Promotion Center, The Ministry of Health, 2009 Households Introducing Clean and Health Behavior]

World Health Organization, Regional Office for South East Asia 2012. Global Adult Tobacco Survey: Indonesia Report 2011

World Health Organization. 2012. Global Physical Activity Questionnaire (GPAC) Analysis Guide. Surveillance and Population-based Prevention. Department of Chronic Diseases and Health Promotion, Geneva. www.who.int/chp/steps

World Health Organization. 2012. WHO STEPS Instrument Question-by Question Guide (core and expanded). Surveillance and Population-based Prevention. Department of Chronic Diseases and Health Promotion, Geneva. www.who.int/chp/steps

CHAPTER 13. HEALTH FINANCING

Endang Indriasih and Anni Yulianty

One objective to pursue from health system is to enhance health status, responsiveness and fairness of financing (WHO 2000). From this topic, information of healthcare insurance participation and utilization are collected including the use of health service facilities and financing sources frequently maximized by the respondents and the costs expended.

Health financing refers to the sum of money that must be allocated to provide and/or access health initiatives/enhance health conditions as necessary by individuals, households, groups and communities. Health financing aims to assure the allocation of sufficient funds, not only for health service providers but also to assure the accessibility of all people to effective and quality public and individual health services (WHO 2000).

Health insurance is health protection, from which the participants can receive health maintenance and protection benefits in satisfying their basic health needs to all persons who have paid the health contributions or otherwise paid by the Government (Presidential Regulation No. 12 of 2013).

Pursuant to Law No. 36 of 2009 concerning Health Article 130, health financing has objectives of providing health financing in sustainable way with sufficient sums, fairly allocated and maximized in effective and efficient manner to assure sound health development from which health status of people can be optimally enhanced. The financing elements consist of financing sources, allocations and utilization. Health financing sources come from the Government, regional governments, communities, private parties and other sources.

Basic requirements for health financing are: (1) sufficient budget to deliver health services without causing additional burdens to the beneficiaries; (2) distributed according to the needs of health service to be provided; and (3) must be appropriately used to achieve highest effectiveness and efficiency for optimum health service provisions (Law No. 36 of 2009).

In this Riskesdas 2013, health financing analysis covers health insurance participation and the utilization of health service facilities for outpatient treatment and inpatient treatment including the financing sources and costs. Financing sources can be differentiated into out of pocket funding, social health insurance (e.g. Health Insurance for Civil Public Servants, the Retired Persons, Veterans, Military Public Servant/Police – TNI/Polri), Jamsostek (Worker Social Insurance), private health insurance, health allowances of the companies, public health insurance (Jamkesmas) and regional health insurance (Jamkesda). More detailed results of Health Financing block can be seen in Book 2: Riskesdas 2013 in Figures, pp. 266 to 280.

13.1 Health Insurance Participation

Analysis gives information on the proportion of population either registered or not registered in health insurance programs which include: Askes/health insurance (for Civil Public Servant/PNS, Veterans, the Retired Persons, Retired Armed Forces Personnel/Police/TNI/Polri) ASABRI (for active Armed Forces/Police Personnel, staff of the Ministry of Defense), JPK Jamsostek, private health insurance, health allowance from companies, Jamkesmas and Jamkesda. For this analysis, Askes insurance and ASABRI insurance have been merged into one group since the Government pays parts of their premiums.

Table 13.1 Proportion of Population by Health Insurance Program and Province, Indonesia 2013

Province	Health Insurance Program						
	Askes/ ASABRI	Jamsostek	Private Health Insu.	Company	Jamkesmas	Jamkesda	None
Aceh	8,8	1,5	0,4	0,5	56,7	30,8	3,4
North Sumatera	5,6	5,4	1,4	1,9	23,3	4,1	59,3
West Sumatera	8,7	1,6	1,0	0,4	26,1	9,3	53,6
Riau	5,2	5,6	3,0	2,9	15,4	13,9	57,8
Jambi	8,1	2,9	0,9	0,6	23,9	2,2	61,9
South Sumatera	5,6	3,4	1,6	1,4	21,6	25,8	45,7
Bengkulu	9,3	3,3	0,7	0,5	28,5	0,7	57,7
Lampung	5,0	1,4	0,7	1,2	33,9	15,1	46,7
Bangka Belitung	8,7	3,3	2,1	1,2	13,0	45,5	34,0
Riau Island	4,8	20,3	4,0	5,7	13,5	7,9	48,3
DKI Jakarta	4,8	10,1	6,2	4,7	3,4	6,3	69,1
West Java	4,7	5,7	2,1	2,3	29,4	3,4	54,7
Central Java	5,1	3,0	1,1	0,9	35,8	2,9	52,9
DI Jogjakarta	11,9	4,7	3,7	2,5	41,0	7,7	32,5
East Java	5,1	3,6	1,2	1,0	28,3	1,3	60,5
Banten	4,8	8,7	3,7	4,3	23,9	2,9	54,5
Bali	7,3	5,5	3,9	3,5	12,4	67,7	11,0
West Nusa Tenggara	5,2	0,6	0,3	0,2	40,4	4,1	49,4
East Nusa Tenggara	7,1	0,1	0,3	0,1	58,6	2,8	31,7
West Kalimantan	5,5	1,7	0,6	0,9	22,2	12,5	58,6
Central Kalimantan	9,7	2,9	0,6	4,4	16,8	26,4	46,4
South Kalimantan	7,4	5,5	1,1	1,0	15,9	9,6	60,9
East Kalimantan	6,7	12,5	2,1	2,7	15,4	35,4	30,2
North Sulawesi	11,3	4,3	1,4	0,7	32,3	3,5	48,0
Central Sulawesi	9,5	1,7	0,2	0,3	31,2	7,7	50,5
South Sulawesi	7,7	2,3	0,6	0,5	31,4	49,2	14,0
South-east Sulawesi	10,8	1,0	0,2	0,3	34,0	11,0	43,8
Gorontalo	9,3	1,5	0,7	0,2	47,6	15,3	26,6
West Sulawesi	6,6	1,4	0,1	1,2	39,0	15,8	41,4
Maluku	10,9	1,6	0,6	0,1	37,5	5,6	44,5
North Maluku	9,6	1,1	0,4	0,2	26,3	10,6	52,5
West Papua	8,8	2,9	0,3	0,7	62,1	6,4	26,3
Papua	8,2	1,5	1,8	2,3	50,9	26,0	34,8
Indonesia	6,0	4,4	1,7	1,7	28,9	9,6	50,5

Table 13.1 shows that 50.5 percent of Indonesian people have no health insurance. Askes/ASABRI insurance is held by around 6 percent, Jamsostek 4.4 percent, private health insurance and health allowance of companies 1.7 percent. Health insurance programs are more dominated by Jamkesmas (28.9%) and Jamkesda (9.6%). From the above data it is very likely that same individual may participate in more than one insurance program.

Health insurance program participation by population is widely varying. Aceh is the province with the highest health insurance participation at around 96.6 percent or only 3.4 percent excluded from health insurance. Meanwhile, DKI Jakarta is the province with the lowest health insurance participation, where of total population, 69.1 percent have no health insurance of any kind.

While DKI Jakarta is not included in Jamkesmas program, 3.4 percent of its population admits that they are registered in Jamkesmas program. Four provinces with health insurance participation less than 40 percent are DKI Jakarta, Jambi, South Kalimantan and East Java.

Table 13.2 Proportion of Population by Health Insurance Program and Respondent Characteristics, Indonesia 2013

Characteristics	Health Insurance Program						
	Askes/ ASABRI	Jamsostek	Private Health Ins	Company	Jamkesmas	Jamkesda	None
Age Group (year)							
0 - 4	3,1	4,0	1,8	1,8	19,1	9,5	62,6
5 -14	4,4	3,3	1,5	1,5	31,6	9,9	50,2
15-24	5,9	4,9	1,4	1,7	28,1	9,3	51,5
25-34	4,1	7,7	2,4	2,5	26,9	9,9	50,3
35-44	5,9	5,6	2,3	2,1	30,3	1,0	47,3
45-54	10,4	2,9	1,6	1,6	29,9	9,2	47,2
55-64	10,1	1,0	1,0	0,7	31,6	9,3	48,2
65-74	10,0	0,3	0,5	0,4	35,0	9,0	46,6
75+	8,4	0,2	0,3	0,2	35,3	8,3	48,7
Profession							
Unemployed	6,9	3,1	1,4	1,4	30,0	9,7	49,9
Employees	21,2	18,9	6,1	6,8	11,6	7,1	36,0
Entrepreneurs	3,6	3,0	2,1	0,9	22,1	10,0	60,1
Farmers/Fishermen/workers	0,7	1,7	0,2	0,5	41,1	10,0	48,1
Others	5,4	2,8	1,2	0,9	29,6	11,0	51,6
Residence							
Urban	8,4	7,1	3,1	2,8	22,1	8,4	51,3
Rural	3,5	1,7	0,3	0,6	35,7	10,8	49,8
Wealth Quantile Index							
Lowest	0,5	0,3	0,1	0,2	50,3	10,1	41,7
Middle-Low	1,2	1,3	0,2	0,4	43,0	8,4	47,6
Middle	2,7	2,9	0,5	0,9	32,1	8,4	54,3
Middle-High	6,5	7,1	1,4	2,1	18,8	9,6	56,8
Highest	17,0	8,6	5,8	4,5	8,9	11,5	48,3

Table 13.2 illustrates health insurance participation by respondent characteristics of age group, profession, residence and wealth quantile index. By residence, more urban population participates in health insurance programs than those in rural areas. This is particularly true for insurance programs other than Jamkesmas and Jamkesda. As for Jamkesmas and Jamkesda, more rural population is registered in these two health insurance programs than those of urban population.

Health insurance participation by age group gives varying illustrations between age groups of infants, children < 5 years old, childrens, teenagers, adults and the elderly. The highest population group without health insurance program is found in age group < 5 years (62.6%). Meanwhile, at age group > 55 years the participation reaches 46.6 percent to 48.7 percent. High proportions are also detected in other age groups except for age groups of Children < 5 years old and the Elderly.

By professions, entrepreneurs are the largest groups of population without any insurance (60.1%) with the lowest of employee group (36%). The former consists of big traders or retailers. As to the latter they include formal and non-formal employees. 48.1 percent of farmers/fishermen/workers

have no health insurance of any sort. If they have, in majority they participate in Jamkesmas or Jamkesda. For unemployed population, 49.9 percent of them have no insurance.

By wealth quantile index, Jamkesmas is more held by population groups with wealth quantile index at the lowest, middle-low and middle by respectively 50.3 percent, 43.0 percent and 32.1 percent. However, some population groups with middle-high and highest wealth quantile indices have been identified of participating in this Jamkesmas program (18.8% and 8.9% respectively). At variance with Jamkesmas, the participation of Jamkesda is not too varied among the population groups by wealth quantile index. Outside Jamkesmas and Jamkesda, the participants of health insurance programs are dominated by those who fall in highest wealth quantile index.

13.2 Self-Medication

Medication methods are categorized into self-medication, outpatient treatment and inpatient treatment. Information of self-medication is collected from the behavior of individual who takes self-medication to deal with his/her illness, i.e. buy drugs to the pharmacy or drug stores without prescription for the last one month. The sum of money to procure such drugs is also asked. Figures presented in this analysis constitute the medians of total costs expended in the last one month.

Figure 13.1 illustrates the proportion of Indonesian people taking self-medication for the last one month. They buy drugs without doctor prescription to drug stores or stalls (26.4%) with expenditure median Rp5,000. Gorontalo is the province with the higher proportion in this respect (38.1%) with a median of expenditure Rp2,000. Papua, on the other side, is the lowest province (8.7%) with the largest median of expenditure Rp20,000.

Table 13.3 shows that urban population prefers to take self-medication with unprescribed drugs bought from drug stores or stalls, i.e. 28.5% to 24.2% in rural areas. In terms of costs, the median of expenditure spent in urban areas is higher, i.e. Rp5,000 which is identical to national median. In rural areas, the median of expenditure for self-medication is to amount Rp3,000.

Table 13.3 Proportion of Population Taking Self-Medication for the Last One Month and the Costs by Respondent Characteristics, Indonesia 2013

Characteristics	Self-Medication	
	%	Median (Rp)
Residence		
Urban	28,5	5.000
Rural	24,2	3.000
Wealth Quantile Index		
Lowest	24,9	2.000
Middle - Low	27,0	3.000
Middle	27,8	4.000
Middle - High	27,8	5.000
Highest	23,8	10.000

By wealth quantile index, the highest group is the least population taking self-medication (23.8%) with the highest median of expenditure Rp10,000.

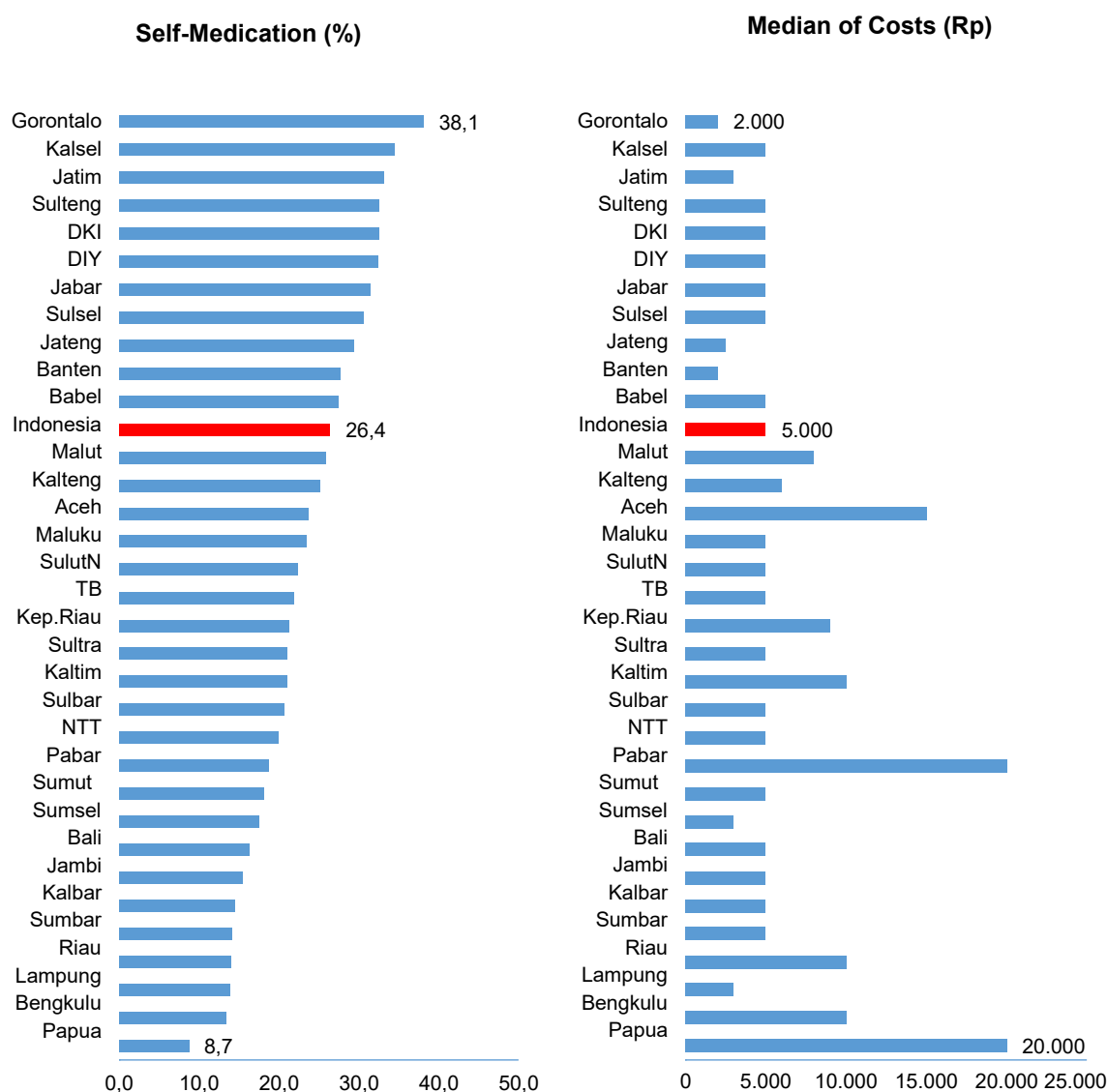


Figure 13.1 Proportion of Population Taking Self-Medication for the Last One Month and the Costs Incurred by Province, Indonesia 2013

13.3 Outpatient

Outpatient refers to health services rendered to patients including observation, diagnosis, medication and other health services without necessarily staying at hospitals. Not only health facility utilized, the costs expended for health in the last one month are also asked to the respondents. The analysis is presented in general way regardless the types of health facilities and the costs spent is expressed as median to total outpatient care expenditure in the last one month.

Outpatient treatment utilized by health facilities can be seen in Riskesdas 2013 in Figures.

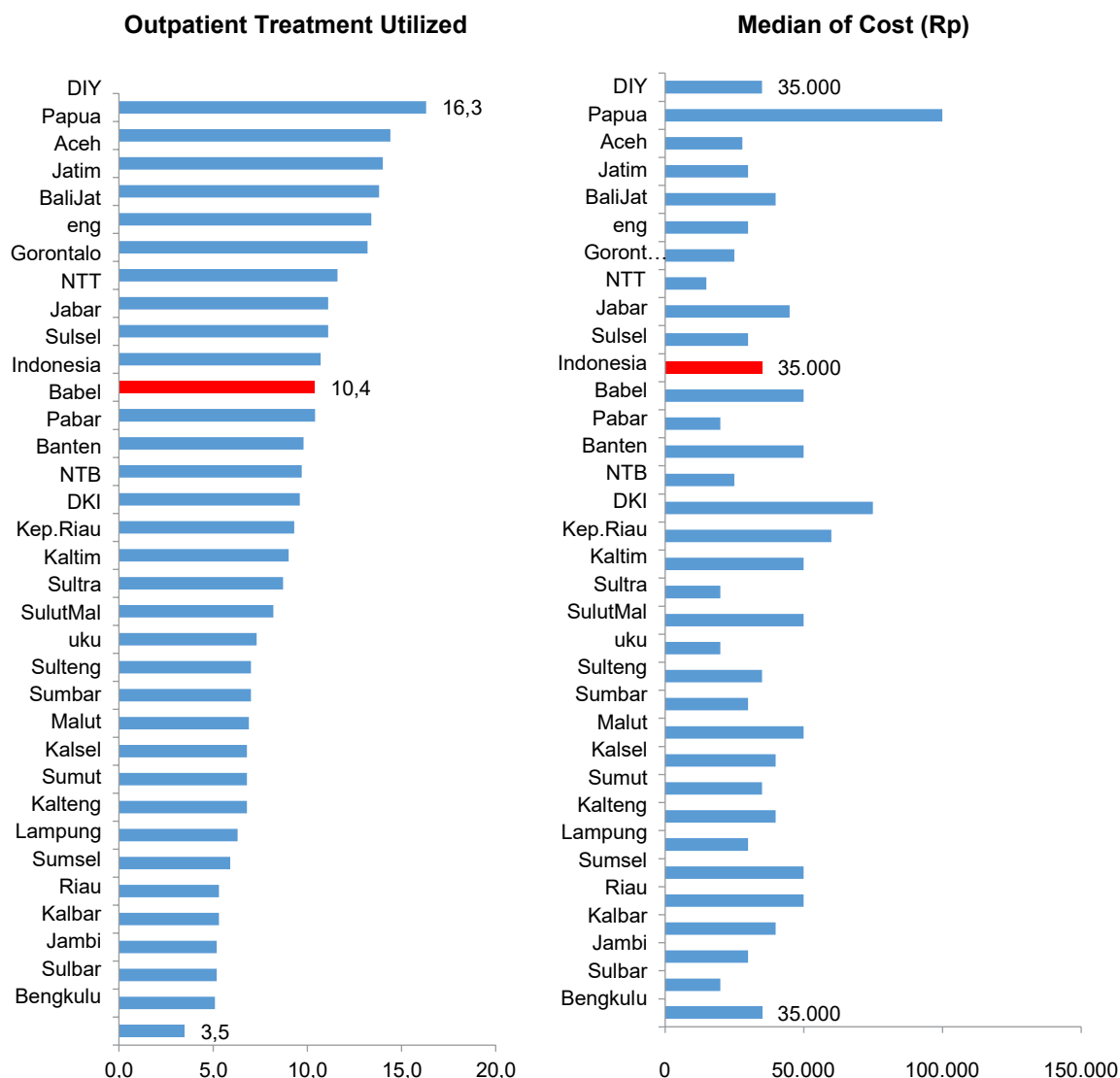


Figure 13.2 Proportion of Outpatient Treatment and the Costs Spent (Rp) by Province, Indonesia 2013

Figure 13.2 illustrates that for the last one month 10.4 percent of Indonesian people taking outpatient treatment with median of costs Rp35,000. DI Yogyakarta is the province with the highest outpatient treatment (16.3%) and median of cost Rp35,000. Bengkulu, meanwhile, is province with the least population taking outpatient care for the last one month (3.5%) with median of cost Rp35,000. In Papua 14.1 percent population admit of taking outpatient treatment with median of cost Rp100,000, which is much higher than other provinces.

Table 13.4 Proportion of Population Utilizing Outpatient Treatment and the Costs Incurred (Rp) by Respondent Characteristics, Indonesia 2013

Characteristics	Outpatient	
	%	Median (Rp)
Age Group (year)		
0-4	16,9	30.000
5-14	8,6	30.000
15-24	6,8	35.000
25-34	8,8	35.000
35-44	9,7	37.000
45-54	12,3	40.000
55-64	14,3	45.000
65-74	16,5	40.000
75+	16,8	40.000
Residence		
Urban	10,6	45.000
Rural	10,2	30.000
Wealth Quantile Index		
Lowest	9,6	25.000
Middle - Low	10,8	30.000
Middle	11,1	30.000
Middle - High	10,8	40.000
Highest	9,5	60.000

Table 13.4 indicates the utilization of outpatient treatment in various health facilities for the last one month. Children under five years old utilizing outpatient treatment service reach 16.9 percent. It is the highest age group taking outpatient case with median of costs Rp30,000. On the other side, population at age group 15-24 years is the lowest proportion utilizing outpatient treatment. The higher age, the more population utilizes outpatient service with median of costs, which tends to rise. Population of 55-64 years old is the group of population with the largest median of costs (Rp45,000) and the highest proportion (14.3%).

The utilization of outpatient and inpatient treatments in urban areas and rural areas is relatively identical despite significant disparity in terms of median of costs spent for the last one month, i.e. Rp45,000 and Rp30,000 respectively.

By wealth quantile index, median of expenditure for inpatient treatment record the highest rate at population with the highest quantile index (Rp60,000) despite the lowest proportion (9.5%). The highest proportion of outpatient treatment utilization is found in population at middle quantile with median of expenditure Rp30,000.

13.4 Inpatient Treatment

According to Azwar Azrul (1996:73) inpatient treatment refers to intensive medical service (hospitalization) rendered by hospitals, maternal hospitals or maternal clinics. The utilization of inpatient treatment has been asked for the last twelve months. The results of analysis are presented in general regardless types of health facilities and the indicated costs represent the median of total costs spend for the last twelve months.

The utilization of inpatient treatment by health facilities can be seen in Riksesdas 2013 in Figures.

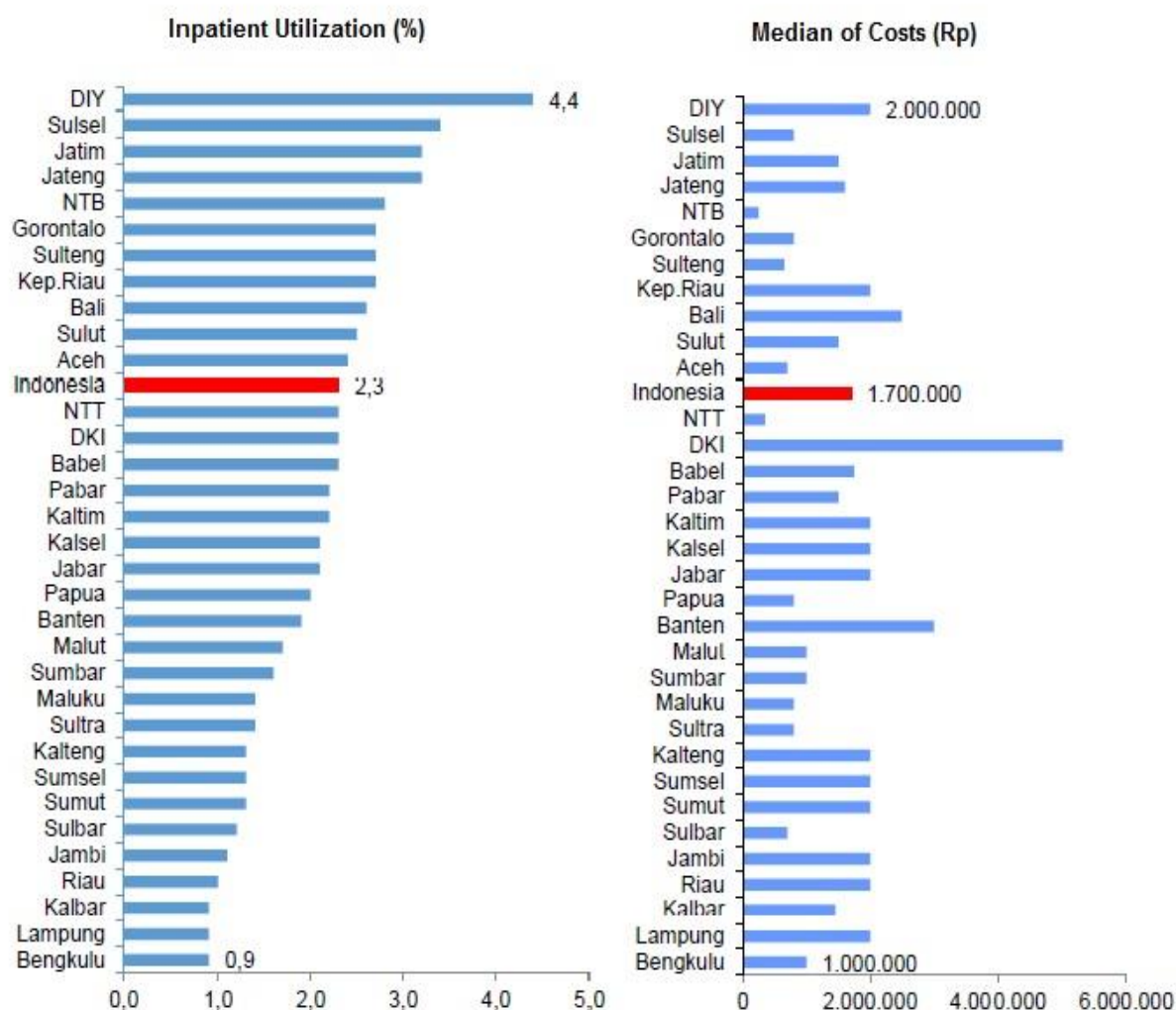


Figure 13.3 Proportion of Population Utilizing Inpatient Treatment and the Costs Incurred (Rp) by Province, Indonesia 2013

Figure 13.3 illustrates that 2.3 percent of Indonesian people take inpatient treatment for the last twelve months with median of costs Rp1,700,000. The highest proportion in utilizing this inpatient service is found in DI Yogyakarta (4.4%) with median of costs for the last one year Rp800,000. Populations of Bengkulu, Lampung and West Kalimantan are the lowest proportions in using inpatient treatment by respectively 0.9 percent with varying median of costs, i.e. Rp1,000,000, Rp2,000,000 and Rp1,450,000 respectively. Costs incurred for inpatient treatment in DKI Jakarta Rp5,000,000.

Table 13.5 Proportion of Populations Utilizing Inpatient Treatment and the Costs Incurred (Rp) by Respondent Characteristics, Indonesia 2013

Characteristics	Inpatient	
	%	Rp
Age Group (Year)		
0-4	2,8	1.300.000
5-14	1,3	1.200.000
15-24	2,1	1.500.000
25-34	2,5	1.800.000
35-44	2,2	2.000.000
45-54	2,5	2.000.000
55-64	3,4	2.100.000
65-74	4,3	2.500.000
75+	4,4	2.200.000
Residence		
Urban	2,7	2.100.000
Rural	2,0	1.000.000
Wealth Quantile Index		
Lowest	1,5	575.000
Middle - Low	2,0	830.000
Middle	2,2	1.495.000
Middle - High	2,6	2.000.000
Highest	2,9	3.000.000

Table 13.5 shows that 2.8 percent of children under five years old utilize inpatient service and such percentage exceeds the national average (2.3%). The elderly group is the highest proportion of population utilizing inpatient facility and so are the costs. Inpatient care utilization in urban areas and rural areas record insignificant disparity. As to median of costs for inpatient treatment, urban patients must expend Rp2,100,000. This sum is double to median of inpatient costs in rural areas Rp1,000,000. By wealth quantile index, population at the highest quantile is the highest proportion in utilizing inpatient service (2.9%) with costs Rp3,000,000.

13.5 Financing Sources

Financing sources for health by SKN come from the Government and communities. Riskesdas 2013 provides information of health financing sources for population utilizing outpatient treatment for the last one month and or inpatient care for the last twelve months. The sources are classified into: self-help funding, health insurance (Civil Public Servants/PNS, the Veterans, the Retired Persons of PNS and TNI/Polri) ASABRI (active TNI/Polri, Staff of the Ministry of Defense), JPK Jamsostek, Private Health Insurance, Health Allowance of Companies, Jamkesmas and Jamkesda.

Table 13.6 Proportion of Population by Outpatient Financing Sources and Characteristics, Indonesia 2013

Characteristics	Outpatient Financing Sources for All Facilities								
	Out of Pocket	Askes/ASABRI	Jamsostek	Private insurance	Jamkesmas	Jamkesda	Companies	Others	> 1 source
Residence									
Urban	66,3	4,5	3,1	1,2	11,5	5,7	2,9	3,8	1,1
Rural	69,6	1,8	0,8	0,2	17,1	5,9	0,7	2,8	1,1
Wealth Quantile Index									
Lowest	57,3	0,4	0,2	0,0	30,7	6,2	0,3	2,8	2,0
Middle - Low	68,0	0,8	0,6	0,1	20,6	5,0	0,8	3,2	0,8
Middle	71,1	1,5	1,2	0,2	14,5	5,5	1,0	4,1	0,9
Middle - High	70,2	3,9	3,4	0,8	8,1	6,6	2,3	3,7	0,9
Highest	68,5	8,9	3,5	2,1	3,4	5,7	4,3	2,3	1,2

Figure 13.5 indicates that financing sources used for inpatient at all health facilities in Indonesia are dominated by out of pocket mechanism at 53.5 percent. It implies that around 50.5 percent of Indonesian people have no health insurance. Eleven (11) provinces record higher out of pocket financing proportion than national average (Table 13.1). Health insurance used as financing sources for outpatient and inpatient is relatively identical.

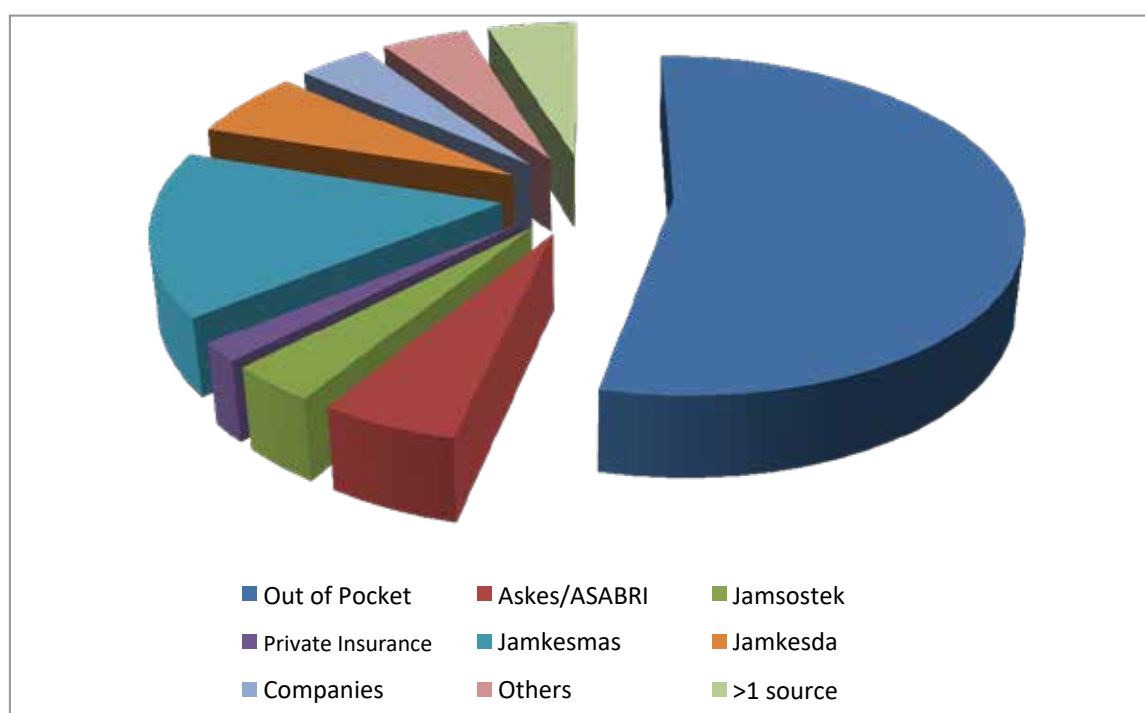


Figure 13.5 Financing Sources used for inpatient treatment, Indonesia 2013

Financing sources mostly used for inpatient treatment are respectively, Jamkesmas 15.6 percent, Jamkesda 6.4 percent, Askes/ASABRI 5.4 percent with 4.9 percent using more than 1 source and 4.8 percent with other sources. Jamsostek has been used by 3.5 percent as financing sources for health treatment, 1.8 percent with private insurance and the other 4 percent from health allowance provided by companies.

Proportion of population by inpatient financing source and province can be seen in Riskesdas 2013 in Figure.

Table 13.7 Financing Sources for Inpatient Treatment by Characteristics, Indonesia 2013

Characteristics	Inpatient Financing Sources for All Facilities								
	Out of Pocket	Askes/ASABRI	Jamsostek	Private Insurance	Jamkesmas	Jamkesda	Companies	Others	>1 source
Residence									
Urban	50,1	7,1	4,9	2,9	12,7	6,0	5,8	4,9	5,6
Rural	58,2	3,1	1,7	0,4	19,5	7,0	1,5	4,6	4,0
Wealth Quantile Index									
Lowest	47,8	0,3	0,3	0,3	32,4	9,0	0,5	5,3	4,0
Middle - Low	50,8	1,0	1,1	0,5	28,6	5,9	2,1	5,9	4,2
Middle	56,5	2,7	2,6	0,7	18,1	6,6	2,3	6,3	4,2
Middle - High	56,1	5,4	5,5	1,4	10,0	7,2	4,5	4,5	5,4
Highest	52,4	12,4	5,1	4,5	4,8	4,8	7,2	2,9	5,8

Table 13.7 shows that by residence, inpatient financing sources for all health facilities are from various health insurance such as Askes, ASABRI, JPK Jamsostek, private insurance and health allowance of companies. This is particularly true in urban areas. As to Jamkesmas and Jamkesda, they are more utilized in rural areas as financing sources for inpatient treatment.

By wealth quantile index, the proportion of financing sources for inpatient treatment other than Jamkesmas and Jamkesda are to rise in line with the increasing quantile. Inpatient financing sources for all health facilities coming from out of pocket source record proportion more than 47 percent. At the lowest quantile, 47.8 percent take inpatient treatment with their own budget or without health insurance. At the highest quantile, this proportion reaches 52.4 percent. Financing sources of inpatient treatment from Jamkesmas are mainly detected in population at the lowest quantile (32.4%). Meanwhile, 4.8 percent of population at the highest quantile use this health insurance facility.

Bibliographies

Azwar Azrul. *Pengantar Administrasi Kesehatan*, Edisi Ketiga, Jakarta : Binarupa Aksara. 1996
[Azwar Azrul. Introduction to Health Administration, Third Edition. Jakarta: Binarupa Aksara. 1996]

Gottret, Pablo and Schieber, George. *Health Financing Revisited: A Practitioner's Guide*. The World Bank. Washington DC, 2006

Peraturan Presiden No. 13 Tahun 2013 tentang Jaminan Kesehatan
[Presidential Regulation No. 13 of 2013 concerning Health Insurance]

Nasional Peraturan Presiden No. 72 Tahun 2012 tentang Sistem Kesehatan Nasional
[Presidential Regulation No. 72 of 2012 concerning National Health System]

The World Health Report 2000: Health systems: Improving Performance. World Health Organization, Geneva, 2000

The World Health report 2010: Health Systems Financing The Path To Universal Coverage. World Health Organization, Geneva, 2010

Undang-undang No. 36 Tahun 2009 tentang Kesehatan
[Law No. 36 of 2009 concerning Health]

Undang-undang No. 40 Tahun 2004 tentang Sistem Jaminan Sosial Nasional
[Law No. 40 of 2004 concerning National Social Insurance System]

CHAPTER 14. REPRODUCTIVE HEALTH

Tin Afifah, Ika Saptarini, Nurillah Amaliah, Anissa Rizkianti, Ning Sulistiyowati and Sri Mulyani

Reproduction health has been discussed since Riskesdas 2010, which at the time just described this issue at national and province level. Meanwhile, Riskesdas 2013 provides information relating to Reproductivehealth not only at nationwide but also at province level as well as regency/municipality (limited to certain indicators) that will enable the provinces to assess the service coverage of community-based maternal health services as complement to routine data.

ReproductiveHealth block furnishes information on maternal health status and other issues relating to reproductivehealth of female population aged 10-54 years old. The information that has been collected includes: 1) pregnancy events during interviews explored through household questionnaire; 2) the use of Family Planning devices/methods; 3) maternal health service coverage from pregnancy to postnatal period; and 4) other reproductivehealth issues.

Total samples used in the analysis are presented in Table 14.1.

Table 14.1 Main Indicators, Analysis Unit and Total Samples for Reproductive Health Block, Riskesdas 2013

Indicators	Analysis Unit	Total Samples
Pregnancy Events		
Pregnancy proportion	All female household members aged 10-54 years	357.830
Family Planning (FP) Program		
FP Participation, CPR, FB methods	Women at Childbearing Age (15-49 yrs old) with married status	191.818
Modern FP operation and service places	Women at Childbearing Age, married status, use modern FP method	104.851
Main reason not taking FP	Women at childbearing Age, married, not participate in FP	86.024
Maternal Health Service		
Pregnancy Period:		
Pregnancy Checks: K1, K1 ideal, K4 and ANC min. 4 times	Total Births (Life and Death) from pregnancy history 1 Jan 2010 to interviews	49.605 births
ANC places and operators, iron consumption, KIA book	Total Births (Life and Death) period 1 Jan 2010 to interviews taking ANC	46.189 births
During Childbirth:		
Maternal health service coverage:	Total Births (life and death) period 1 Jan 2010 to interviews	49.605 births
- Proportion of health facilities,		
- Proportion of maternal clinics		
Postnatal:		
Peuperium coverage (KF)	Total Births (life and death) period 1 Jan 2010 to interviews	49.605 births
Post-Childbirth coverage		

More detailed data on Reproductive Health can be seen in Book 2: Riskesdas in Figures, pp. 281 to 315

14.1. Pregnancy

Information on pregnancy provides description on the proportion of Indonesian people who is in pregnant condition (Figure 14.1). Pregnancy proportion to female Indonesian people aged 10-54 years records 2.68 percent, which in urban areas (2.8%) this proportion is higher than in rural areas (2.55%). (See Riskesdas in Figures). Pregnancy pattern varies by age groups and residence. Of women at 10-54 years of age, some of them are in childbearing conditions at very young age (<15 years old) despite miniscule proportion (0.02%) especially in rural areas. Pregnancy proportion at teenagers (15-19 years old) reaches 1.97 percent. In this case, rural areas record higher proportion than in urban areas, i.e. 1.97 percent to 1.28%.

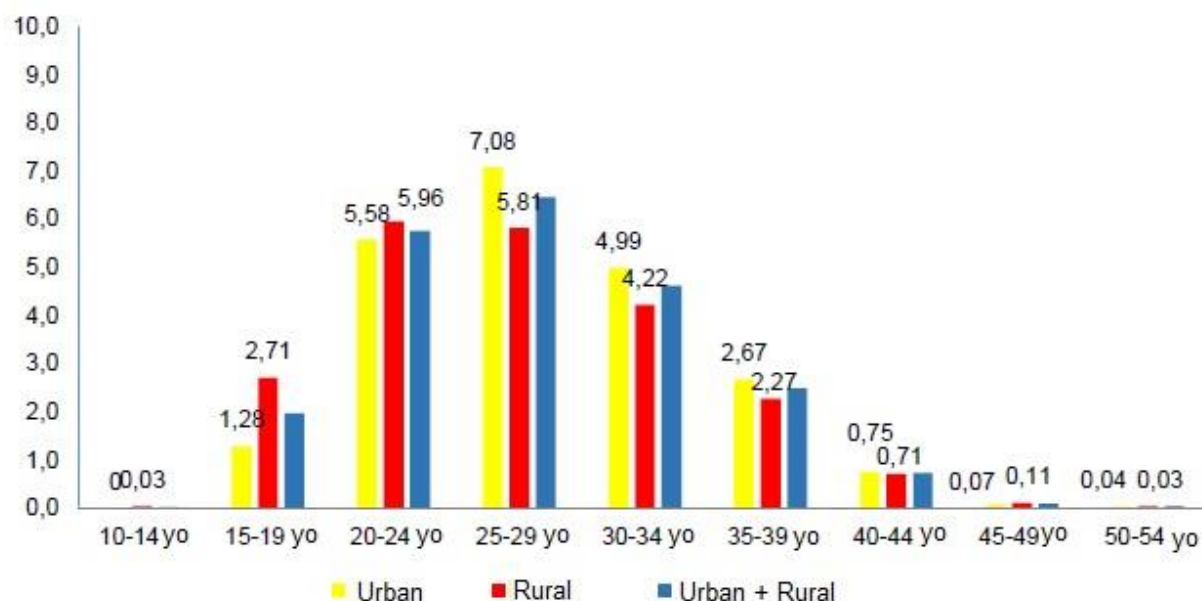


Figure 14.1 Proportion of Pregnant Female Population by Age Group and Residence, Indonesia 2013

14.2. Family Planning (FP) Program Service

FP service is an attempt to support national FP program policy. One of FP program indicators is the presently used FP method and CPR (Contraceptive Prevalence Rate). CPR is the percentage of FP device/method used by couples of childbearing age, i.e. women of childbearing age (aged 15-49 years) with married status or living together (Rajaguguk, Omas Bulan, 2010).

In this report, information on FP has been analyzed for women of childbearing age with married status or living together. Analysis to FP device/method refers to the most effective FP device/method.

a. FP Pattern At Present

Figure 14.2 shows the proportion of FP participation in Indonesia that according to Riskesdas 2010 reaches 55.8% and Riskesdas 2013 records 59.7%. Generally speaking, there is an increase for three years period. FP participation in 2013 varies in provinces with the lowest in Papua (19.8%) and the highest in Lampung (70.5%).

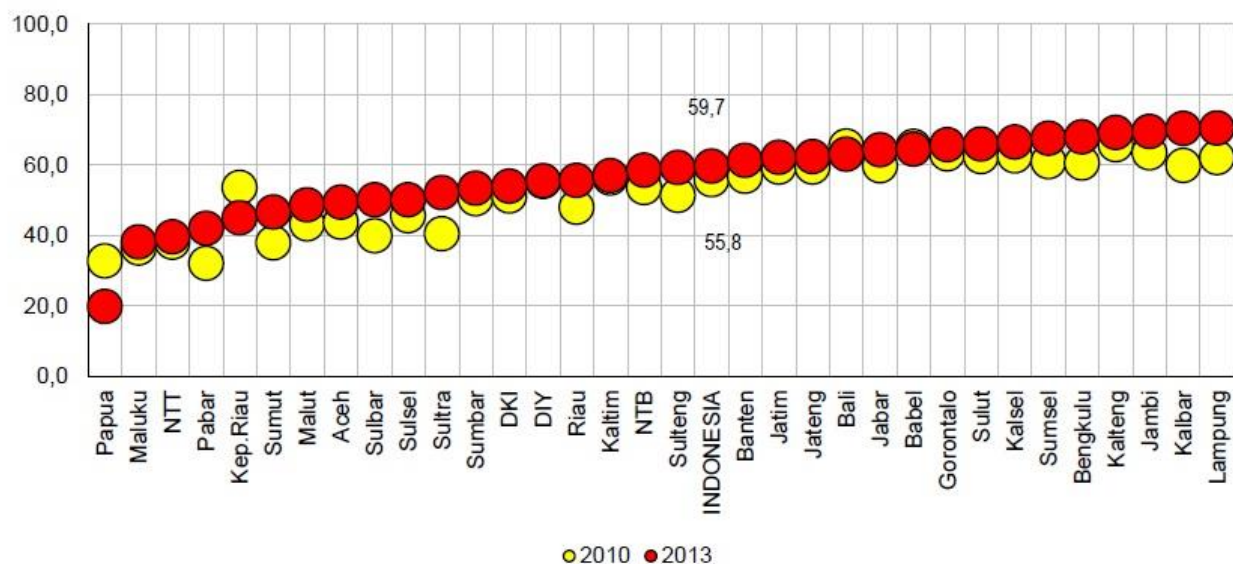


Figure 14.2 FP Participation at Present by Province, Riskesdas 2010 and 2013

FP device/method consists of modern contraception and traditional contraception. Birth control by device or method reflects modern CPR and traditional CPR. Modern CPR indicator is the fifth MDG indicator with target of increasing modern CPR by 65 percent (Ministry of Health 2011).

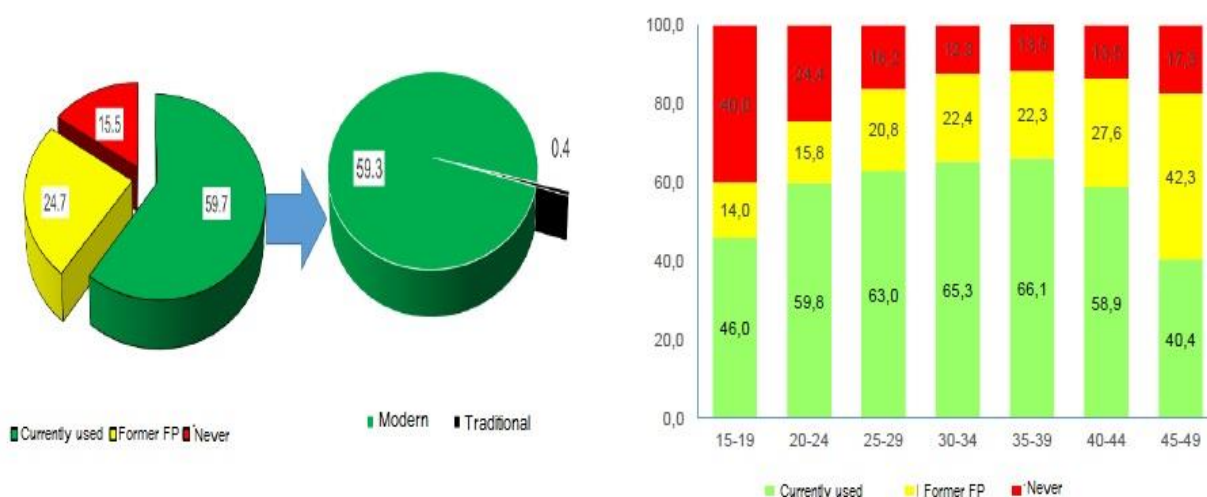


Figure 14.3 Proportion of FP Device/Method Currently Used by Women of Childbearing Age with married status by age group, Indonesia 2013

the participation is relatively low.

b. FP Participation by Hormonal Content and Effective Period

Modern FP participation by device/method is presented in Figure 14.4 that follows.

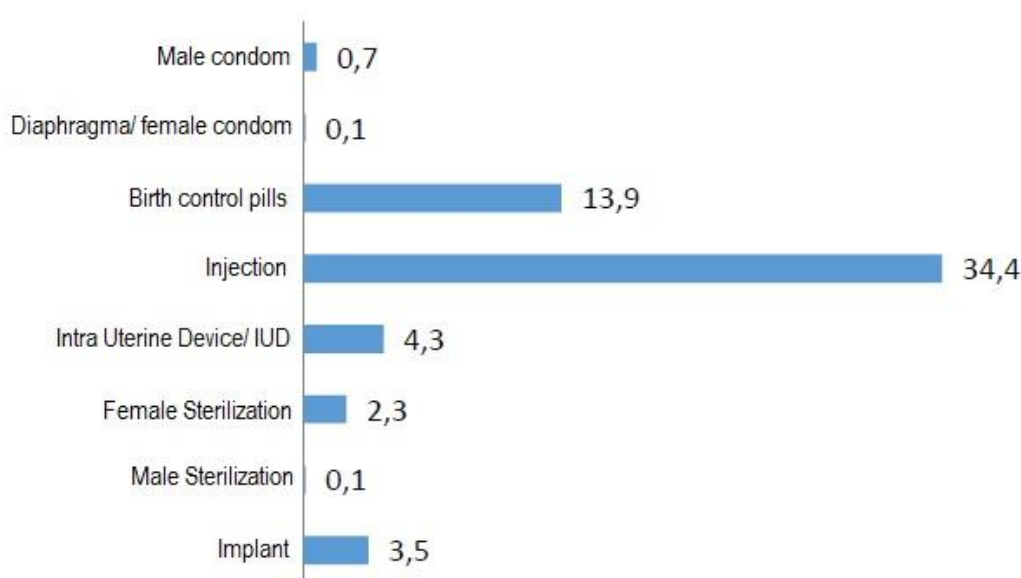


Figure 14.4 Proportion of Women of Childbearing Age with Married Status Participating in FP by Device/Method, Indonesia 2013

Figure 14.4 shows dominant injection method for birth control. The data are then classified by hormonal content and effective period.

Hormone based methods include implant, injection and pills. For non hormone based methods, they consist of male sterilization, female sterilization, spiral/IUD, diaphragma and condoms. Modern birth control methods by effective period for Long-Term Contraception Method/MKJP) include implant, male sterilization, female sterilization and spiral/IUS. For non Long-Term Contraception (Non MKJP) Method they consist of injection, pills, diaphragm and condoms.

Figure 14.5 shows the proportion of hormone-based modern control birth devices/methods by province. The highest proportion of hormone-base control birth is found in Central Kalimantan (66.5%) and the lowest in Papua (17.8%). As for non hormone-based birth control, the highest proportion is detected in Bali (24.0%) and the lowest in Maluku (1.4%). The relatively high hormone-based control birth method is due to the exceeding proportion of FP participants who more prefer to take injection method.

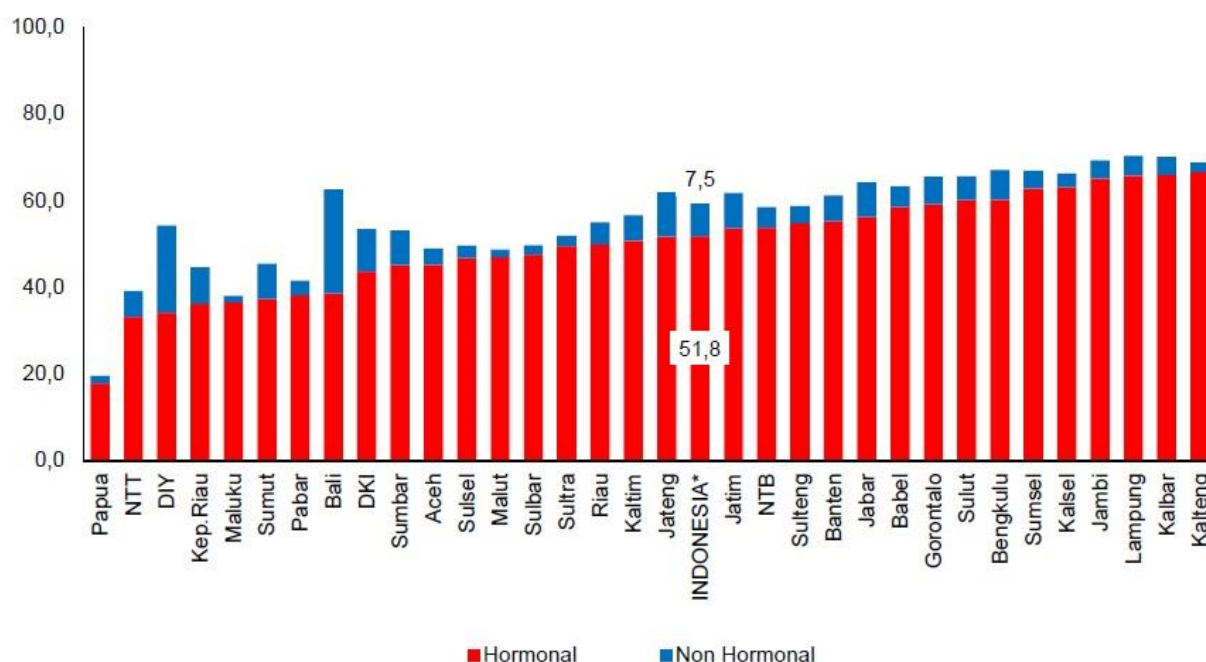


Figure 14.5 Proportion of Women of Childbearing Age Using Modern Devices/Methods for Birth Control by Hormonal Content and Province, Indonesia 2013

Figure 14.6 shows variation of proportions in birth control methods by effective period (MKJP and Non MKJP). The highest proportion of non MKJP birth control is found in West Kalimantan (64.9%) and the lowest in Papua (16.2%). As to the highest proportion of MKJP birth control it is found in Bali (24.6%) and the lowest in Papua (3.3%).

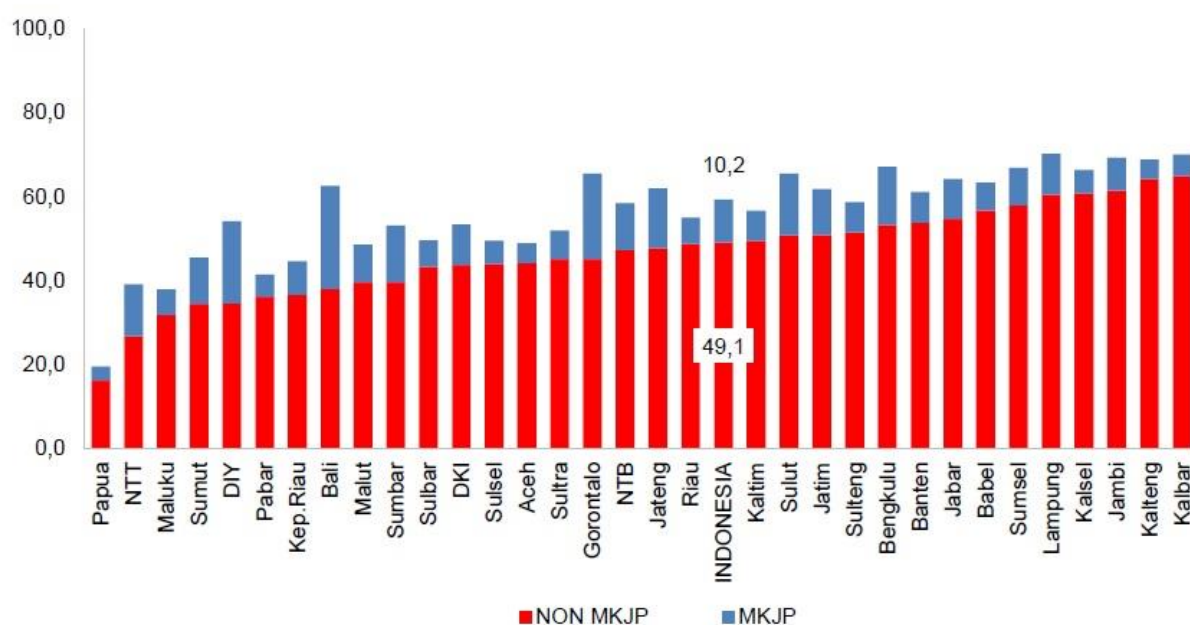


Figure 14.6 Proportion of Women of Childbearing Age with Married Status, Using Modern Birth Control Devices/Methods by Effective Periods and Province, Indonesia 2013

c. Modern FP Service Places and Healthcare Professionals

Information on Modern FP Service Places and Healthcare Professionals is very helpful to evaluate FP programs.

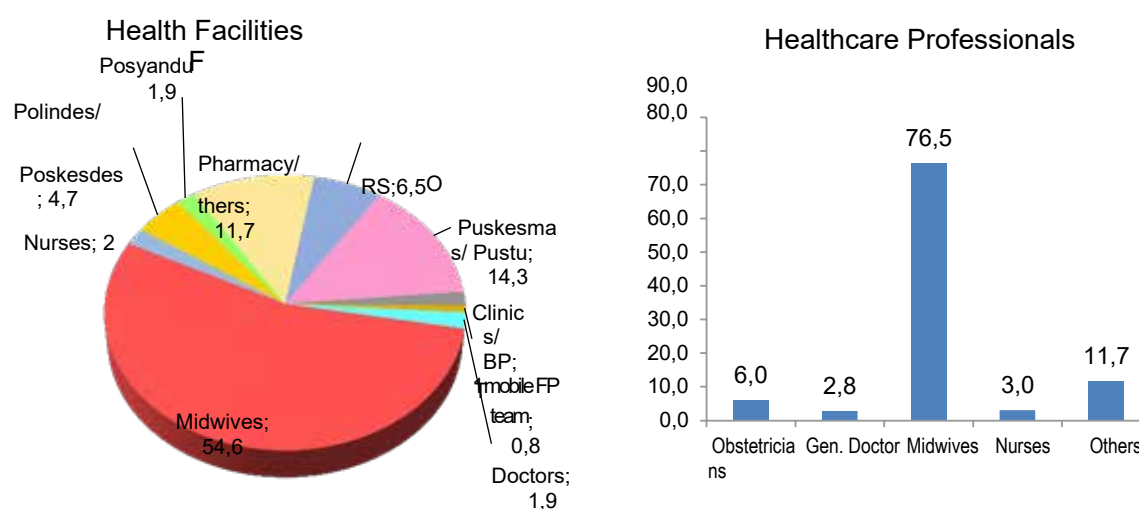


Figure 14.7 Proportion of Population Using FP Services by Places and Healthcare Professionals, Indonesia 2013

Figure 14.7 indicates the use of places and healthcare professional providing FP service. It is evident that midwives play leading roles in FP services. The proportions vary according to respondent characteristics. Places/healthcare professionals mostly visited to get FP services are midwives with the least proportion of mobile FP team (0.8%). These results are relatively identical to Riskesdas 2010, which also showed the dominant midwives (51.9%) in FP services and the lowest Mobile FP Team (0.9%).

Figure 14.7 indicates that healthcare professional mostly delivering FP services are midwives (76.5%). This proportion much outnumbers other healthcare professional.

d. The Main Reasons For Not Using Birth Control Devices/Methods

In Riskesdas 2013, respondents have been asked about their main reasons of refusing birth control device/method. In general, their refusal stems from notion saying that every woman has right to have children and that's why they not use contraceptions. Some respondents find some troubles with their fertility, meanwhile they want children. Thus, they decide not to participate in FP program. Other reasons are of belief, banned by husbands/families, lack of knowledge, difficult access to birth control devices, afraid of the side effects, and uncomfortable feeling. These inputs become important information for the Government in designing intervention programs in future so as to expand FP services.

Figure 14.8 shows the main reasons of not using control birth devices/methods either for those who never engage in FP program before and those who once took part in FP participants. As to the former, 15.7 percent said that they intentionally refuse to participate in birth control program. The other 20.5 percent express their worries of side effects, banned by husbands and religious matters. These reasons may be dealt with counseling interventions. As to those who no longer participate in FP program, 17.2 percents said that they are afraid of the side effects, 12.2 percent feel uncomfortable and the other 9.3 percent refuse to participate. In light of that, there are 29.4 percent who need further explanation of alternative birth control methods, which are most suitable for them so that these respondents will be available to resume their participation in FP programs.

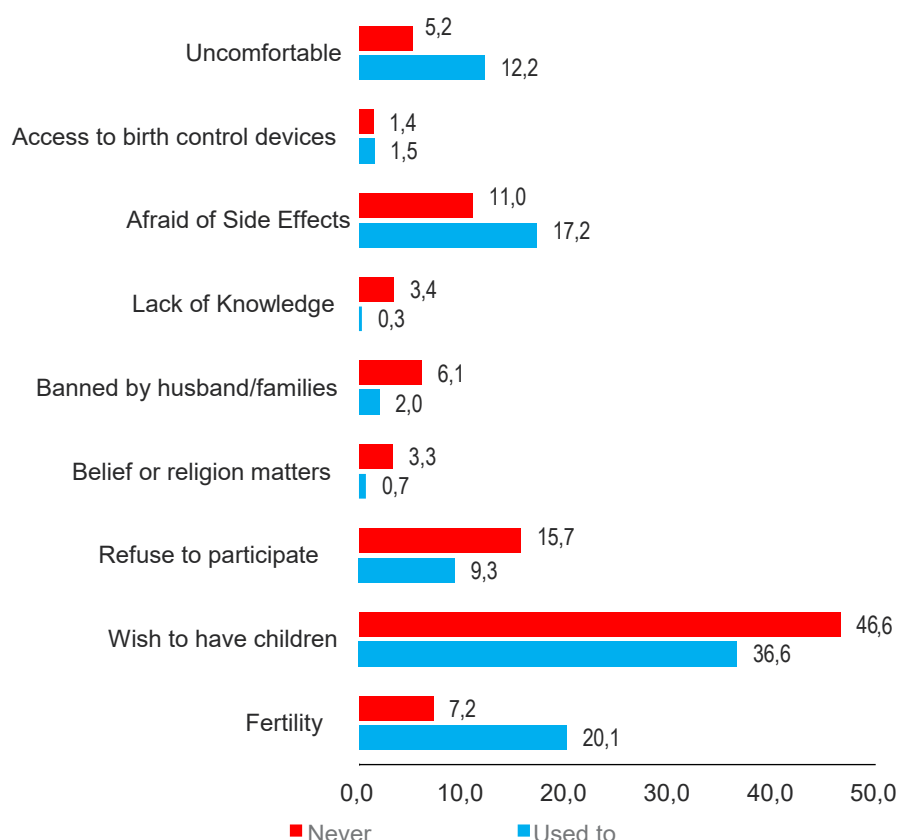


Figure 14.8 Proportion of Main Reasons Not Using Control Birth Devices/Methods for Women of Childbearing Age with Married Status both Who Never Participate in FP Program Before and Former FP Participants, Indonesia 2013

14.3. Health Service during Pregnancy, Childbirth and Postnatal Period

Any pregnancy event poses life-threatening risk to the mother. Adequate health monitoring and care during pregnancy to peuperium are crucial for the life of mother and baby. To abate maternal mortality rate, the Ministry of Health gives greater focus on maternal health service provision at community level.

Riskesdas 2013 asks all female respondents 10-54 years old used to deliver babies. Respondents who deliver babies (life and death) from 1 January 2010 to interviews are then asked of their experience in health services from pregnancy period to peurperium. Analysis is made to 49,603 births to get illustration on pregnancy, delivery and postnatal service indicators.

The operational definition of ANC indicators

K1 or ANC minimum 1 time is the proportion of receiving maternal health care service during pregnancy min. 1 time regardless the time.

K1 ideal is the proportion of receiving maternal health care service for the first time in trimester

K4 is the proportion of receiving maternal health care service for 4 times after complying with 1-1-2 criteria, i.e. minimum 1 time in trimester 1, minimum 1 time in trimester 2 and minimum 2 times in trimester 3

ANC minimum 4 times is the proportion of receiving maternal health care service minimum 4 times regardless the time.

Some MGDs indicators have been acquired for this part, i.e. ANC coverage minimum 1 time and ANC minimum 4 times and the proportion of competent healthcare professionals helping the delivery process.

a. Maternal Helath Care Service and ANC Indicators

Antenatal Care (ANC) is health care provided by healthcare professionals for the mothers during pregnancy and carried out according to service standards established in Pregnancy Service Standards/SPK (Directorate of Maternal Health Development, the Ministry of Health 2010). Healthcare professionals include doctors who specialize in pregnancy and birth, general doctors, midwives and nurses.

This report presents ANC indicators, which are in consistency with MDG (K1 and ANC minimum 4 times) or ANC indicators for the evaluation of maternal health care program in Indonesia such as K1 ideal and K4.

Figure 14.9 shows that 95.4 percent of births receive ANC (K1) service. K1 and ANC minimum 4 times constitute ANC indicators regardless trimester period when pregnancy checks are conducted. K1 coverage varies from 71.7 percent (Papua) and 99.6 percent (Bali). However, for ANC minimum 4 times, DI Yogyakarta records higher rate (96.5%) than Bali (95.8%). The difference of K1 and ANC 4 times indicates pregnancies not receiving optimum ANC service.

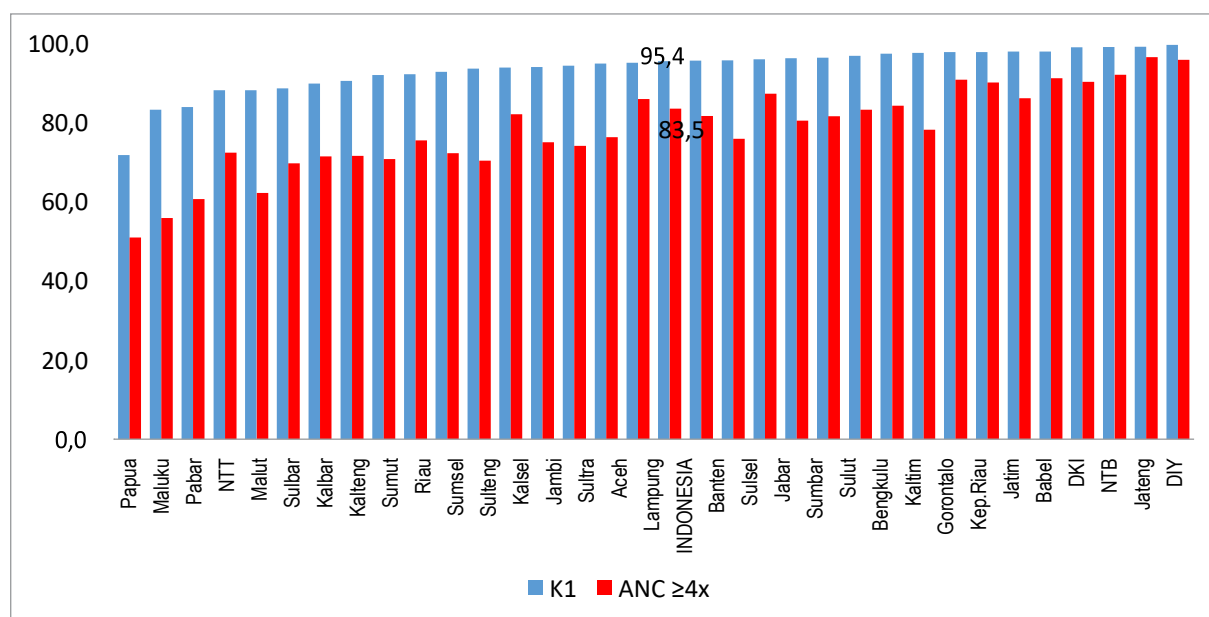


Figure 14.9 ANC K1 and ANC Min. 4 times Indicators by Province, Indonesia 2013

Figure 14.10 presents the coverage of K1 Ideal and K4. The indicators of K1 ideal and K4 are to see frequencies referring to trimester period when pregnancy checks take place. The Ministry of Health set K4 as an ANC indicator (Directorate of Maternal Health Development, Ministry of Health, 2010).

K1 ideal and K4 indicators referring to the frequencies and trimester period during ANC indicate health examination during pregnancies. Every pregnant mother who receives ANC in trimester 1 (K1 ideal) should receive regular maternal health service from trimester 1 to trimester 3. This can be detected from ANC K4 indicators. At nationwide, K1 ideal reaches 81.6 percent with the lowest in Papua (56.3%) and the highest in Bali (90.3%). At nationwide, K4 covers 70.4 percent with the lowest in Maluku (41.4%) and the highest in DI Yogyakarta (85.5%). In light of foregoing description, the difference of K1 ideal and K4 at nationwide indicates that 12 percent of mothers receiving K1 ideal not accept further ANC service according to minimum standards (K4).

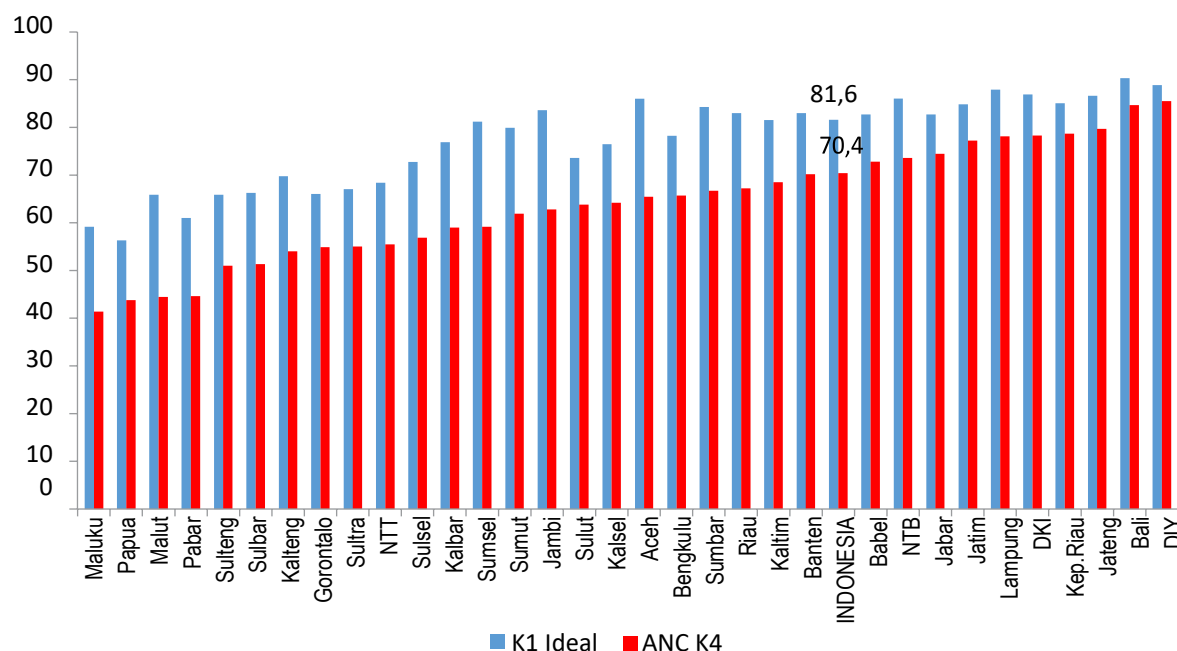


Figure 14.10 ANC K2 Ideal and ANC K4 (ANC 1-1-2) Indicators by Province, Indonesia 2013

b. Healthcare Professionals and Places for Pregnancy Checks

Competent healthcare professionals rendering maternal health care services include doctors specialized in pregnancy and birth (obstetricians), general doctors, midwives and nurses (Directorate of Maternal Health Development, the Ministry of Health, 2009). Health Facilities to expand maternal health service range from hospitals to Posyandu (Integrated Health Posts).

Figure 14.11 shows the proportion of ANC service by healthcare professionals and places receiving ANC service. In this respect, midwives play the most leading roles (87.8%) and health facilities mostly used by maternal mothers are respectively midwife practices (52.5%), Puskesmas/Pustu (52.5%) and Posyandu (10.0%). This pattern prevails in all provinces.

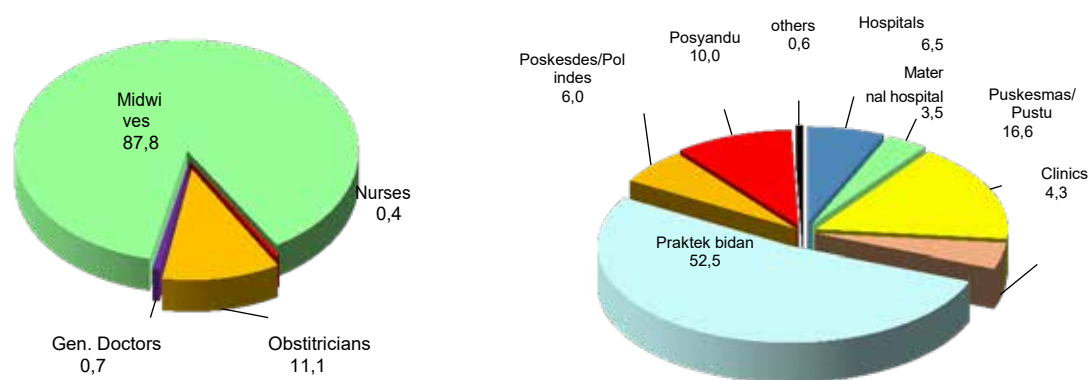


Figure 14.11 Proportion of Pregnancy Checks by Healthcare Professionals and Places of Receiving ANC Service, Indonesia 2013

Proportion of healthcare professionals rendering pregnancy check services by province and respondent characteristics can be seen in Riskesdas 2013 in Figures. Population who lives in rural areas, with low education and at the lowest to middle wealth quantile index more prefer midwives to check their pregnancies. On the other side, doctors specialized in pregnancy and birth (obstetricians) are more preferred by urban population with high education and at the highest wealth quantile index.

The proportion of places where the respondents receive ANC services by provinces and characteristics can be seen in Riskesdas 2013 in Figures.

c. Iron Consumption

Iron is important for pregnant mothers to prevent anemia and to maintain optimal growth of fetus. The Ministry of Health recommends pregnant mothers to consume at least 90 pills of iron during pregnancy (Ministry of Health, 2001). In Riskesdas 2013 it has been asked whether the pregnant respondents consume iron during the pregnancies. Iron may be in the forms of tablets/pills, caplets, etc. which are commonly sold in the markets and iron-contained multivitamins.

Figure 14.12 shows respondents consuming iron and variation in iron intakes during pregnancy in Indonesia which record 89.1 percent. Of them, 33.3 percent consume at least 90 days during their pregnancies.

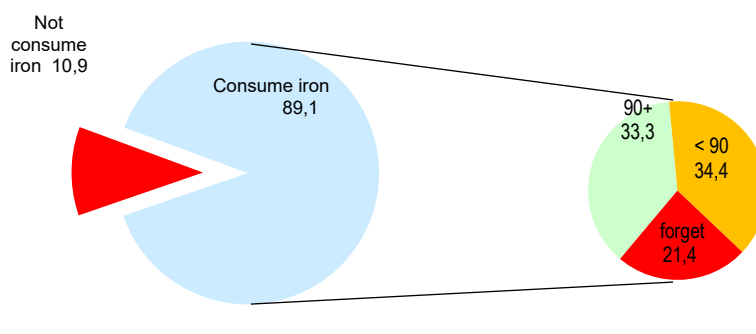


Figure 14.12 Proportion of Iron (Fe) Consumption and Total Iron Consumption Days, Indonesia 2013

d. KIA (Mother and Child) Book and Pregnancy Planning and Complication Prevention Program (P4K)

KIA book has been developed since 1997 with support of JICA (Japan International Cooperation Agency). KIA Book contains records of pregnant mothers (pregnancies, childbirth and puerperium) and children (newborn babies, babies and children under five years old). The book also contains information of mother and child care and treatment. Every pregnancy receives 1 KIA book.

Pregnancy Planning and Complication Prevention Program (P4K) is a breakthrough program initiated by the Ministry of Health in empowering the communities with regard to maternal health improvement as an attempt to decrease maternal mortality rate (Factsheet of DG Maternal Health Development). P4K is a community empowerment campaign facilitated by healthcare professionals, cadres, religion leaders/local leaders aiming to elevate the active roles of husbands, families and communities in birth planning, preparation in dealing with complicated deliveries, contraception planning after delivery using stickers as media. The application of P4K is recorded in KIA book at sheet "Pregnancy Message". Every pregnancy event will receive KIA in which birth planning must be written down (Ministry of Health, 1997).

In Riskesdas 2013, enumerators ask about this KIA Book. If the respondents present KIA Book, the next stage is to observe 5 components of P4K in “Pregnancy Message sheet” relating to birth planning, preparation for emergency and Family Planning, i.e.:

1. Healthcare professionals helping the delivery process (who will handle the childbirth)
2. Funding (financing sources to cover delivery costs)
3. Village vehicle/ambulance (prepared to take pregnant mother to the maternal places, at any time)
4. FP methods (types of birth control methods to be used after the delivery) and
5. Blood donation (names of blood donors in case of bleeding/other complication requiring blood donation)

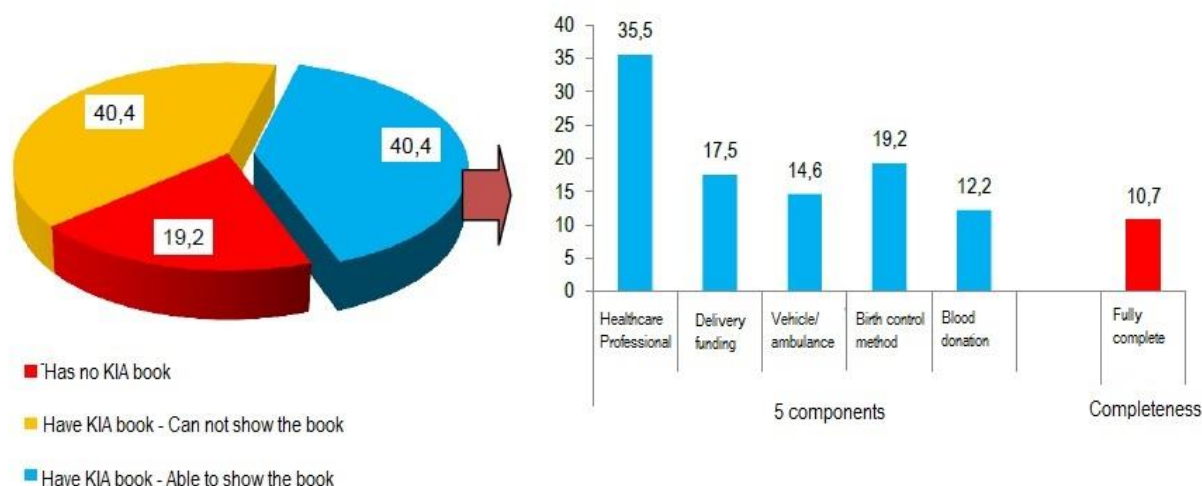


Figure 14.13 Proportion of Respondents with KIA Books and 5 P4K Components based on Observation to “Pregnancy Message” sheet of KIA Book Presented by Respondents, Indonesia 2013

The analysis shows that 80.8 percent of respondents have KIA book but only 40.4 percent present the said book during interviews.

Figure 14.13 also indicates the results of observation to KIA Book concerning 5 P4K components contained in Pregnancy Message sheet where the components of healthcare professional names expected to help delivery process are 35.4 percent filled, delivery funding 17.3 percent filled, village vehicle/ambulance 14.4 percent filled, post-delivery FP method 19.2 percent filled and blood donation 12.1 percent filled. Respondents completing overall components reach 10.7 percent with the other 64.0 percent filling out nothing (blank).

e. Delivery Method

Pregnancy period is critical time for pregnant mother. Complication or other impeding factors may lead to life-threatening risk to the mother, for which medical actions to save the mother and baby will be crucial.

In Indonesia, caesarean is only carried out upon particular medical indication and for complicated pregnancy (Ministry of Health 2001c). Riskesdas 2013 asks delivery process experienced by the respondents. Figure 14.14 presents the proportion of caesarean deliveries by province and Figure 14.14 by respondent characteristics. The results of Riskesdas 2013 show that caesarean deliveries record 9.8 percent with the highest proportion in DKI Jakarta (19.9%) and the lowest in South-East Sulawesi

Sulawesi (3.3%). In general, caesarean delivery pattern by respondent characteristics is mostly found in population at the highest wealth quantile index (18.9%), living in the cities (13.8%), working as employees (20.9%) and having high education/university (25.1%).

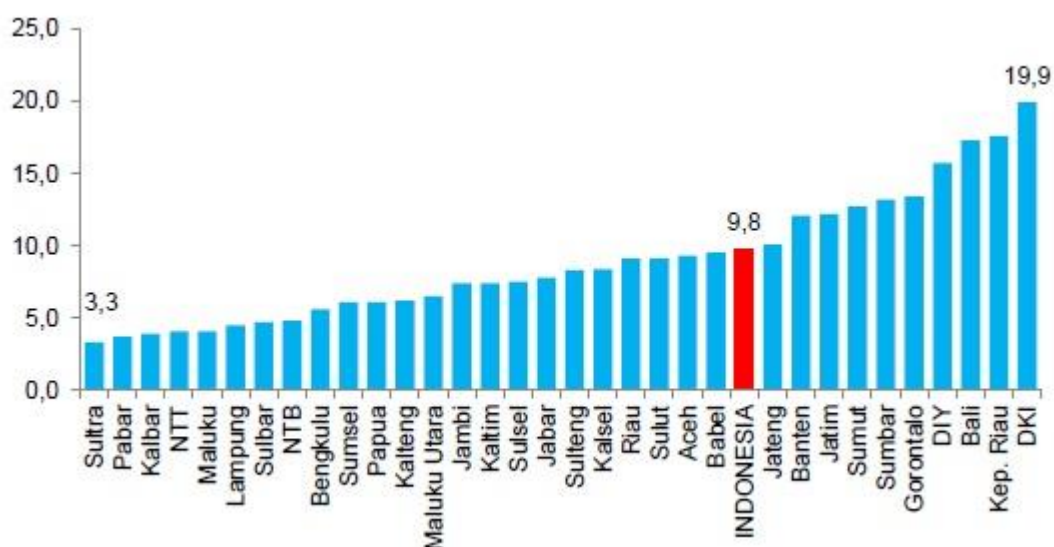


Figure 14.14 Proportion of Caesarean Delivery by Province, Indonesia 2013

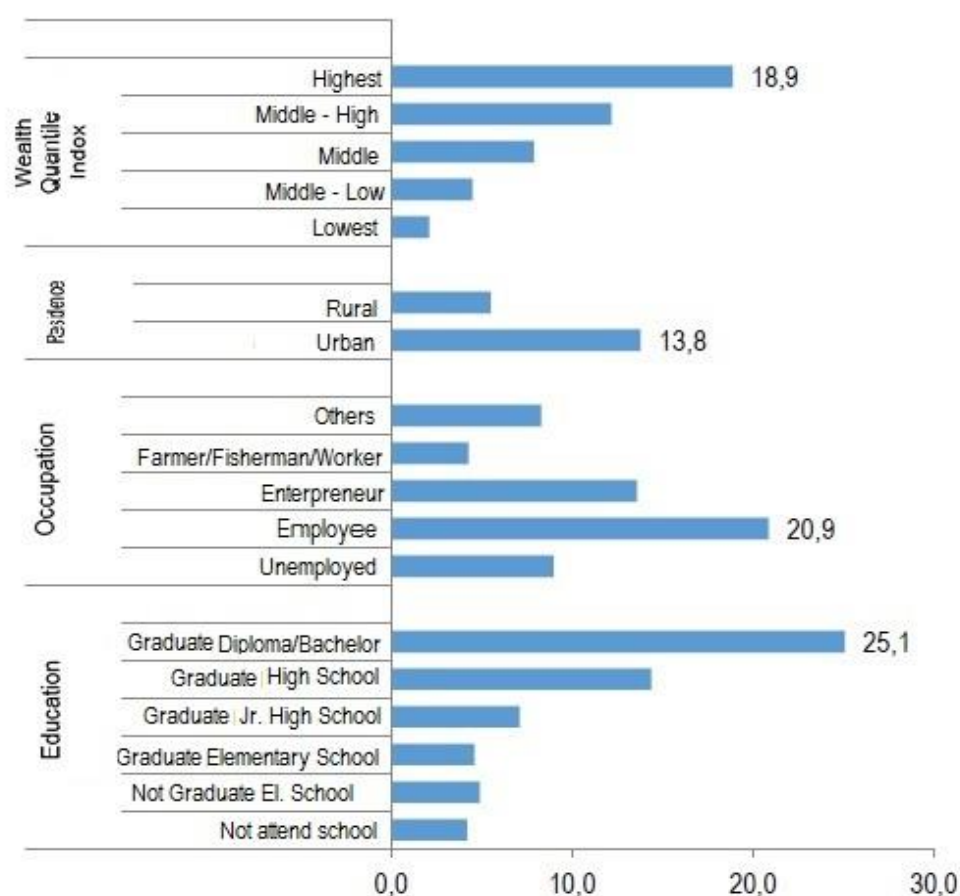


Figure 14.15 Proportion of Caesarean Delivery by Respondent Characteristics, Indonesia 2013

f. Delivery Helpers

Delivery helpers of competent healthcare professionals are one of MDGs indicators, i.e. the fifth targets. Competent healthcare professionals who help delivery process according to PWS-KIA refer to doctors who specialize in pregnancy and birth (obstetricians), general doctors and midwives. The Ministry of Health sets target of 90 percent deliveries helped by healthcare professionals in 2012 (Ministry of Health, 2000c). To assess the progress in achieving this target, respondents have been asked who help their childbirth process. In Riskesdas analysis, these delivery helpers are expressed as the highest qualifications and the lowest qualifications. The former means that in case of more than one helpers healthcare professionals with the highest qualification will be selected. As to the latter, it implies that in case of more than one helpers healthcare professional the lowest qualification will be selected.

Figure 14.16 shows that in childbirth process with the highest and the lowest qualifications, the majority are helped by midwives (68.6% and 66.6% respectively). Thus, delivery helpers by healthcare professionals (doctors or midwives) for highest qualification reach 87.1 percent and 80.9 percent for the lowest qualification.

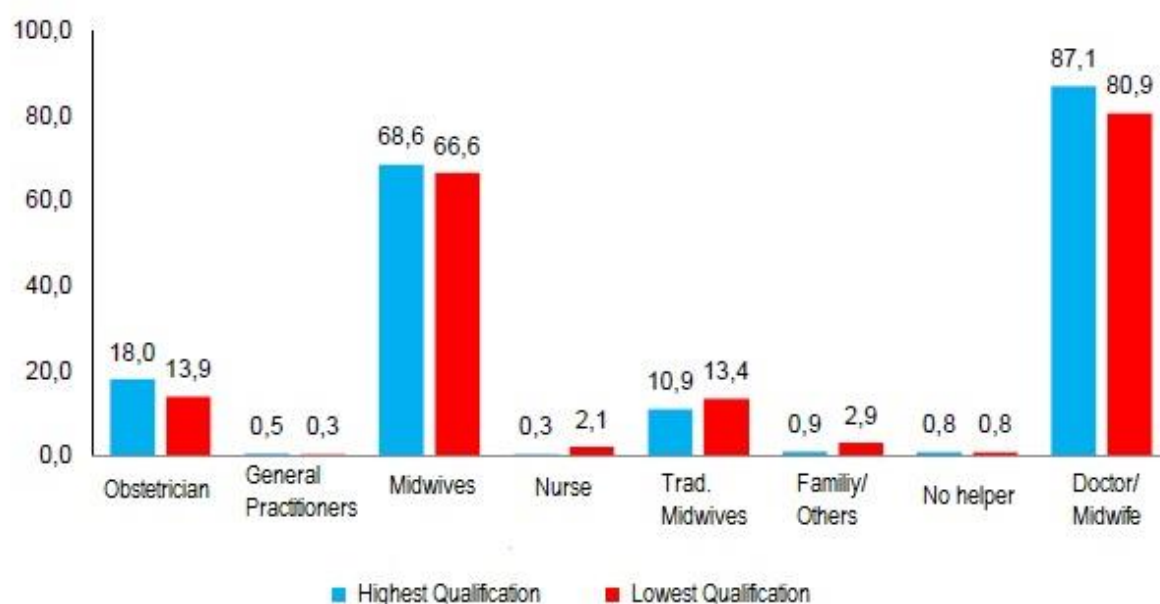


Figure 14.16 Proportion of Delivery Helpers by Highest Qualification and Lowest Qualification, Indonesia 2013

g. Delivery Places

The ideal places for childbirth are hospitals since in case of emergency, the necessary treatment can be provided at any time with complete facilities or, minimum in other health facilities where in case of reference it can be given immediately. These conditions are not available for childbirth at home, particularly for emergency medical treatment.

Figure 14.17 shows that 70.4 percent of births from 1 January 2010 to the interviews take place in health facilities and polindes/poskesdes with the highest percentage in maternal clinics, clinics, doctor/nurse practices (38.0%) and the lowest is in Poskesdes/Polindes (3.7%). However, there are 29.6 percent of respondents who admit of delivering babies at home/otherwise. Province with the highest percentage of home delivery is Maluku (74.9%).

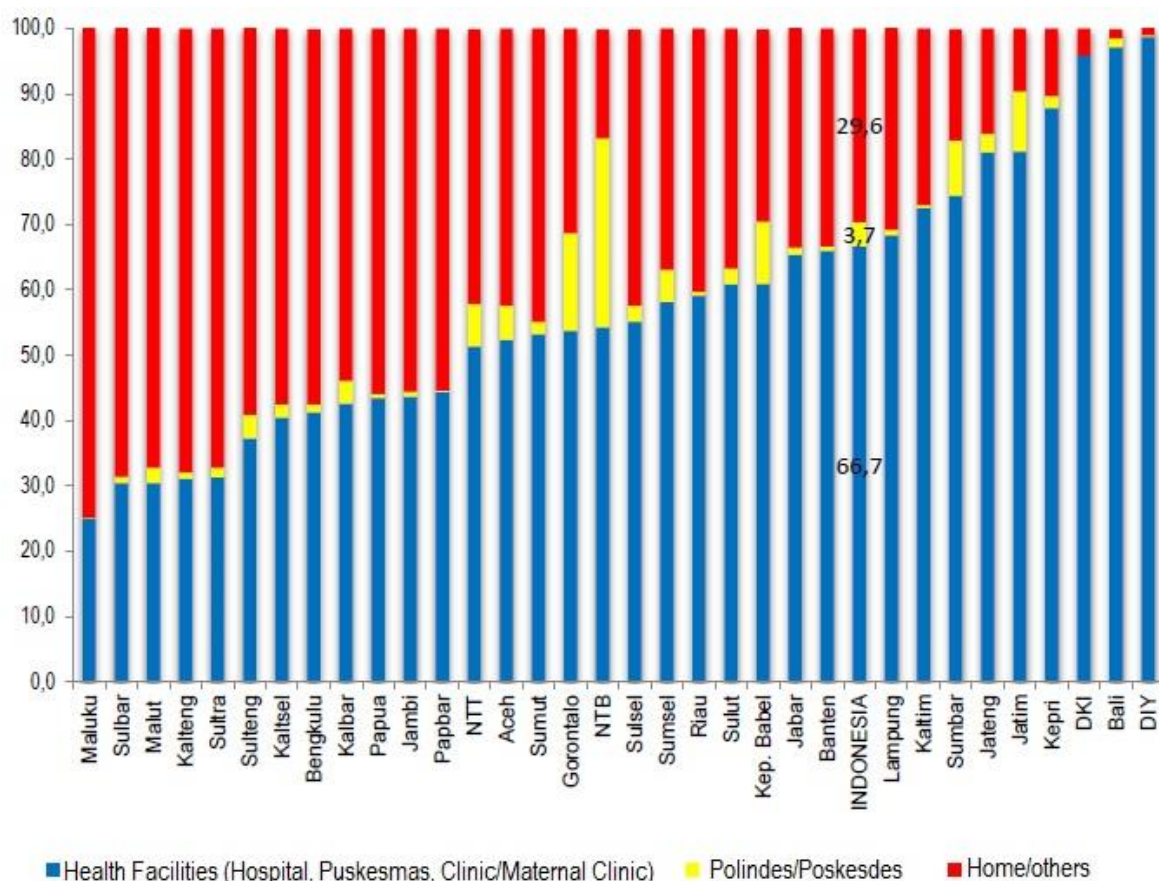


Figure 14.17 Proportion of delivery places by province, Indonesia 2013

Figure 14.18 presents the proportion of delivery places in health facilities (hospitals, maternal clinics/clinics/medical practices, Puskesmas/Pustu) and Polindes/Poskesdes) and at home by respondent characteristics. For mothers classified in high risk age (<20 years and >35 years) they prefer to take houses as the place for deliveries (64.5%). Mothers with high education, at the highest wealth quantile index, working as employees and living in the cities they choose health facilities as their delivery places. Meanwhile, mothers with low education, living in villages and at lowest wealth quantile index, they deliver their babies at home.

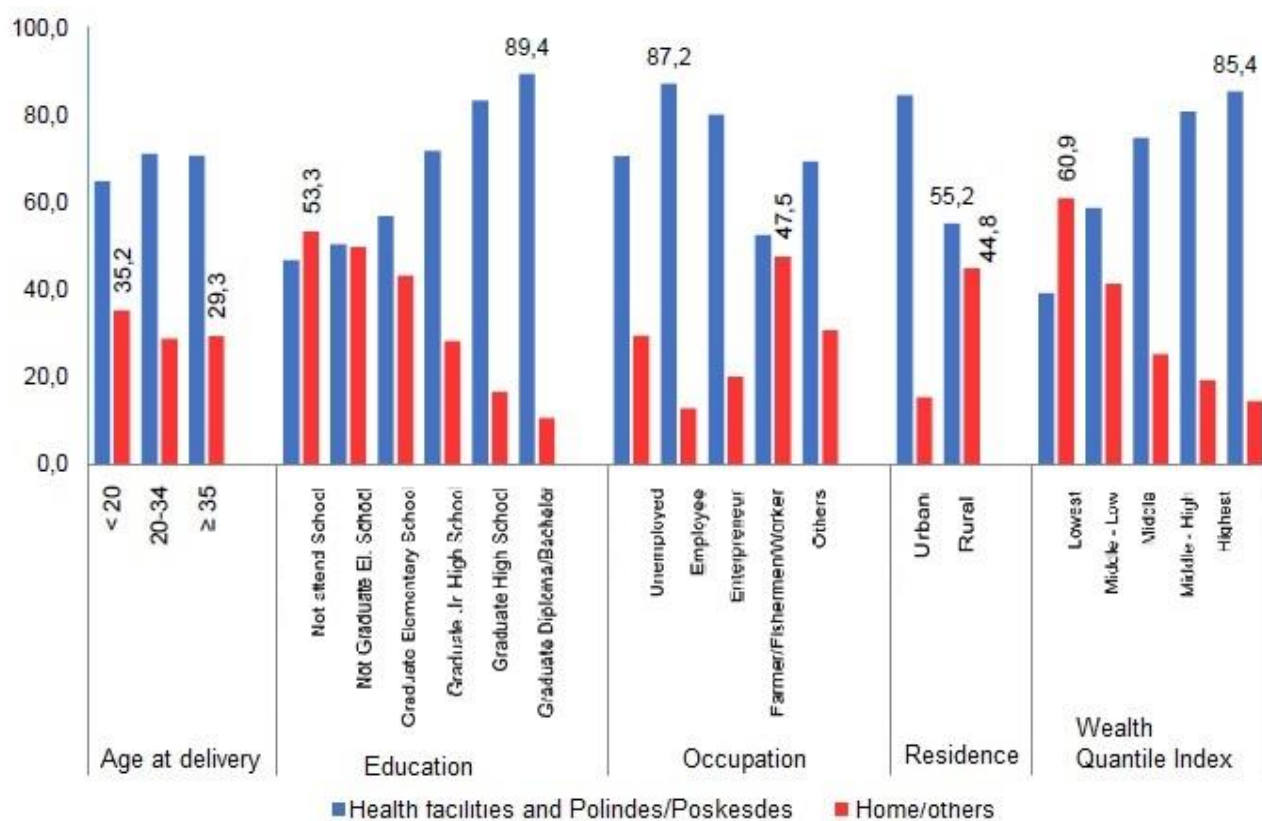


Figure 14.18 Proportion of Delivery Places by Respondent Characteristics, Indonesia 2013

h. Health Services During Postnatal Period

Peuperium is the most critical period for the life of mothers who just deliver babies. According to Futher Study on Maternal Mortality SP 2010 (Afifah *et al*, 2011) in majority the mothers pass away during this postnatal period. In light of that, health service during peuperium is crucial in decreasing maternal mortality rate. Postnatal health service is given to the mothers 6 hours to 24 hours after childbirth. The Ministry of Health sets service programs or mother contacts in peurperium expressed in the following indicators:

- 1) KF1, postnatal contact to the mother 6 hours to 3 days after delivery
- 2) KF2, postnatal contact to the mother 7-28 days after delivery, and
- 3) KF3, postnatal contact to the mother 29-42 days after delivery

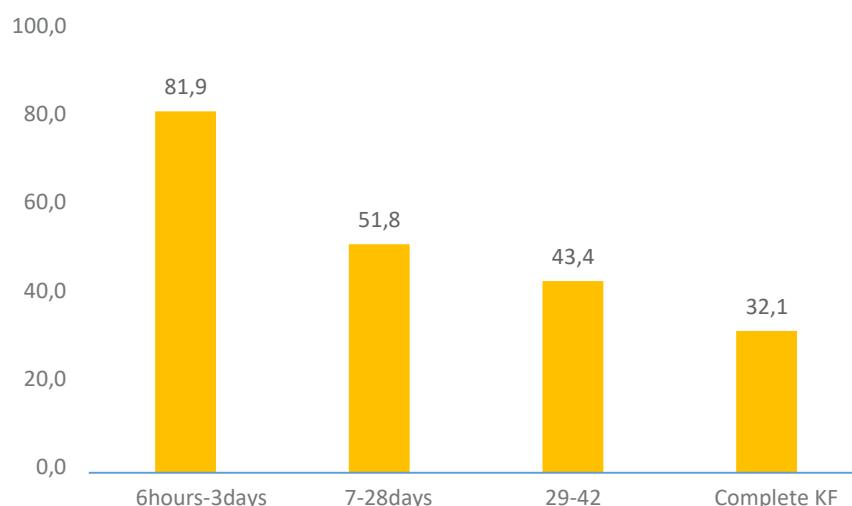


Figure 14.19 Proportion of Postnatal Health Services by Mother Contact, Indonesia 2013

Figure 14.19 indicates that postnatal health service tends to decrease in line with the lapse of time after childbirth. Around 80 percent of mothers who just deliver babies contact with healthcare professionals 3 days after childbirth. The next postnatal contact with healthcare professionals taking place 7-28 days after childbirth is to drop 51.8 percent. This percentage further goes down in period 29-42 days after the delivery, i.e. 43.4 percent. Mothers who receive complete postnatal services covering KF1, KF2 and KF 3 reach 32.1 percent.

The most critical period in this puerperium is the first 3 days after childbirth. Health service for the first 3 days after childbirth varies in provinces (Figure 14.20) with the highest in DI Yogyakarta (93.5%) and the lowest in Papua (54.9%).

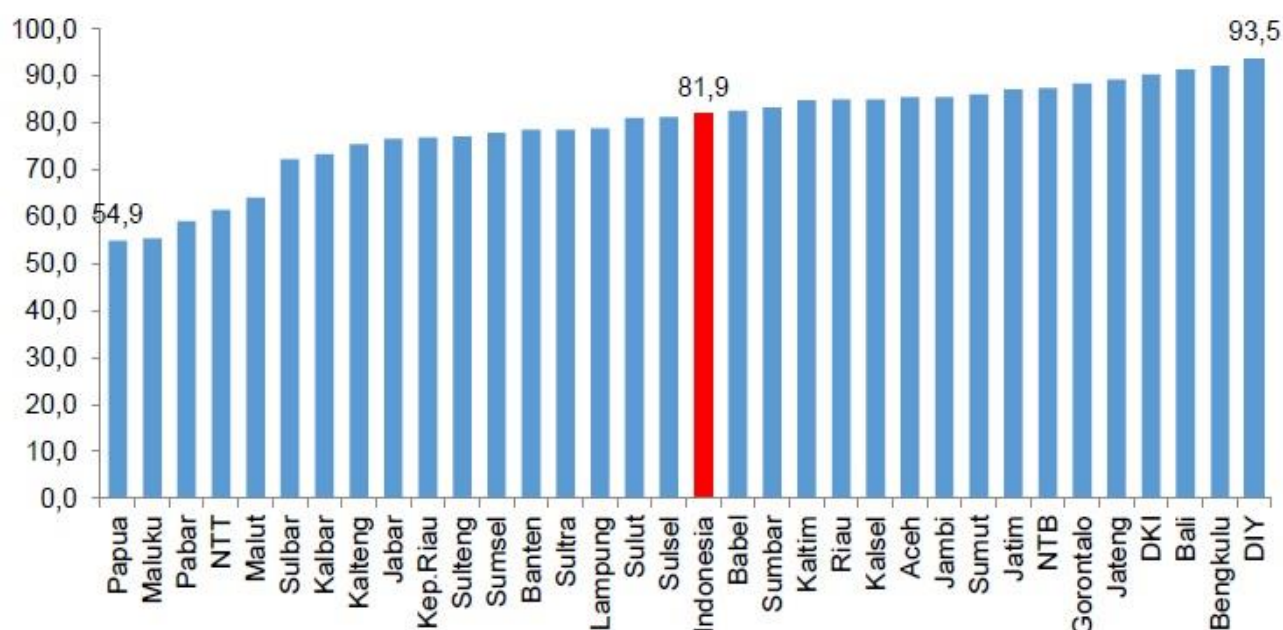


Figure 14.20 Postnatal Service 6 hours – 3 days after Childbirth by province, Indonesia 2013

KF1 service by respondent characteristics in Figure 14.21 shows that the higher education and wealth quantile index, the larger service coverage is detected. Proportion in urban areas is higher than in rural areas. However, there is no significant disparity in terms of age at delivery and professions.

Details of KF service coverage by province and respondent characteristics can be seen in Riskesdas 2013 in Figures.

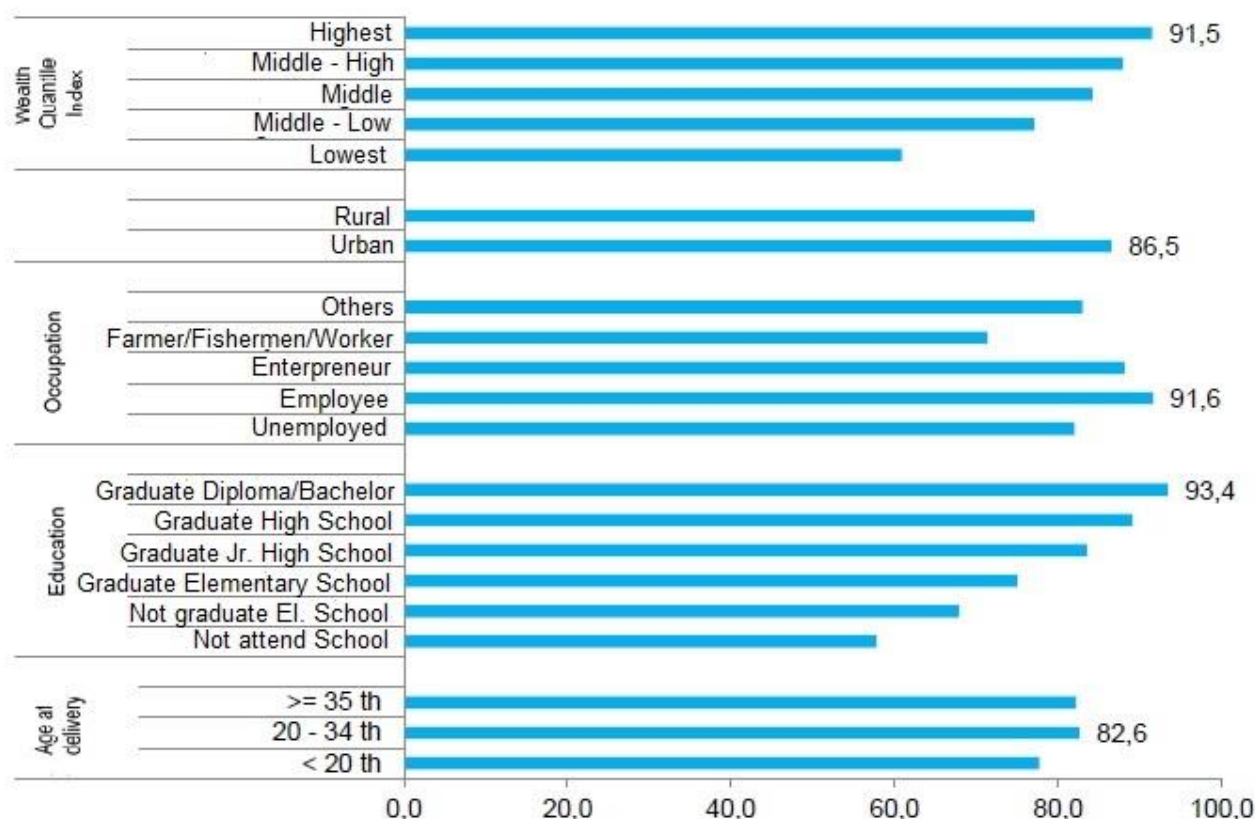


Figure 14.21 Postnatal Service 6 Hours – 3 Days after Childbirth by Respondent Characteristics, Indonesia 2013.

h. Postpartum FP Service

A breakthrough program initiated by the Ministry of Health to reduce maternal mortality rate is to intensify postpartum family planning services after childbirth. This postnatal FP service consists of using contraception during puerperium until 42 days after childbirth as a measure to prevent the missing opportunity in FP participation. Riskesdas 2013 has asked FP service received during puerperium to 43 days after childbirth.

Figure 14.22 shows that respondents receiving postpartum FP service in Indonesia reach 59.6 percent on average, which varies in provinces ranging from 26.0 percent in Papua and 73.2 percent in Bangka Belitung.

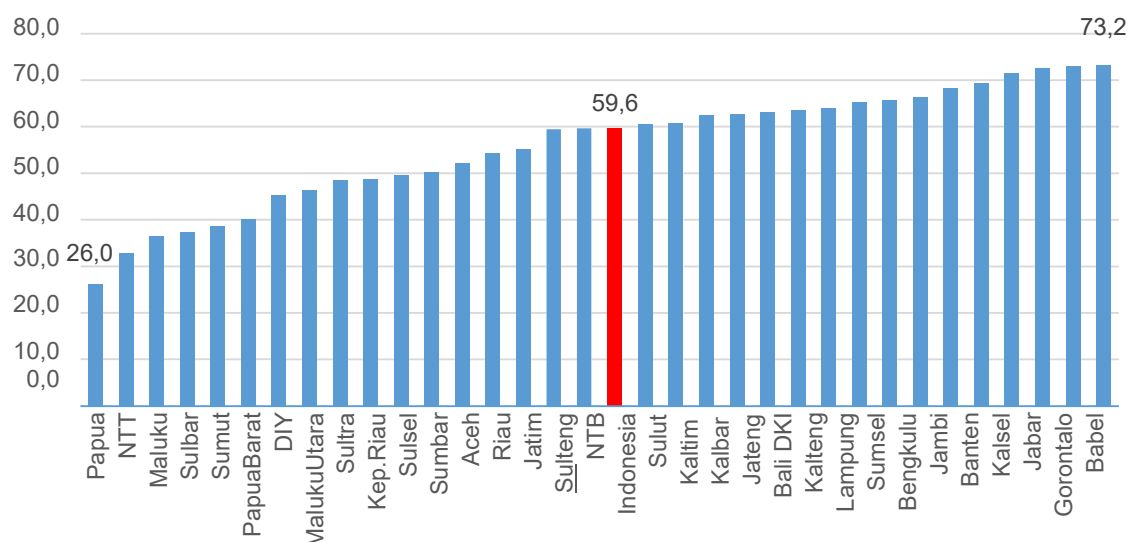


Figure 14.22 Proportion of Postpartum FP Service by Province, Indonesia 2013

The proportion of respondents receiving postpartum FP service in urban areas is higher than in rural areas, i.e. 60.9% to 58.3%. As for other characteristics, no significant trend is detected.

Bibliographies

Badan Penelitian dan Pengembangan Kesehatan, 2010, Riset Kesehatan Dasar Tahun 2010, Jakarta

[Health Research and Development Body, 2010, Basic Health Research 2010, Jakarta]

Direktorat Bina Kesehatan Ibu, Factsheet Pelayanan KB Pasca Salin, www.kesehatanibu.depkes.go.id/wp-content/.../download.php?id=56

Direktorat Bina Kesehatan Ibu, Factsheet Program Perencanaan Persalinan dan Pencegahan Komplikasi, Jakarta, diunduh dari www.kesehatanibu.depkes.go.id/wp-content/.../download.php?id=59

[Directorate of Maternal Health Development, Factsheet Birth Planning and Complication Prevention Program, Jakarta, downloaded from www.kesehatanibu.depkes.go.id/wp-content/.../download.php?id=59]

[Directorate of Maternal Health Development, Factsheet Postpartum FP Service, www.kesehatanibu.depkes.go.id/wp-content/.../download.php?id=56]

Direktorat Bina Kesehatan Ibu, Kemkes RI, 2010, Pedoman Pemantauan Wilayah Setempat Kesehatan Ibu dan Anak, Jakarta.

[Directorate of Maternal Health Development, Ministry of Health, 2010, Local Mother and Child Monitoring Manual, Jakarta]

Kemenkes RI, 2011. "Petunjuk Teknis Jaminan Persalinan", Jakarta.

[Ministry of Health, 2011. "Technical Guidelines for Childbirth Insurance", Jakarta]

Kementerian Kesehatan, 1997, Buku Kesehatan Ibu dan Anak, Jakarta, cetakan tahun 2012.

[Ministry of Health, 1997, KIA Book, Jakarta, Edition 2012]

Rajagukguk, Omas Bulan, 2010, Keluarga Berencana dalam Dasar-Dasar Demografi, Salemba Empat, Jakarta.

[Rajagukguk, Omas Bulan, 2010, Family Planning in Basic Demography"]

Republik Indonesia, 2002, Undang-Undang RI No 23 Tahun 2002 tentang Perlindungan Anak, Jakarta

[Republic of Indonesia, 2002, Law No. 23 of 2002 concerning Child Protection, Jakarta]

CHAPTER 15. CHILD HEALTH

Yuana Wiryawan, Suparmi, Kencana Sari, Yekti Widodo, Sudikno, and Sandjaja

Discussion of child health topic has objective of providing information relating to child health indicator including child health status and service coverage. Child health status indicators consist of low birth weight prevalence, short at birth, health disturbance (illness) to neonatal aged babies, disabilities at birth or children under five years of age with disability. For indicators relating to child health service coverage, they include umbilical cord treatment of the newborns, health examination to the newborns, immunization, birth certificate possession, KMS and KIA Books, growth monitoring, Vitamin A capsule distribution, breastfeeding and complementary feeding, early breastfeeding initiation (IMD), colostrums intake, prelacteal feeds, exclusive breastfeeding and Female Genetical Mutilation (FGM).

Indicators relating to health disturbances (illness) to neonatal aged babies, birth certificates for children under five years of age, KMS and KIA books, colostrums intake and prelacteal feeds are presented in Riskesdas 2013 in Figures, i.e. Table 15.1 indicating the proportion of respondents analyzed by the assessed indicators.

Table 15.1 Number of Samples and Indicators of Child Health, Indonesia 2013

Respondents	Samples	Indicator
Female children 0-11 years of age	114.993	Female Genetical Mutilation (FGM)
Children 0-59 months of age	82.666	Neonatal visit Weight and length at birth Umbilical cord treatment KMS and KIA Book Birth Certificate
Children 6-59 months of age	75.186	Vit.A capsule consumption Growth monitoring
Children 24-59 months of age	51.865	Disabilities
Children 0-23 months of age	30.801	Breastfeeding & Complementary
Children 12-23 months of age	15.727	Immunization

Further details of Communicable Disease block can be seen in Book 2: Riskesdas in Figure, pp. 316 to 385

1. 15.1. Weight and Length at Birth

Weight and length at birth have been recorded or copied from the documents/records held by household members such as KIA book, KMS book or other child health records. Children under five years of age whose weights at birth are recorded are to reach 52.6 percent.

Weight at birth is classified into three categories, i.e. <2500 grams (Low Birth Weight), 2500-3999 grams and ≥4000 grams. Low Birth Weight trends for children 0-59 months of age by province for 2010 and 2013 are presented in Figure 3.13.1. Low Birth Weight in 2013 records 10.2% or lower than in 2010 at 11.1%. The highest Low Birth Weight is found in Central Sulawesi (16.9%) and North Sumatra (7.2%).

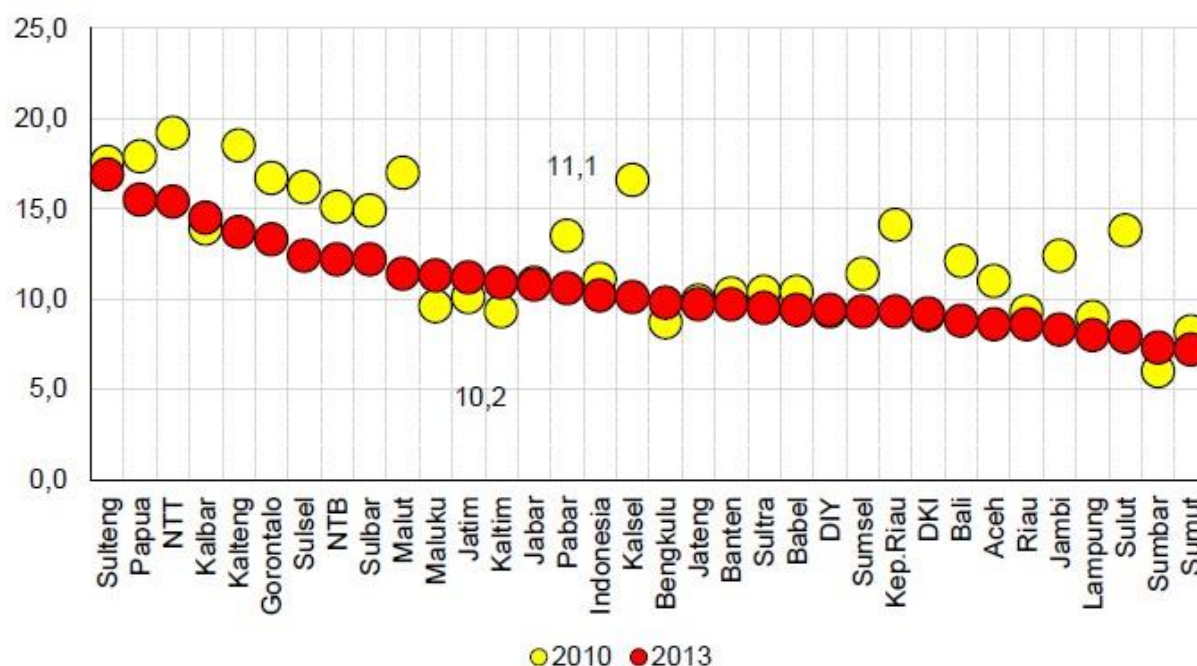


Figure 15.1 Low Birth Weight Trends to Children < Five Years of Age, Indonesia, 2010 and 2013

Table 15.2 presents the percentage of weight at birth of newborns and children under five years of age by respondent characteristics. Education and profession characteristics refer to household heads. By age group, Low Birth Weight indicates no clear pattern. Low Birth Weight to female babies (11.2%) is higher than the males (9.2%). However, the proportion of Birth Weight ≥ 4000 grams in male babies (5.6%) outnumbers the female babies (3.9%).

By education and wealth quantile index, it is evident that the higher education and wealth quantile index, the lower Low Birth Weight prevalence is found. By profession, the highest Low Birth Weight is detected in childrens < five years of age coming from unemployed household heads (11.6%) with the lowest observed in employee group (8.3%). Low Birth Weight in rural areas (11.2%) is higher than in urban areas (9.4%).

Table 15.2 Weight at Birth of Children 0-59 Months of Age by Characteristics, Indonesia 2013

Characteristics	Weight at Birth		
	<2500 gr	2500 - 3999 gr	≥4000 gr
Age Group (month)			
0 – 5	10,4	85,1	4,5
6 – 11	10,4	84,6	5,0
12 – 23	10,4	84,8	4,8
24 – 35	10,0	84,8	5,1
36 – 47	10,2	85,2	4,7
48 – 59	10,0	85,5	4,5
Sexes			
Male	9,2	85,2	5,6
Female	11,2	84,8	3,9
Education			
Never attending school	11,8	83,5	4,7
Not graduate El. school	13,1	82,4	4,5
Graduate Elementary school	11,6	83,9	4,5
Graduate Jr. High school	9,7	85,2	5,1
Graduate High school	9,2	85,9	5,0
Graduate Diploma/Bachelor	8,2	87,4	4,3
Professions			
Unemployed	11,6	84,6	3,9
Employees	8,3	87,1	4,6
Entrepreneurs	9,5	85,2	5,3
Farmers/Fishermen/Workers	11,6	83,7	4,7
Others	11,0	84,2	4,8
Residence			
Urban	9,4	86,2	4,3
Rural	11,2	83,4	5,4
Wealth Quantile Index			
Lowest	13,4	81,5	5,1
Middle - Low	12,2	83,3	4,5
Middle	11,0	84,1	4,9
Middle - High	9,1	86,1	4,8
Highest	8,2	87,0	4,8

Table 15.3 presents the percentage of length of baby at birth for children 0-59 months of age by province. Length at Birth is classified into three categories, i.e. <48 cm, 48-52 cm and >52 cm. Length at Birth <48 cm is recorded to reach 20.2 percent and 48-52 cm at 76.4 percent. The highest proportion of short at birth (<48 cm) is observed in NTT (28.7%) and the lowest in Bali (9.6%).

Table 15.3 The Percentage of Length at Birth for Childrent 0-59 Months of Age, by Province, Indonesia 2013

Province	Length at Birth		
	<48 cm	48 - 52 cm	>52 cm
Aceh	13,7	82,1	4,2
North Sumatera	19,6	74,3	6,1
West Sumatera	15,5	82,4	2,1
Riau	15,7	80,8	3,5
Jambi	21,7	74,4	3,9
South Sumatera	24,1	72,6	3,3
Bengkulu	11,8	81,0	7,2
Lampung	22,4	75,5	2,1
Bangka Belitung	25,8	70,3	3,8
Riau Island	17,1	80,8	2,1
DKI Jakarta	19,7	77,0	3,3
West Java	20,6	76,0	3,4
Central Java	24,5	73,2	2,2
DI Jogjakarta	28,6	70,0	1,4
East Java	17,1	80,1	2,7
Banten	21,2	76,5	2,3
Bali	9,6	85,3	5,1
West Nusa Tenggara (NTB)	18,8	77,6	3,6
East Nusa Tenggara (NTT)	28,7	65,7	5,6
West Kalimantan	23,2	72,7	4,0
Central Kalimantan	22,1	74,9	3,0
South Kalimantan	14,5	79,6	5,9
East Kalimantan	17,2	75,9	6,9
North Sulawesi	25,7	70,9	3,5
Central Sulawesi	27,1	69,1	3,8
South Sulawesi	22,6	74,2	3,2
South-east Sulawesi	18,6	72,5	8,9
Gorontalo	15,4	80,5	4,0
West Sulawesi	19,9	77,2	2,9
Maluku	13,6	79,7	6,8
North Maluku	22,6	72,6	4,8
West Papua	19,2	74,0	6,8
Papua	25,6	71,1	3,3
Indonesia	20,2	76,4	3,3

The proportion of length at birth for children 0-59 months of age by characteristics is presented in Table 15.4. By age group, short at birth indicates no clear pattern. Short at birth to female babies (21.4%) is higher than male babies (19.1%).

By education and wealth quantile index, it is obvious that the higher education and wealth quantile index, the lower proportion of short at birth is detected. By professions, short at birth is more found in babies coming from unemployed household heads (22.3%) with the lowest proportion in employee group (18.1%). In rural areas, the percentage of short at birth is higher than in urban areas, i.e. 21.9% to 19.1%).

Table 15.4 Proportion of Length at Birth of Children 0-59 Months of Age by Characteristics, Indonesia 2013

Characteristics	Length at Birth		
	<48 cm	48 - 52 cm	>52 cm
Age Group (month)			
0 – 5	22,7	74,1	3,2
6 – 11	21,4	75,6	3,1
12 – 23	20,7	75,9	3,4
24 – 35	20,9	76,0	3,2
36 – 47	18,3	78,3	3,4
48 – 59	17,7	78,5	3,8
Sexes			
Male	19,1	77,3	3,6
Female	21,4	75,6	3,1
Education			
Never attending school	24,9	73,1	2,0
Not graduate El. school	22,5	75,1	2,4
Graduate Elementary school	22,1	74,9	3,0
Graduate Jr. High school	21,1	76,0	2,8
Graduate High school	18,5	77,6	3,9
Graduate Diploma/Bachelor	16,7	79,0	4,3
Professions			
Unemployed	22,3	74,7	3,0
Employees	18,1	77,9	4,0
Entrepreneurs	18,8	77,7	3,5
Farmers/Fishermen/Workers	22,3	74,9	2,8
Others	21,1	75,5	3,4
Residence			
Urban	19,1	77,5	3,4
Rural	21,9	74,9	3,2
Wealth Quantile Index			
Lowest	24,1	73,5	2,4
Middle - Low	22,5	74,6	2,9
Middle	21,6	75,9	2,5
Middle - High	19,0	77,3	3,7
Highest	17,8	78,0	4,2

Figure 15.2 presents data on the proportion of children 0-59 months of age suffering low birth weight <25000 grams and short at birth <48 cm by province. The proportion records 4.3 percent with the highest in Papua (7.6%) and the Lowest in Maluku (0.8%).

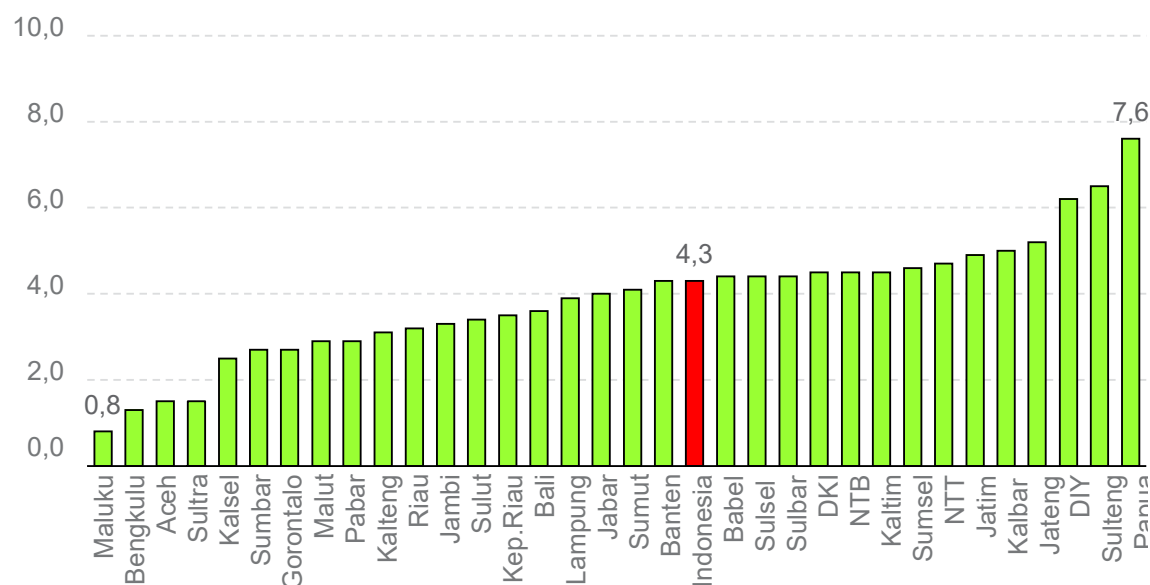


Figure 15.2 Proportion of Children 0-59 Months of Age with Low Birth Weight (<2500 grams) and Short at Birth (<48 cm) by Province, Indonesia 2013

Figure 15.3 presents the proportion of children under five years of age with short at birth and low birth weight by characteristics. This is more found at age group 0-5 months than other age groups. It means that children < 5 years of age with short at birth and low birth weight tend to increase. Female children with short at birth and low birth weight record higher proportion than male children by 4.9% to 3.8%.

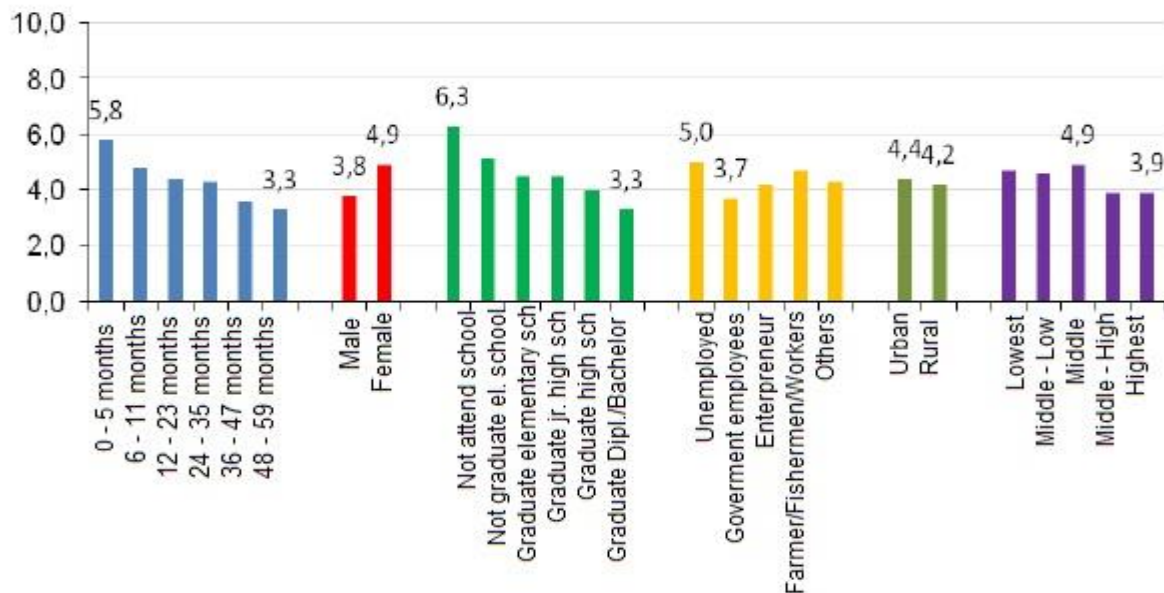


Figure 15.3 Proportion of Childrent with Weight at Birth <2500 grams and Length at Birth <48 cm by Characteristics, Indonesia 2013

The proportion of children under five years of age with short at birth and low birth weight tends to decrease in line with the increasing education. By professions, it is identified that the proportion of children < 5 years of age from unemployed household heads and farmers/fishermen/workers records higher percentage than from household heads who work as Public Servants/Military Personnel/Police. By residence, a bit higher percentage of short at birth and low birth weight is detected in urban children < 5 years of age than those in rural areas by 4.4% to 4.2%. At wealth quantile index, no clear trend pattern is identified.

15.2. Disabilities

Riskesdas 2013 present information of disability prevalence to children 24-59 months of age. Disability includes any and all observable defects because of diseases or trauma/accidents. Children with disabilities are categorized as children with special needs. They include:

- a. **Blindness** refers to children with weak eyesight or eyesight accuracy less than 6/60 after corrected or have no eyesight capacity (Kaufman & Hallahan).
- b. **Mute** refers to children with hearing barriers either permanently or not and normally difficult to speak and as such they are usually called as mute. The disability to speak of children < 5 years of age is mostly because of disturbed hearing capacity, either permanently or not. Thus, children suffering hearing disorder would very likely get difficulties in speaking.
- c. **Down syndrome** is genetical disorder taking place during fetus growth period (at chromosome 21/trisome 21) with varying symptoms i.e. unique indications at least mental retardation with IQ less than 70 and Mongolid facial shape and unique line of palm (Simian crease). The features of children with down syndrome include flat face, thin nose, close distance of two eyes, wider distance of leg thumbs and index fingers, and curved solid line of palm.
- d. **Physical defect** refers to children with troubled movements because of congenital neuromuscular disorders and bone structure defect, illness or accidents including polio and paralysis.
- e. **Cleft lip** is abnormalities to lips, palate or both.
- f. **Deaf** is children experiencing hearing barriers either permanently or not.

Figure 15.4 shows proportion trends of children 24-59 months of age suffering disabilities. The highest proportion of disabilities is blindness at 0.17 percent and the lowest is deafness at 0.07 percent. The data imply that the percentage of mute children 2 times higher than the deaf. The percentage of blind children nearly doubles compared with Riskesdas 2010.

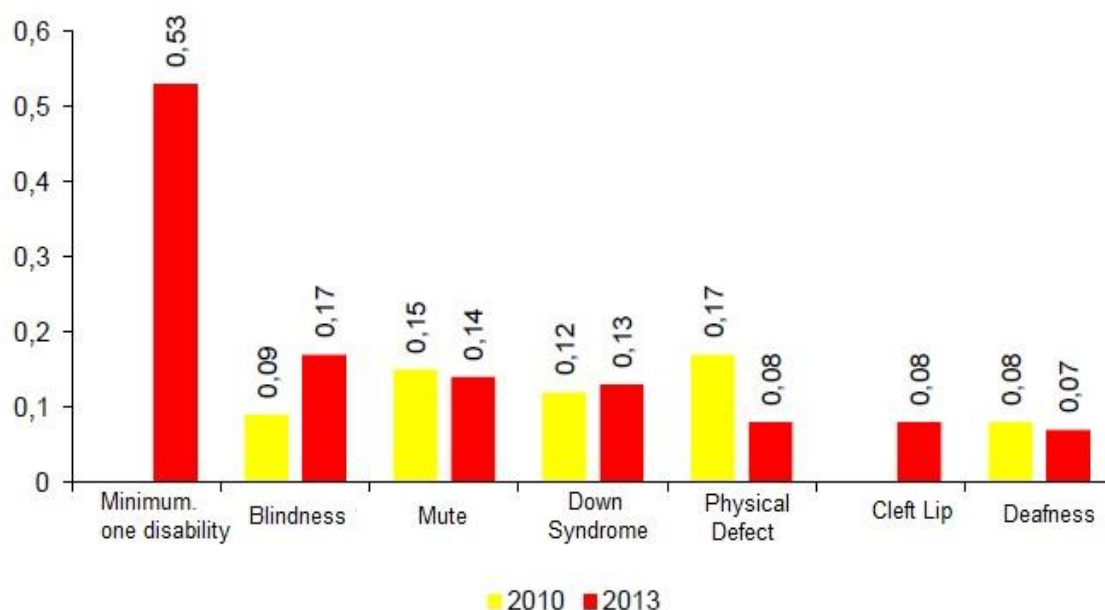


Figure 15.4 Proportion Trends of Children 24-59 Months of Age with Disability, Indonesia 2010 and 2013

15.3. Immunization Status

Immunization programs in Indonesia have been instituted since 1956. The Ministry of Health launches Immunization Development Program (PPI) to children in attempt of reducing diseases that can be prevented with immunization (P3DI) such as tuberculosis, diphtheria, pertussis, measles, polio, tetanus and hepatitis B. Under Decree of the Minister of Health Number 1611/MENKES/SK/XI/2005, immunization development program covers one BCG immunization, three DPT-HB immunizations, four polio immunizations, and one measles immunization. BCG immunization is given to babies aged less than three months; polio immunization for the newborns, and the next three doses are administered in four week times the soonest; DPPT-BH immunization for babies of two months of age, three months of age and four months of age with interval minimum four weeks; and measles immunization given to babies of nine months of age the soonest.

Information of immunization in Riskedas 2013 has been collected from mothers who care children 0-59 months of age in addition to other three sources, i.e. interviews to the mothers caring 0-59 months children or other household members knowing this information, KMS records, KIA records and other child health book records. If one of these four sources states that the children have been immunized, it can be concluded that the same children have received the questioned immunization.

Apart from individual immunization, it has been asked whether the children have got complete immunizations, i.e. one BH-0 immunization, one BCG immunization, three DPT-BH immunizations, four polio immunizations and different measles immunizations. Babies of 0-11 months of age are not analyzed. Instead, children 12-23 months of age are analyzed since they must have received basic immunizations.

Immunization analysis to children 12-23 months of age has several reasons:

- (1) the results of analysis are closer to "valid immunization";
- (2) other surveys also using children 12-23 months of age to assess immunization coverage for comparison purpose, and
- (3) potential bias, since the memory of mothers interviewed is lower than higher age groups

It is impossible to identify the immunization status of all children under five years of age (missing). Sometimes, the fathers or mothers forget whether their children have been immunized or not. Mothers are not certain the types of immunization because incomplete/blank records in KMS/KIA books, missing KMS/KIA books. Other reasons include different subject of interviews, i.e. not the mothers, memory recall bias of mother or inaccuracy of interviewers during interview and recording process. Given that, it is worthwhile noting here that for this Riskesdas 2013 there is lack of survey method (cross section design) in interpreting the results of immunization coverage analysis.

Figure 15.5 shows complete immunizations to children 12-23 months of age consisting of one HB-0 immunization, one BCG immunization, three DPT-HB immunizations, four polio immunizations and one measles immunization. The proportion of complete immunizations tends to increase from 2007 (41.6%), 2010 (53.8%) and 2013 (59.2%).

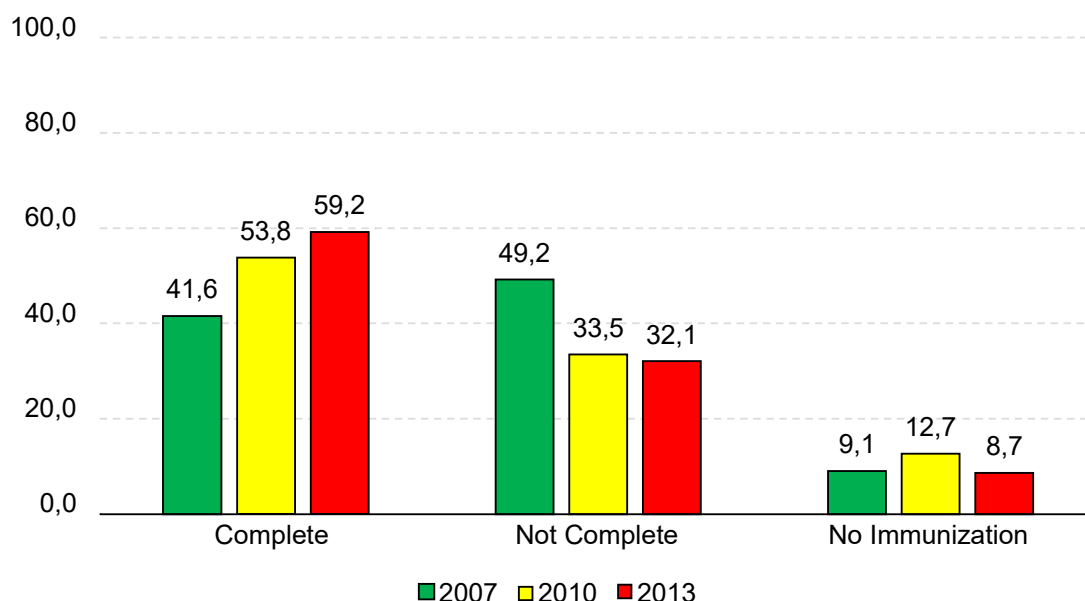


Figure 15.5 Basic Immunization Trends to Children 12-23 Months Of age, Indonesia 2007, 2010, and 2013

Table 15.5 shows the proportion of individual immunizations, i.e. HB-0, BCG, four polio (polio 4), three DPT-BH (DPT-HB 3) and measles by province. The highest proportion is recorded in BCG (87.6%) and the lowest DPT-HB 3 (75.6%). Papua is the province with the lowest proportion for all types of immunizations i.e. HB-0 (45.7%), BCG (59.4%), DPT-HB 3 (75.6%), Polio 4 (48.8%), and measles (56.8%). DI Yogyakarta has the highest proportion for basic immunization HB-0 (98.4%), BCG (98.9%), DPT-HB 3 (95.1%), and measles (98.1%). As to Gorontalo this province hits 95.8%.

Table 15.5 Proportion of Basic Immunizations to Children 12-23 Months of Age by Province, Indonesia 2013

Province	Basic Immunization				
	HB-0	BCG	DPT-HB-3	Polio-4	Measles
Aceh	64,8	72,9	52,9	58,3	62,4
North Sumatera	63,0	78,1	63,1	67,5	70,1
West Sumatera	70,5	81,0	60,2	64,4	71,4
Riau	68,8	81,4	70,0	70,9	77,3
Jambi	79,1	85,5	76,7	77,4	79,7
South Sumatera	70,8	84,9	73,6	76,3	82,6
Bengkulu	81,0	93,0	86,7	87,6	90,2
Lampung	79,9	90,0	82,5	84,6	87,9
Bangka Belitung	87,5	92,8	83,7	88,3	86,4
Riau Island	87,4	92,0	87,4	88,0	91,9
DKI Jakarta	87,8	90,9	79,1	76,7	85,3
West Java	78,8	87,8	71,5	73,9	80,8
Central Java	90,5	94,8	89,2	87,6	92,6
DI Jogjakarta	98,4	98,9	95,1	88,3	98,1
East Java	91,2	93,3	85,7	86,2	89,0
Banten	76,9	83,6	63,3	64,0	66,7
Bali	93,4	97,6	90,4	92,4	93,5
West Nusa Tenggara (NTB)	92,7	92,2	85,2	87,7	90,6
East Nusa Tenggara (NTT)	70,7	84,2	66,0	68,5	84,1
West Kalimantan	62,3	81,2	71,9	74,1	77,3
Central Kalimantan	57,7	77,0	67,9	69,9	77,4
South Kalimantan	69,1	83,2	72,0	73,2	74,1
East Kalimantan	83,4	87,3	81,4	81,6	84,1
North Sulawesi	82,4	97,3	83,3	81,4	94,4
Central Sulawesi	64,7	84,3	72,6	74,0	76,7
South Sulawesi	72,9	84,8	69,5	70,9	76,9
South-east Sulawesi	59,8	84,8	75,3	76,9	83,8
Gorontalo	87,5	97,2	93,0	95,8	94,9
West Sulawesi	67,6	79,3	67,1	70,2	72,5
Maluku	47,8	73,6	53,8	61,8	70,5
North Maluku	57,3	83,6	68,9	71,9	80,3
West Papua	50,6	80,4	60,0	62,8	76,9
Papua	45,7	59,5	40,8	48,8	56,8
Indonesia	79,1	87,6	75,6	77,0	82,1

Table 15.6 shows the service coverage of basic immunizations by characteristics. This coverage is not differentiated by sexes. Generally speaking, urban areas have higher service coverage for all types of immunization than rural areas. This trend is more obvious in population with higher education and wealth quantile index. This trend also prevails in household heads who work as employees.

Table 15.6 Proportion of Basic Immunizations to Children 12-23 Months of Age by Respondent Characteristics, Indonesia 2013

Characteristics	Basic Immunizations				
	HB-0	BCG	DPT-HB-3	Polio-4	Measles
Sexes					
Male	79,8	87,9	75,6	76,0	81,5
Female	78,3	87,2	75,7	77,9	82,8
Education					
Never attending school	68,6	75,5	64,8	66,8	73,2
Not graduate el. school	69,4	79,3	66,6	67,7	74,6
Graduate elementary sch	74,2	84,7	70,8	73,1	78,9
Graduate jr. high sch	80,1	89,6	77,0	78,2	83,1
Graduate high school	85,5	91,9	81,4	82,2	86,6
Graduate Dipl./Bachelor	89,3	93,2	86,0	86,1	89,2
Professions					
Unemployed	80,3	85,6	75,5	78,0	83,2
Employees	88,4	94,1	83,9	83,8	87,9
Entrepreneurs	82,7	89,0	77,3	79,1	83,2
Farmers/Fishermen/Worker	72,2	83,8	70,5	72,4	78,3
Others	80,2	86,8	75,3	75,4	83,0
Residence					
Urban	85,9	91,0	79,9	80,3	84,1
Rural	71,9	83,9	71,1	73,4	80,0
Wealth Quantile Index					
Lowest	56,5	73,2	56,6	60,1	68,9
Middle - Low	74,2	85,6	73,4	76,0	81,7
Middle	82,2	88,8	76,9	78,4	82,6
Middle - High	86,6	91,7	80,5	81,0	86,0
Highest	87,2	93,3	83,9	83,6	86,7

The service coverage of complete basic immunizations by province can be seen in Table 15.7. It varies in provinces with the highest found in DI Yogyakarta (83.1%) and the lowest in Papua (29.2%). At nationwide, 8.7 percent of children 12-23 months of age receive no immunization. They are mostly detected in Papua (36.6%) and the least in DI Yogyakarta (1.1%).

Table 15.7 Proportion of Complete Basic Immunizations to Children 12-23 Months of Age by Province, Indonesia 2013

Province	Basic Immunizations		
	Compleat	Not Complete	No Immunization
Aceh	38,3	41,9	19,8
North Sumatera	39,1	44,5	16,4
West Sumatera	39,7	46,9	13,4
Riau	52,2	31,9	15,8
Jambi	60,3	27,5	12,3
South Sumatera	48,3	40,2	11,6
Bengkulu	62,1	33,0	4,9
Lampung	62,4	31,1	6,5
Bangka Belitung	67,7	27,3	5,1
Riau Island	71,6	23,2	5,3
DKI Jakarta	64,5	30,7	4,8
West Java	56,6	35,1	8,3
Central Java	76,9	19,5	3,5
DI Jogjakarta	83,1	15,7	1,1
East Java	74,5	21,7	3,7
Banten	45,8	43,9	10,4
Bali	80,8	18,0	1,2
West Nusa Tenggara (NTB)	75,4	21,1	3,6
East Nusa Tenggara (NTT)	50,3	40,2	9,6
West Kalimantan	47,4	38,3	14,2
Central Kalimantan	42,0	43,2	14,8
South Kalimantan	52,0	33,9	14,0
East Kalimantan	65,9	26,3	7,8
North Sulawesi	60,9	36,7	2,3
Central Sulawesi	47,1	42,7	10,1
South Sulawesi	49,5	41,7	8,7
South-east Sulawesi	47,3	41,8	10,9
Gorontalo	80,6	16,7	2,8
West Sulawesi	52,4	31,0	16,7
Maluku	29,7	48,6	21,7
North Maluku	42,6	46,8	10,6
West Papua	35,6	45,8	18,6
Papua	29,2	34,3	36,6
Indonesia	59,2	32,1	8,7

Table 15.8 shows the service coverage of complete basic immunizations by respondent characteristics. Urban areas record higher percentage for complete basic immunizations than rural areas, i.e. 64.5% to 53.7% where 11.7 percent of children 12-23 months of age in villages never receive immunization. There is obvious trend that the higher education and wealth quantile index, the higher service coverage is found. By education of household heads, the highest percentage of complete basic immunizations to children 12-23 months of age is found in household heads with university education (72.5%) and lowest in household heads who never attend school (49.0%). The higher wealth quantile index, the higher percentage of complete basic immunizations is observed. By professions, complete basic immunization coverage for children 12-23 months of age tends to increase at household heads working as employees or entrepreneurs.

Table 15.8 Proportion of Complete Basic Immunizations for Children 12-23 Months of Age by Respondent Characteristics, Indonesia 2013

Characteristics	Basic Immunization		
	Complete	Not Complete	No Immunization
Sexes			
Male	59,0	32,3	8,6
Female	59,4	31,8	8,8
Education			
Never attending school	50,6	31,6	17,8
Not graduate el. school	49,0	37,2	13,8
Graduate elementary	53,3	35,9	10,8
Graduate jr. high sch	59,2	33,1	7,7
Graduate high school	66,6	27,9	5,4
Graduate Dipl./Bachelor	72,5	22,9	4,6
Professions			
Unemployed	59,2	32,5	8,4
Employees	69,5	26,3	4,3
Entrepreneurs	61,7	30,8	7,5
Farmers/Fishermen/Wor	52,9	35,6	11,6
Others	58,7	32,2	9,1
Residence			
Urban	64,5	29,6	5,8
Rural	53,7	34,7	11,7
Wealth Quantile Index			
Lowest	39,5	39,7	20,8
Middle - Low	55,1	35,4	9,5
Middle	61,1	30,9	8,0
Middle - High	65,4	29,5	5,1
Highest	67,8	27,9	4,3

Figure 15.5 shows that 8.7 percent of children 12-23 months of age never receive immunization. Table 15.9 the main reason of refusing immunization is afraid of fever to the childrent (28.8%). However, Figure 15.6 indicates that the percentage of children 12-23 months of age experiencing high fever after immunization is just 6.8 percent. Table 15.9 also shows that 26.3 percent households say that the refusal to immunization comes from families. The higher education and wealth quantile idenx, the more housedholds express refusal to immunizations for their children. Urban areas record higher percentage of children not allowed taking immunizations by the families (35.5%) than in rural areas (21.3%). The percentage of children under five years of age banned to take immunization by the families is mostly found at household heads who work as employees.

With regard to children <5 years of age who are excluded from immunization because of far distance to health facilities, there is evident trend that the higher education of household heads, the lower percentage of unimmunized children <5 years of age is observed. The percentance of unimmunized children in urban areas because of far distance is lower than rural areas, i.e. 7.4% to 29.2%.

Table 15.9 Proportion of Reasons for Immunizations Refusal to Children 12-23 Months of Age by Characteristics, Indonesia 2013 *)

Characteristics	Reasons for No Immunization					
	Not allowed by families	Afraid of fever to Children	Become more sickly	No idea of immunization place	Far immunization place	Busy/ Business
Sexes						
Male	27,2	28,2	7,5	5,0	21,5	18,7
Female	25,1	29,7	5,7	8,7	22,0	14,2
Education						
Never attending school	11,4	9,7	2,1	8,3	47,1	25,7
Not graduate el. school	20,7	28,7	5,8	6,7	25,1	20,0
Graduate elementary sch	19,3	32,5	7,8	7,1	22,3	15,6
Graduate jr. high sch	33,0	26,4	5,1	8,8	21,4	14,4
Graduate high school	41,4	33,1	10,0	3,9	7,8	13,5
Graduate Dipl./Bachelor	56,4	22,9	0,4	3,8	13,7	13,7
Professions						
Unemployed	30,7	14,7	10,3	0,9	27,2	23,2
Employees	42,7	31,6	4,4	4,5	12,0	15,5
Entrepreneurs	34,8	42,3	5,7	7,6	6,7	12,5
Farmers/Fishermen/Workers	21,6	25,2	6,6	6,1	28,3	17,4
Others	12,8	38,5	10,4	24,3	9,7	13,1
Residence						
Urban	35,5	37,9	7,7	6,6	7,4	15,7
Rural	21,3	24,3	6,1	6,8	29,2	16,9
Wealth Quantile Index						
Lowest	14,0	19,7	4,9	6,8	40,4	18,3
Middle - Low	23,8	33,0	8,1	4,2	21,1	16,5
Middle	31,3	34,4	11,0	6,2	6,0	18,3
Middle - High	42,8	40,5	5,2	10,6	4,1	9,9
Highest	44,8	29,0	4,1	6,8	6,7	15,6
Indonesia	26,3	28,8	6,8	6,7	21,9	16,3

*) of 8.7% unimmunized children

Figure 15.6 shows that out of 91.3 percent of immunized children, 33.4 percent suffer Associated Events Following Immunization (KIPI). The most complained symptoms are redness and swelling. As to high fever, only 6.8 percent of children complaint about it.

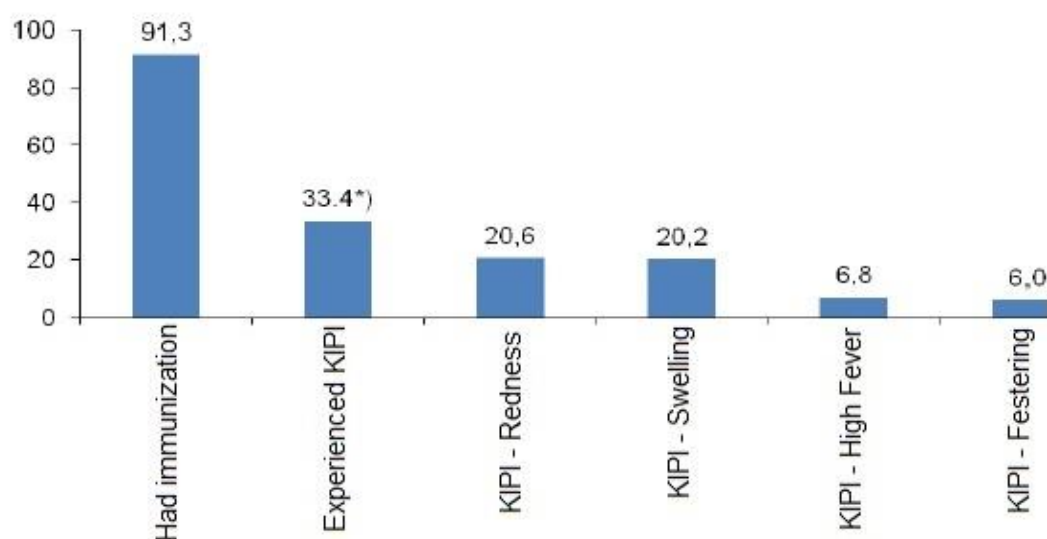


Figure 15.6 Proportion of Associated Events Following Immunization (KIPI) to Children 12-23 Months Of age, Indonesia 2013

15.4. Neonatal Visits

Riskesdas 2013 collects data of neonatal visits when the newborns reach age 6-48 hours (KN1), 3-7 days (KN2) and 8-28 days (KN3). Figure 15.7 shows relatively identical percentage of KN1 and KN2 in Riskesdas 2010 and 2013. As to KN3 (8-28 days), the percentage is to increase from 38.0% in 2010 to 47.5% in 2013. The service coverage of complete neonatal visit is also to go up from 31.8 percent (2010) to 39.3 percent (2013). The highest neonatal visits take place at newborns of 6-48 hours (71.3%) and the lowest in newborns of 8-28 days (47.5%).

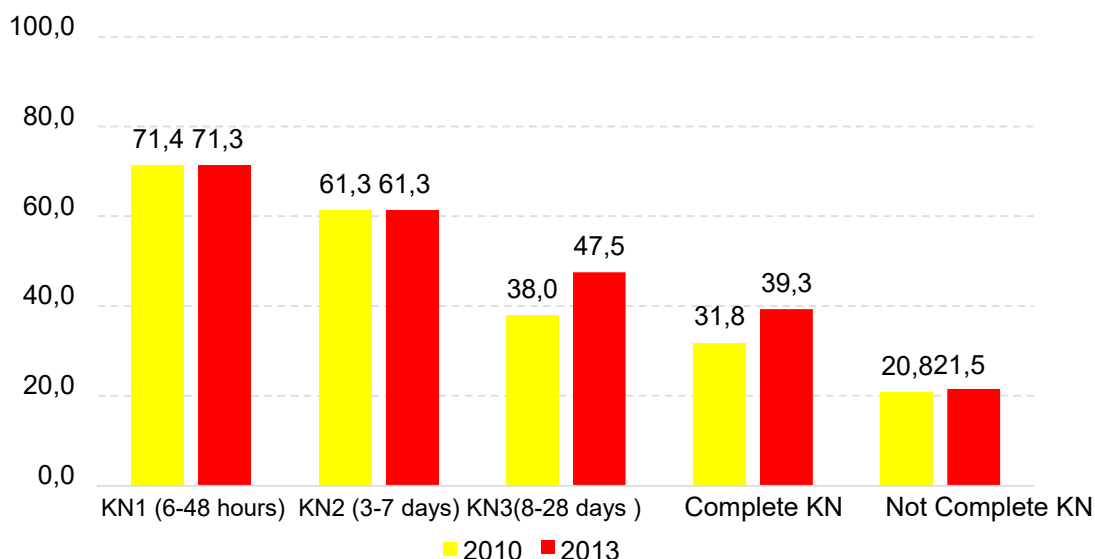


Figure 15.7 Complete Neonatal Visit Trends, Indonesia 2010 and 2013

KN1 percentage in children < 5 years of age by province is presented in Figure 15.8. Neonatal visit at 6-48 hours reaches 71.3 percent in Riskesdas 2013, which is nearly equivalent to Riskesdas 2010 (71.4%). In 2013, province with the highest KN1 percentage is DKI Jakarta (82.8%) and the lowest in West Papua (42.1%).

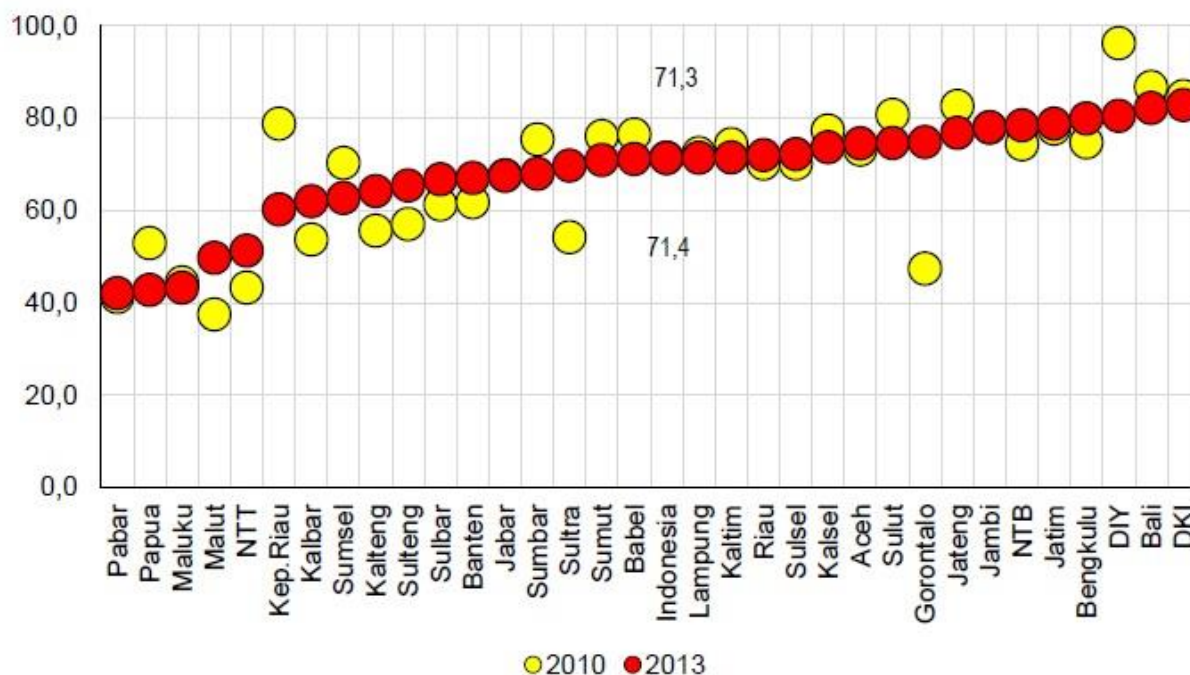


Figure 15.8 KN1 Trends by Province, Indonesia 2010 and 2013

The percentage of neonatal visits by respondent characteristics is presented in Table 15.10. From Table 3.13.10, it is identified that the percentage of neonatal visits at 6-48 hours, 3-7 days and 8-28 days after the childbirth is to decline in line with the increasing age of the babies. Neonatal visits by Sexes of babies are relatively identical. By residence, neonatal visits in urban areas are higher than in rural areas. The higher education and wealth quantile index, the higher percentage of neonatal visits to babies 6-48 hours, 3-7 days and 8-28 days is found. By professions, the highest percentage of neonatal visits to the babies of 6-48 hours, 3-7 days and 8-28 days is detected in household heads working as employees, i.e. 79.8 percent for KN1, 70.5 percent for KN2 and 57.7 percent for KN3.

Table 15.10 Proportion of Neonatal Visits to Children 0-59 Months of Age by Characteristics, Indonesia 2013

Characteristics	Neonatal Visits		
	KN1 (6 – 48 hours)	KN2 (3 – 7 days)	KN3 (8 – 28 days)
Age Group (months)			
0 – 5	75,7	63,8	49,3
6 – 11	75,9	64,3	49,6
12 – 23	72,5	63,1	49,2
24 – 35	71,2	61,6	47,3
36 – 47	69,8	60,4	47,2
48 – 59	67,1	57,4	44,3
Sexes			
Male	71,6	61,6	47,6
Female	70,9	61,0	47,4
Education			
Never attending school	59,2	48,9	40,0
Not graduate el. school	61,8	52,4	41,3
Graduate elementary sch	65,7	56,1	42,5
Graduate jr. high sch	71,6	62,5	45,9
Graduate high school	78,0	67,0	53,0
Graduate Dipl./Bachelor	83,3	73,0	60,7
Professions			
Unemployed	70,8	58,8	47,5
Employees	79,8	70,5	57,7
Entrepreneurs	75,1	65,4	49,8
Farmers/Fishermen/Workers	65,0	54,7	41,1
Others	71,3	61,7	47,2
Residence			
Urban	76,1	66,8	54,3
Rural	66,2	55,5	40,3
Wealth Quantile Index			
Lowest	49,9	39,8	30,6
Middle - Low	65,9	55,6	40,7
Middle	73,5	64,1	48,9
Middle - High	77,7	68,4	54,4
Highest	80,9	70,0	55,5
Indonesia	71,3	61,3	47,5

Every newborn baby should receive neonatal visits, i.e. when he/she is 6-48 hours of age, 3-7 days of age and 8-28 days of age. Babies receiving neonatal visits at 6-48 hours, 3-7 days and 8-28 days are deemed to have complete neonatal visits (KN1, KN2, and KN3). The percentage of complete neonatal visits by province is presented in Figure 19.9.

Figure 15.9 shows that the percentage of children under five years of age receiving complete neonatal visits reaches 39.3 percent in Riskesdas 2013, which is higher than in 2010 (31.8%). The highest percentage of complete neonatal visits in 2013 is achieved by DI Yogyakarta (58.3%) with the lowest in West Papua (6.8%).

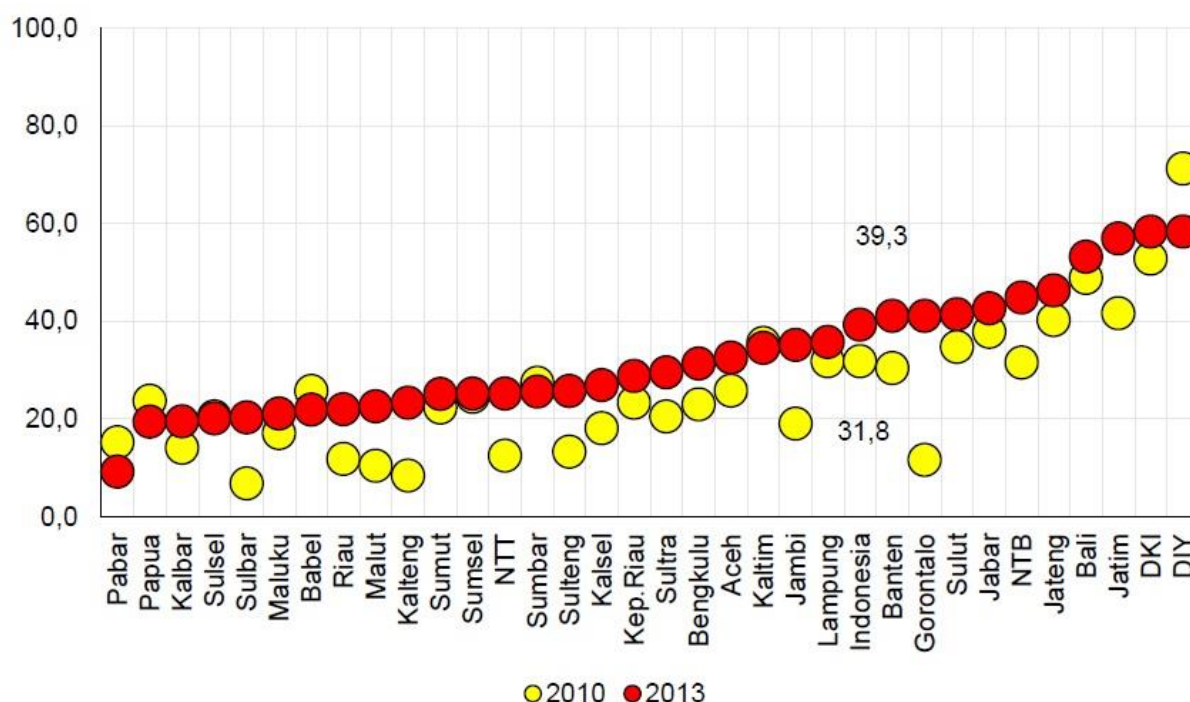


Figure 15.9 Complete Neonatal Visit Trends by Province, Indonesia 2010 and 2013

Table 15.11 indicates no significant disparity of percentage with regard to complete neonatal visits by sexes. By residences, complete neonatal visits in urban areas record higher percentage than in rural areas. In the latter, 26.7 percent children under five years of age never receive neonatal visit. The higher education of household heads and wealth quantile index, the higher percentage of complete neonatal visits are observed. By professions, the highest complete neonatal visits are found in household heads of employees (49.3%) and the lowest in household heads of farmers/fishermen/workers (33.2%).

The percentage of children under five years of age never receiving neonatal visit is to decline in line with higher education and wealth quantile index. By professions, children under five years of age without neonatal visit are mainly found in household heads working as farmers/fishermen/workers (27.6%) and the lowest at employees (13.4%).

Table 15.11 Proportion of Neonatal Visits to Children 0-59 Months of Age by Characteristics, Indonesia 2013

Characteristics	Neonatal Visit		
	Never	Not Complete	Complete
Age Group (month)			
0 – 5	18,4	40,6	41,0
6 – 11	18,0	39,7	42,3
12 – 23	20,0	39,6	40,5
24 – 35	21,2	39,7	39,1
36 – 47	22,4	38,7	38,9
48 – 59	25,5	38,0	36,6
Sexes			
Male	21,2	39,1	39,7
Female	21,7	39,3	39,0
Education			
Never attending school	34,0	33,6	32,4
Not graduate el. school	30,1	37,2	32,7
Graduate elementary sch	26,2	39,4	34,4
Graduate jr. high sch	20,4	42,2	37,4
Graduate high school	15,6	39,5	44,8
Graduate Dipl./Bachelor	11,6	34,8	53,7
Professions			
Unemployed	22,8	37,5	39,8
Employees	13,4	37,3	49,3
Entrepreneurs	17,5	41,2	41,3
Farmers/Fishermen/Workers	27,6	39,2	33,2
Others	20,7	40,6	38,7
Residence			
Urban	16,4	38,1	45,4
Rural	26,7	40,4	32,9
Wealth Quantile Index			
Lowest	42,2	34,9	22,9
Middle - Low	25,8	41,7	32,5
Middle	18,4	41,1	40,5
Middle - High	15,4	38,6	46,0
Highest	13,6	39,0	47,5

15.5. Umbilical Cord Treatment

Riskesdas 2013 provides information of how to treat umbilical cord of the newborns. Normal Childbirth Treatment Standard (APN) recommends of applying nothing to the umbilical cord that has been cut off and tied up. In the past, before the introduction of APN, umbilical cord was treated with alcohol or other antiseptics.

Table 15.12 presents methods of treating umbilical cord to children 0-59 months of age by province. The table shows that umbilical cord treatment without special care reaches 24.1 percent, 68.9 percent use betadine/alcohol and the other 1.6 percent apply powder drugs. The percentage of treating umbilical cord with nothing is to increase from 11.6 percent in 2010 to 24.1 percent in 2013. On the other hand, umbilical cord treatment with betadine/alcohol is to decline from 78.9 percent (2010) to 68.9 percent (2013). In Bali 49.6% treat umbilical cord with nothing. In North Sulawesi, it reaches 4.6%. i.e. the lowest among other provinces.

Table 15.12 Proportion of Umbilical Cord Treatment Methods to Children 0-59 Months of Age by Province, Indonesia 2013

Province	Umbilical Cord Method			
	No Special Treatment	Apply betadine/ alcohol	Powder drugs	Herbal/ Traditional Drugs
Aceh	25,7	66,9	1,3	6,1
North Sumatera	9,3	81,7	4,3	4,7
West Sumatera	22,2	75,3	0,6	1,9
Riau	11,6	78,5	1,5	8,5
Jambi	34,8	58,0	1,2	5,9
South Sumatera	8,4	80,9	0,9	9,8
Bengkulu	24,8	68,2	2,5	4,5
Lampung	35,4	59,0	1,1	4,5
Bangka Belitung	14,9	76,3	0,8	7,9
Riau Island	17,1	79,3	1,0	2,6
DKI Jakarta	27,0	71,6	0,3	1,1
West Java	30,1	64,8	1,8	3,4
Central Java	18,1	81,1	0,2	0,6
DI Jogjakarta	45,8	53,6	0,2	0,3
East Java	33,6	63,3	0,7	2,3
Banten	14,9	76,2	0,9	8,0
Bali	49,6	45,2	0,3	5,0
West Nusa Tenggara (NTB)	45,0	41,8	2,7	10,5
East Nusa Tenggara (NTT)	26,7	49,7	4,8	18,8
West Kalimantan	16,8	60,7	2,8	19,7
Central Kalimantan	16,8	59,1	4,1	19,9
South Kalimantan	16,0	75,5	2,3	6,3
East Kalimantan	17,7	77,8	1,3	3,3
North Sulawesi	4,6	93,9	0,6	0,9
Central Sulawesi	9,7	76,0	4,1	10,3
South Sulawesi	17,4	72,9	2,9	6,8
South-east Sulawesi	22,7	59,0	3,4	14,9
Gorontalo	13,2	78,7	2,5	5,6
West Sulawesi	20,2	59,9	2,9	17,0
Maluku	6,1	71,6	2,0	20,3
North Maluku	18,2	47,4	2,9	31,6
West Papua	16,5	66,7	0,9	15,9
Papua	37,3	48,2	2,1	12,4
Indonesia	24,1	68,9	1,6	5,5

15.6. Breastfeeding Pattern

Riskesdas 2013 also collects data relating to breastfeeding and complementary feeding to infants 0-23 months of age covering: starting breastfeeding process, early breastfeeding initiation (IMD), colostrums intake, prelacteal foods intake, exclusive breastfeeding and complementary feeding. This book presents breastfeeding process and exclusive breastfeeding. Exclusive breastfeeding means that infants 0-6 months of age only receive milk from breast for the last 24 hours without other foods and drinks, but breastfeeding.

Early breastfeeding has positive impact to the mother as well as the baby. For the baby, breastfeeding is important to support his/her growth, health and survival since milk from the breast is rich of nutrition and antibodies. For the mother, breastfeeding can reduce morbidity and mortality because breastfeeding process will stimulate uterus contraction that will abate postpartum bleeding.

Breastfeeding for long-term period can extend birth interval because of longer amenorrhoe period. UNICEF and WHO recommend the mothers to give exclusive breastfeeding for 6 months to the babies. After 6 months, the babies may be given with complementary feeding while continuing breastfeeding until the babies reaching min. 2 years of age. The Government of Indonesia, c.q. the Ministry of Health also recommends exclusive breastfeeding for 6 months to the babies.

Figure 15.10 shows breastfeeding process trends to children 0-23 months of age in 2010 and 2013. From the figure it can be identified that breastfeeding process less than one hour (early initiation of breastfeeding/IMD) is to increase from 29.3 percent (2010) to 34.5 percent (2013).

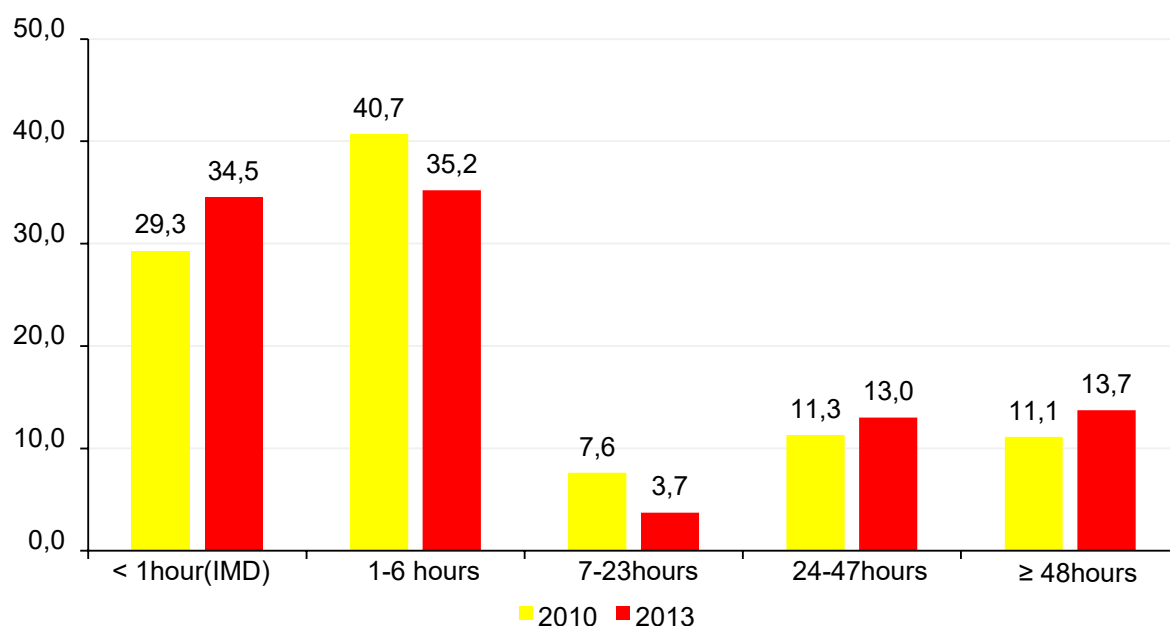


Figure 15.10 Early Breastfeeding Initiation Trends to Children 0-23 Months of Age, Indonesia 2010 and 2013

Early Initiation of Breastfeeding (IMD) to children 0-23 months of age by province is presented in Table 15.13. At nationwide, practice of giving breastfeeding less than one hour (IMD) to the newborns reaches 34.5 percent with the highest proportion found in NTT (52.9%) and the lowest in West Papua (21.7%).

Table 15.13 Percentage of the process starts to breastfed at children aged 0-23 months by province, Indonesia 2013

Province	Starting the Breastfeeding				
	<1 hours (IMD)	1-6 hours	7-23 hours	24-47 hours	≥48 hours
Aceh	39,7	27,7	2,9	15,7	14,0
North Sumatera	22,9	32,9	4,2	17,1	22,9
West Sumatera	44,2	36,6	3,9	9,3	6,1
Riau	22,1	43,9	5,1	10,9	18,0
Jambi	41,1	34,5	2,8	11,0	10,6
South Sumatera	29,6	36,4	5,3	11,7	17,0
Bengkulu	35,7	34,0	1,0	18,9	10,3
Lampung	24,1	46,3	4,1	13,6	12,0
Bangka Belitung	37,4	26,4	2,0	14,6	19,6
Riau Island	22,7	39,5	7,0	14,5	16,4
DKI Jakarta	41,9	27,3	3,5	16,1	11,3
West Java	35,7	37,4	3,7	11,3	11,9
Central Java	37,5	34,6	5,0	9,9	13,0
DI Jogjakarta	39,3	39,4	2,0	10,8	8,4
East Java	33,3	33,5	3,3	15,3	14,7
Banten	33,8	37,7	3,7	13,5	11,4
Bali	42,2	33,2	1,6	13,5	9,5
West Nusa Tenggara (NTB)	52,9	30,8	1,4	10,2	4,6
East Nusa Tenggara (NTT)	40,5	40,3	3,2	9,1	6,8
West Kalimantan	29,6	36,9	1,9	16,3	15,3
Central Kalimantan	23,9	34,8	2,7	21,0	17,5
South Kalimantan	28,6	32,8	2,6	15,9	20,0
East Kalimantan	35,1	41,0	2,0	10,5	11,4
North Sulawesi	29,0	34,7	4,1	15,7	16,4
Central Sulawesi	29,0	24,7	4,2	15,7	26,4
South Sulawesi	44,9	26,0	3,7	10,2	15,1
South-east Sulawesi	33,2	35,3	3,0	12,0	16,5
Gorontalo	42,7	35,0	1,8	11,6	8,9
West Sulawesi	34,0	35,5	3,2	9,9	17,4
Maluku	24,8	42,4	3,8	9,7	19,2
North Maluku	27,0	39,6	3,8	12,6	17,0
West Papua	21,7	43,5	3,2	18,0	13,7
Papua	31,5	40,5	3,0	19,2	5,8
Indonesia	34,5	35,2	3,7	13,0	13,7

Figure 15.11 shows that the percentage of mothers giving exclusive breastfeeding for the last 24 hours starts to decline in line with the increasing age of the babies with the lowest percentage to babies 6 months of age (30.2%).

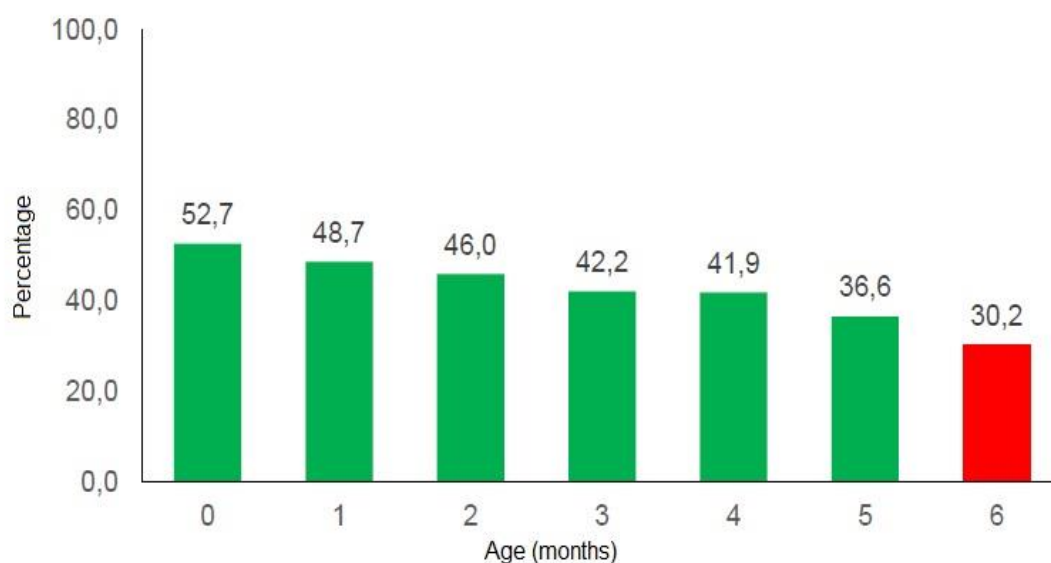


Figure 15.11 Exclusive Breastfeeding for the Last 24 Hours by Age

15.7. Vitamin A Capsule Distribution Coverage

Vitamin A Capsules have been distributed two times in a year, i.e. in February and August when the babies reach six months of age. Red capsules (dosis 100,000 IU) are given for babies 6-11 months of age and blue capsules (dosis 200,000 IU) for babies 12-59 months of age.

Figure 15.12 shows Vitamin A Capsule distribution trend to children 6-59 months of age by province in 2007 and 2013. The distribution coverage is to rise from 71.5 percent (2007) to 75.5 percent (2013). The highest proportion of children 6-59 months of age receiving Vitamin A capsules for the last six months is detected in NTB (89.2%) with the lowest in North Sumatra (52.3%).

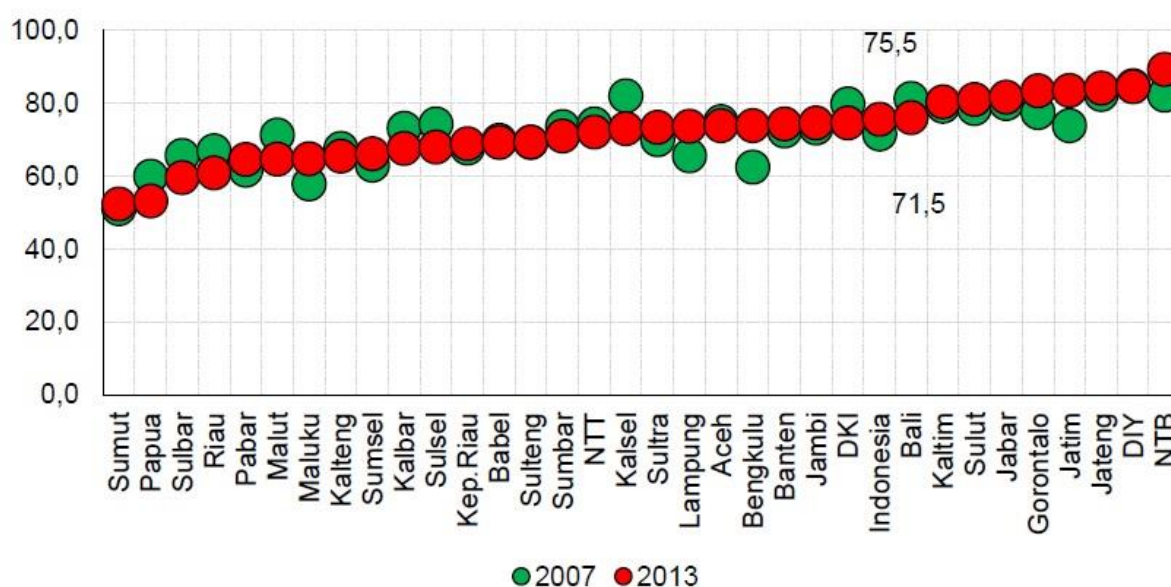


Figure 15.12 Vitamin A Capsule Distribution Trends to Children 6-59 Months of Age, Indonesia 2007 and 2013

15.8. Growth Monitoring

The growth of children under five years of age must be closely monitored to identify potential growth faltering at early as possible. For this purpose, the babies must be weighed every month. The weighing can be made at Posyandu, Polindes, Puskesmas or other health service facilities.

In Riskesdas 2013, information on child growth is acquired from the weighing frequency of children 6-59 months of age for the last six months. Ideally, children under five years of age should be weighed minimum six times.

Figure 15.13 shows growth monitoring frequency trends to children 6-59 months of age for the last six months in 2007 and 2013. The same figure indicates that weighing frequency ≥ 4 times is slightly to decrease in 2013 (44.6%) compared to frequency in 2007 (45.4%). The proportion of children 6-59 months of age never weighed in the last six months is to increase from 25.5 percent (2007) to 34.3 percent (2013).

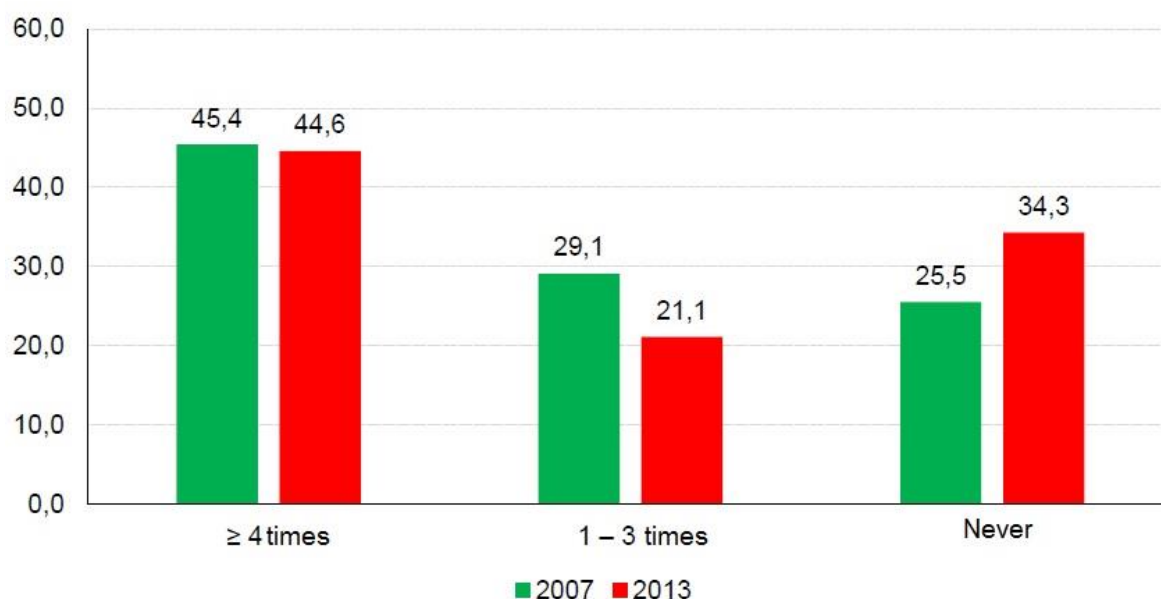


Figure 15.13 Growth Monitoring Frequency Trends to Children 6-59 Months of Age for the Last Six Months, Indonesia 2007 and 2013

Figure 15.14 presents growth monitoring frequency trends of children under five years of age for ≥ 4 times in the last six months by province in 2007 and 2013. The same figure indicates that the highest weighing frequency to children 6-59 months of age for the last six months, which is ≥ 4 times is observed in DI Yogyakarta (79.0%) and the lowest in North Sumatra (12.5%).

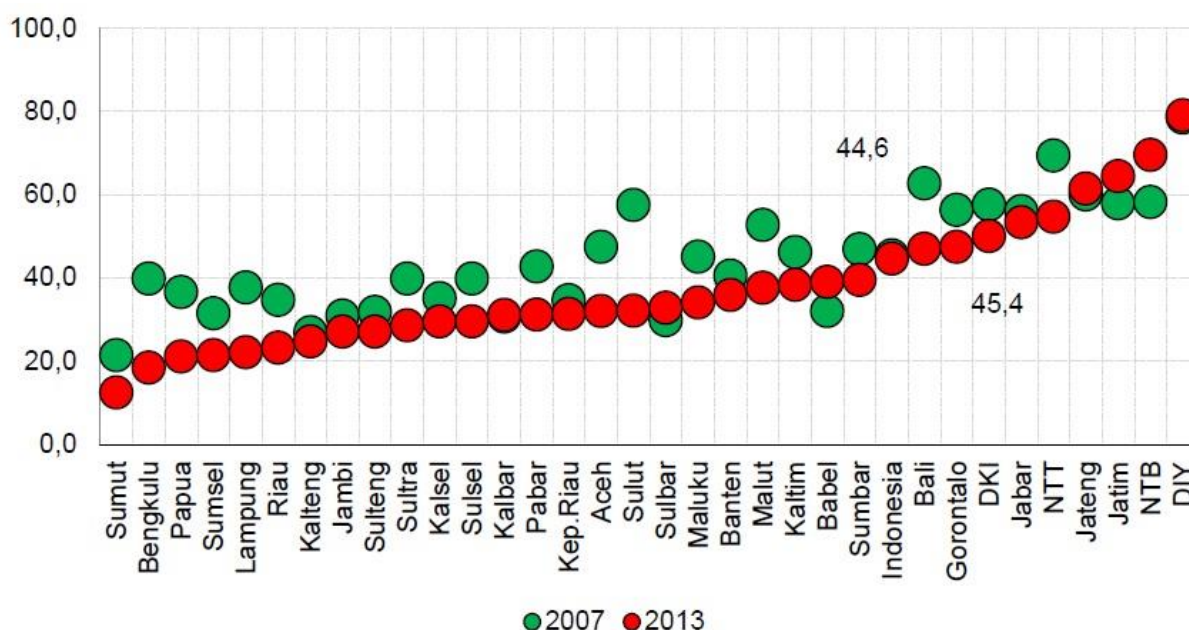


Figure 15.14 Growth Monitoring Frequency Trends to Children Under Five Years of Age for ≥ 4 Times in the Last 6 Months, by Province, Indonesia 2007 and 2013

15.9. Female Genetical Mutilation (FGM)

Riskesdas 2013 presents data or information concerning circumcision practice/tradition to female children 0-11 years of age. The information indicates the percentage of female children experiencing circumcision and age categories when they are circumcised. In addition, data on the percentages of people recommending circumcision and who conduct the circumcision are also provided. For more complete data see Riskesdas 2013 in Figures.

The proportion of circumcised female children 0-11 years of age by province is presented in Figure 15.15. At nationwide, this percentage reaches 51.2 percent. Most of them (72.4%) are circumcised when they are 1-5 months of age. The others are at 1-4 years of age and 5-11 years of age (3.3%). By province, the highest proportion is found in Gorontalo (83.7%) and the lowest in NTT (2.7%) (Figure 15.16).

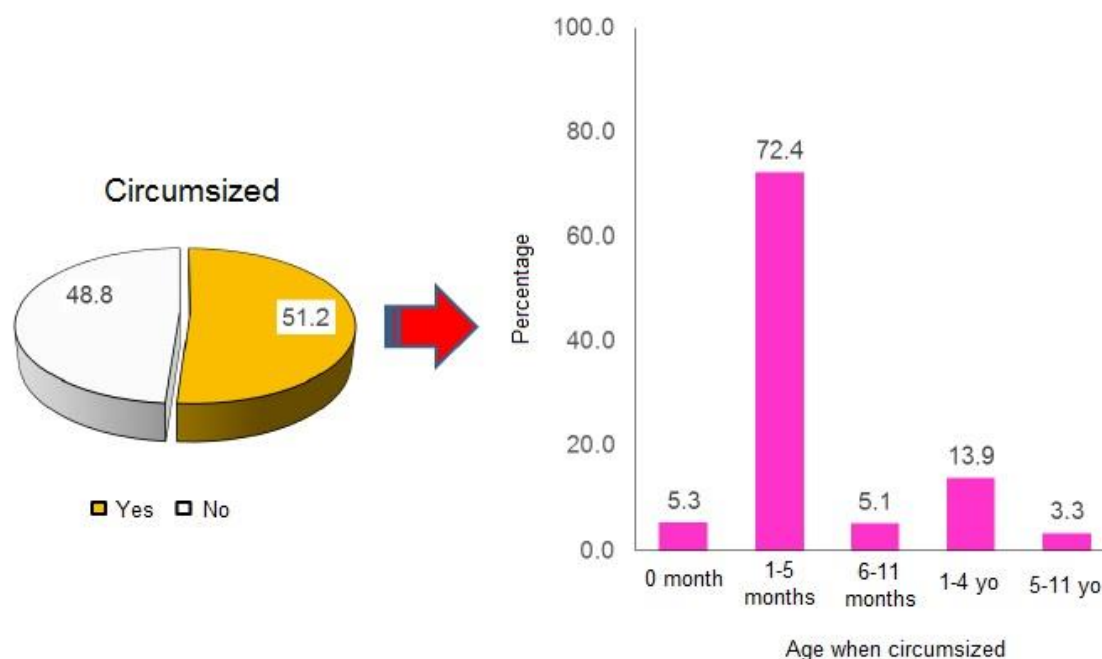


Figure 15.15 Proportion of Circumcised Female Children 0-11 Years of Age and the Age When Circumcised, Indonesia 2013

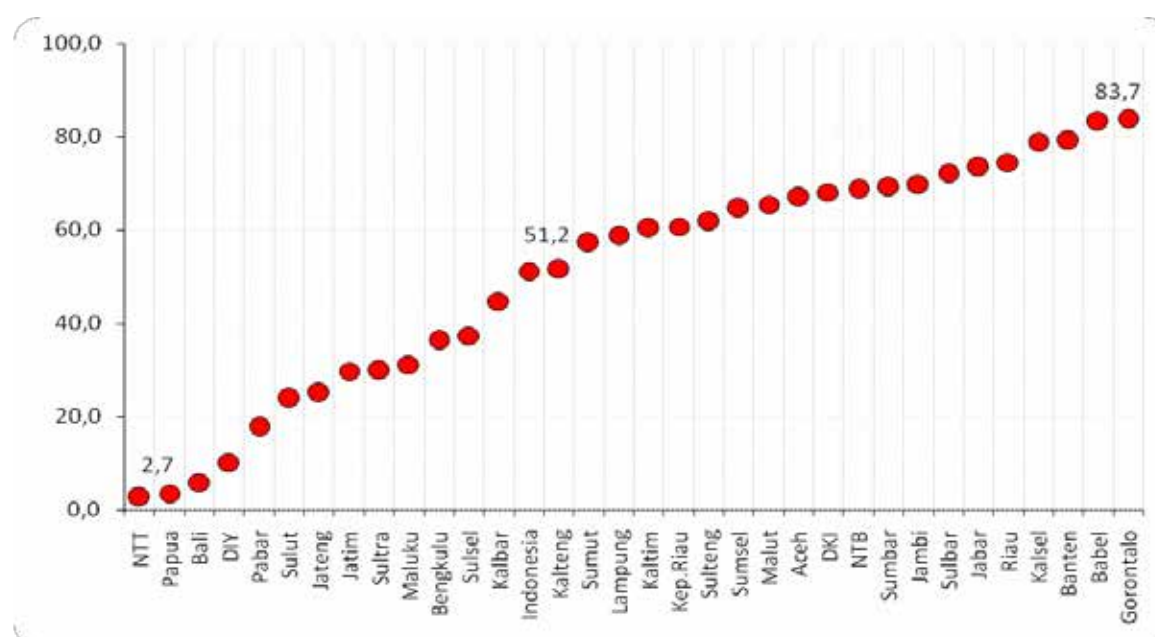


Figure 15.16 Proportion of Circumcised Female Children 0-11 Years of Age by Province, Indonesia
2013

Figure 15.17 presents the percentage of circumcised female children 0-11 years of age by characteristics. By education and profession of household heads, the percentage of female children 0-11 years of age, who are circumcised, is varying. In urban areas, this proportion is higher than in rural areas, i.e. 55.8 percent to 46.9 percent. By wealth quantile index, the lowest percentage in this respect is detected at the lowest wealth quantile index (44.5%).

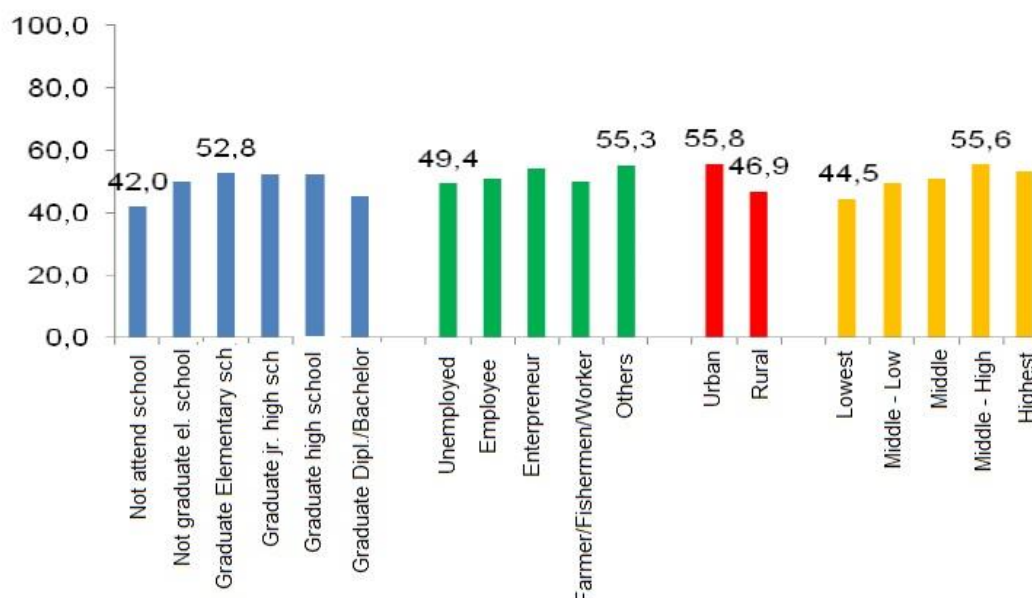


Figure 15.17 The Percentage of Circumcised Female Children 0-11 Years of Age by Characteristics, Indonesia 2013

Bibliographies

Badan Pusat statistik (BPS), Badan Kependudukan dan Keluarga Berencana Nasional (BKKBN), Kementerian Kesehatan (Kemenkes) dan ICF International. 2013. Survei Demografi dan Kesehatan Indonesia 2012. Jakarta: BPS, BKKBN, Kemenkes, and ICF International

[Central Bureau of Statistics (BPS), National Demography and Family Planning Body (BKKBN), the Ministry of Health and ICF International, 2013. Indonesia Demography and Health Survey 2012, Jakarta: BPS, BKKBN, Ministry of Health and ICF International]

Departemen Kesehatan Republik Indonesia. Keputusan Menteri Kesehatan Republik Indonesia Nomor 1611/MENKES/SK/XI/2005 tentang pedoman penyelenggaraan imunisasi. Jakarta. 2005

[Ministry of Health. Decree of Minister of Health Number 1611/MENKES/SK/XI/2005 concerning Immunization Guidelines, Jakarta. 2005]

Departemen Kesehatan Republik Indonesia. Keputusan Menteri Kesehatan Republik Indonesia Nomor 1626/MENKES/SK/XII/2005 tentang pedoman pemantauan dan penanggulangan kejadian ikutan pasca imunisasi (KIPI). Jakarta. 2005

[Ministry of Health. Decree of the Minister of Health Number 1626/MENKES/SK/XI/2005 concerning Monitoring and Management Guidelines for the Associated Events Following Immunization. Jakarta. 2005]

Peraturan Pemerintah Republik Indonesia Nomor 33 tahun 2012 tentang pemberian air susu ibu eksklusif. Jakarta. 2012

[The Regulation of Republic of Indonesia Number 33 of 2012 concerning Exclusive Breastfeeding. 2012]

United Nations Children's Fund and World Health Organization, Low Birthweight: Country, regional and global estimates. UNICEF, New York, 2004

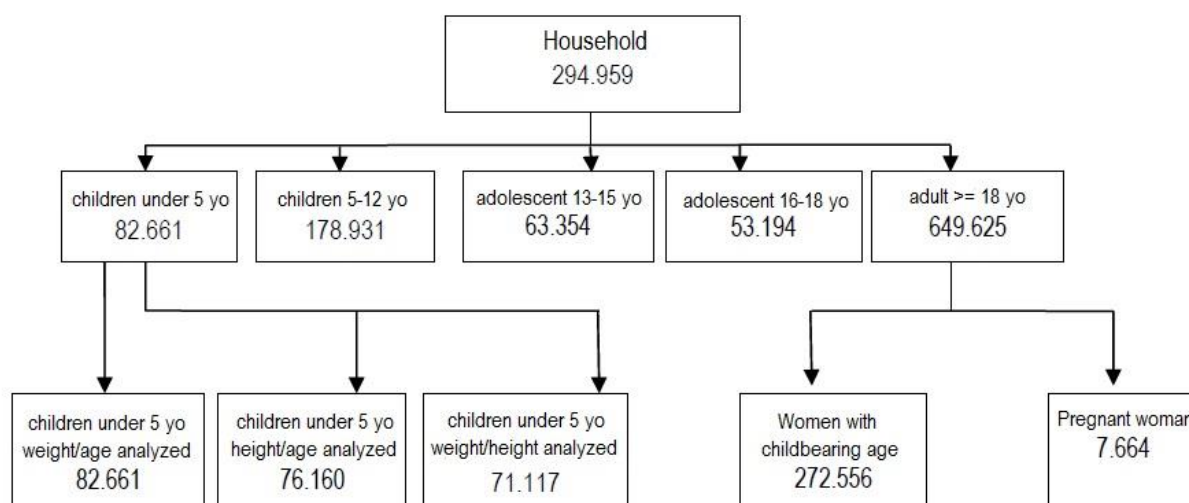
World Health Organization. Indicators for assessing infant and young child feeding practices part 2: measurement. Geneva. 2010.

CHAPTER 16. NUTRITION STATUS

Anies Irawati, Atmarita, Dyah Santi Puspitasari, Yurista P., Fithya Puspitasari, and Agus Triwinarto

Description of nutrition status covers: (1) nutrition status of children under five years of age; (2) nutrition status of children 5 – 18 years of age; (3) nutrition status of adult population; (4) Chronic Energy Deficiency (CED) risk; and (5) women with high-risk pregnancy. In addition, nutrition status trends of Riskesdas 2007, 2010 and 2013 are also described. For more complete information of nutrition status, see Book 2L Riskesdas 2013 in Figures pp. 386 to 415.

Total respondents analyzed are as indicated in the scheme that follows:



16.1. Nutrition Status of Children under Five Years of Age

1. Nutrition Status Assessment Method

The nutrition status of children under five years of age has been assessed from Age (A), Weigh of Body (WB) and Height of Body (HB). The weight is measured with digital scale with precision 0.1 kg. As to the length or height (LB/HB), it has been measured with length/height measuring tools with precision 0.1 cm. WB variables and LB/HB variables are presented in three antropometric indices, i.e. WB/A, HB/A, HB/A and WB/HB.

To assess the nutrition status of children under five years of age, the scores of weights and heights of the children have been converted into standardized value (*Zscore*) using antropometric standards or WHO 2005. From *Zcore* of individual indicators, the nutrition status of children under five years of age can be determined with classifications as follows:

a. Nutrition Status Classification by WB/A Index:

Malnourished	: $Zscore < -3,0$
Undernutrition	: $Zscore \geq -3,0$ to $Zscore < -2,0$
Good Nutrition	: $Zscore \geq -2,0$

b. Nutrition Status Classification by HEIGHT OF BODY/AGE (HB/A) indicator:

Stunting	: $Zscore < -3,0$
Shorts	: $Zscore \geq -3,0$ to $Zscore < -2,0$
Normal	: $Zscore \leq -2,0$

c. Nutrition Status Classification by WEIGHT OF BODY/HEIGHT OF BODY (WB/HB) indicator:

Wasting	: $Zscore < -3,0$
Thin	: $Zscore \geq -3,0$ to $Zscore < -2,0$
Normal	: $Zscore \geq -2,0$ to $Zscore \leq 2,0$
Fat	: $Zscore > 2,0$

d. Nutrition Status Classification by combined HEIGHT OF BODY/AGE and WEIGHT OF BODY/HEIGHT OF BODY (HB/A and WB/HB) indicator:

Short - Thin	: $Zscore\ HB/A < -2,0$ and $Zscore\ WB/HB < -2,0$
Short - Normal	: $Zscore\ HB/A < -2,0$ and $Zscore\ WB/HB$ between $-2,0$ to $2,0$
Short - Fat	: $Zscore \geq -2,0$ to $Zscore \leq 2,0$
Normal Height - Thin	: $Zscore\ HB/A \geq -2,0$ and $Zscore\ WB/HB < -2,0$
Normal Height - Normal	: $Zscore\ HB/A \geq -2,0$ and $Zscore\ WB/HB$ between $-2,0$ to $2,0$
Normal Height - Fat	: $Zscore\ HB/A \geq -2,0$ and $Zscore\ WB/HB > 2,0$

Prevalence value is calculated as follows:

Based on WEIGHT OF BODY/AGE (WB/A) Indicator:

Malnourished prevalence	: $(\sum \text{malnourished children} / \sum \text{children}) \times 100\%$
Undernutrition prevalence	: $(\sum \text{undernutrition children} / \sum \text{children}) \times 100\%$
Good nutrition prevalence	: $(\sum \text{good nutrition children} / \sum \text{children}) \times 100\%$

Based on HEIGHT OF BODY/AGE (HB/A) Indicator:

Stunting prevalence	: $(\sum \text{stunted children} / \sum \text{children}) \times 100\%$
Short prevalence	: $(\sum \text{short children} / \sum \text{children}) \times 100\%$
Normal prevalence	: $(\sum \text{normal children} / \sum \text{children}) \times 100\%$

Based on WEIGHT OF BODY/HEIGHT OF BODY (WB/HB) indicator:

Wasting prevalence	: $(\sum \text{Wasting children} / \sum \text{children}) \times 100\%$
Thin prevalence	: $(\sum \text{thin children} / \sum \text{children}) \times 100\%$
Normal prevalence	: $(\sum \text{normal children} / \sum \text{children}) \times 100\%$
Fat prevalence	: $(\sum \text{fat children} / \sum \text{children}) \times 100\%$

Based on combined HEIGHT/AGE (HB/A) AND WEIGHT/HEIGHT (WB/HB) indicator

Short-thin prevalence	: $(\sum \text{short-thin children} / \sum \text{children}) \times 100\%$
Short-normal prevalence	: $(\sum \text{short-normal children} / \sum \text{children}) \times 100\%$
Short-fat prevalence	: $(\sum \text{short-fat children} / \sum \text{children}) \times 100\%$
Normal height-thin prevalence	: $(\sum \text{normal-thin children} / \sum \text{children}) \times 100\%$
Normal height-normal prevalence	: $(\sum \text{normal-normal children} / \sum \text{children}) \times 100\%$
Normal height - fat prevalence	: $(\sum \text{normal-fat children} / \sum \text{children}) \times 100\%$

In this report some special terms have been used:

Underweight	: Refer to combination of malnourished and under nutrition (<i>underweight</i>)
Stunting	: Refer to combination of very short and short (<i>stunting</i>)
Wasting	: Refer to combination of very thin and thin (<i>wasting</i>)

2. The Characteristics of Nutrition Status Indicators

Nutrition status by WB/A (WEIGHT/AGE) index provides general indications of nutrition problems. This is not intended to give any indication relating to chronic or acute nutrition-related problems since the weight of body positively correlates with age and height of body. Very low WB/A indicator may be due to stunting issues (chronic nutrition problems) or otherwise the children are suffering diarrhea or other infectious diseases (acute nutrition problems).

Nutrition status by HEIGHT/AGE (HB/A) index reveals indications of chronic nutrition problems as a result of conditions that have continued for long time, for example: poverty, unhealthy behavior and lack of food intakes for long period since baby age that cause stunted children.

Nutrition status by WEIGHT/HEIGHT (WB/HB) index describes acute nutrition problems as a result of short events, for example: plague and starvation causing thin children. WB/HB and BMI/A indicators can be used to identify the thinness and fatness of children. Wasting or obesity at early age can bring about degenerative risks in adult age (Barker theory).

Accute-chronic nutrition problems refer to acute and chronic malnutrition, for example, wasting and stunting children.

3. Nutrition Status of Children under Five Years of Age by WEIGHT/AGE (WB/A) indicator

Figure 16.1 presents underweight prevalence by province and at nationwide. At national scale, underweight prevalence in 2013 records 19.6 percent consisting of 5.7 percent for malnourished and 13.9 percent for undernutrition. Compared to national prevalence in 2007 (18.4%) and 2010 (17.9%), there is an increase. The main difference is in malnourished prevalence, i.e. 5.4 percent in 2007, 4.9 percent in 2010 and 5.7 percent in 2013. For undernutrition prevalence, it goes up by 0.9 percent from 2007 to 2013 (Figure 16.4). To achieve, MDG goals 2015 set at 15.5 percent, underweight prevalence at nationwide must be lowered by 4.1 percent from 2013 to 2015. (Bappenas, 2012)

Of 33 provinces in Indonesian, 18 provinces have underweight prevalence higher than national prevalence, i.e. around 21.2 percent to 33.1 percent. They are respectively from the highest to the lowest: (1) NTT; (2) West Papua; (3) West Sulawesi; (4) Maluku; (5) South Kalimantan; (6) West Kalimantan; (7) Aceh; (8) Gorontalo; (9) NTB; (10) South Sulawesi; (11) North Maluku; (12) Central Sulawesi; (13) South-East Sulawesi; (14) Central Kalimantan; (15) Riau; (16) North Sumatera; (17) Papua; (18) West Sumatera; and (19) Jambi

Referring to MDG goals 2015, three provinces have reached the targets in terms of underweight prevalence, i.e. (1) Bali, (2) DKI Jakarta, (3) Bangka Belitung. Public health will turn into a serious issued if the underweight prevalence records in 20.0 – 29.0 percent range, and it will be deemed as exceeding prevalence if the score is ≥ 30 percent (WHO, 2010). In 2013, at nationwide, underweight prevalence to children under five years of age is at 19.6 percent. It indicates that in Indonesia underweight issues remain a big problem in public health development. Such percentage is close to high prevalence cut-off. Of 33 provinces, 3 provinces with exceeding prevalence are West Sulawesi, West Papua and NTT.

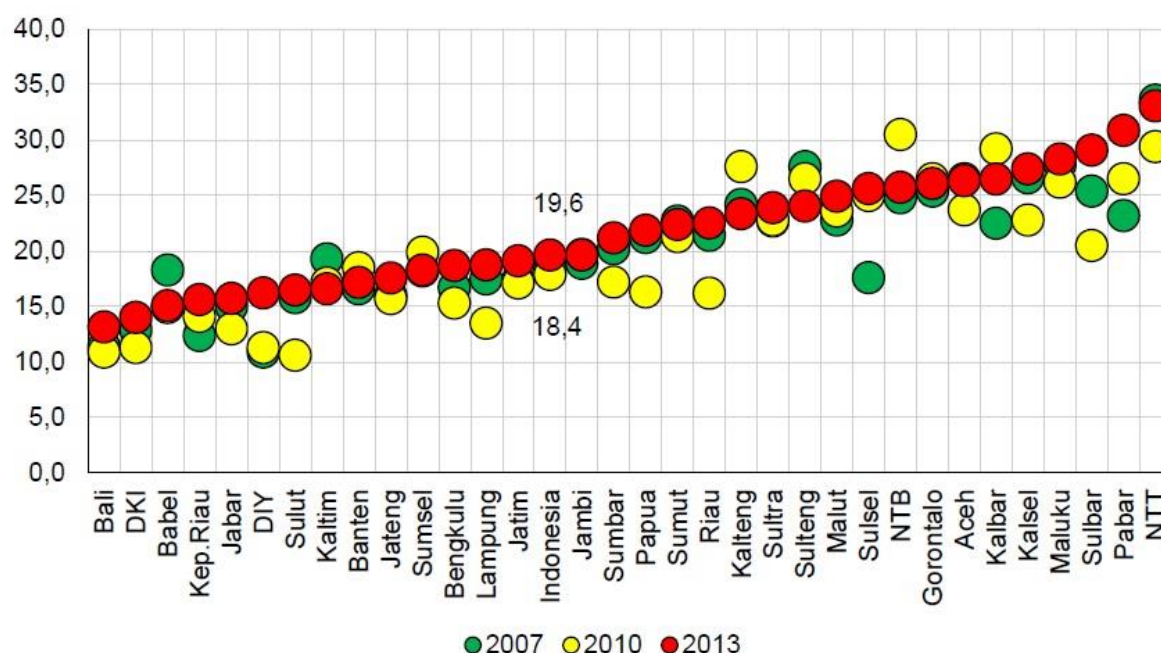


Figure 16.1 Prevalence Trends of Nutrition Status by WB/A <-2SD by Province, Indonesia 2007, 2010, and 2013

4. Nutrition Status of Children under Five Years of Age by HEIGHT/AGE (HB/A) Indicator

Figure 16.2 presents stunting prevalence by province and at nationwide. At national scale, stunting prevalence in 2013 is 37.2 percent, which implies an increase from 2010 (35.6%) and 2007 (36.8%). Stunting prevalence 37.2 percents consists of 18.0 percent for very short and 19.2 percent for short. In 2013, the prevalence of very short children shows a decrease. However, for short prevalence it goes up from 18.0 percent in 2007 to 19.2 percent in 2013.

Twenty (20) provinces record stunting prevalence above national rate, i.e. from the highest to the lowest: (1) NTT, (2) West Sulawesi, (3) NTB, (4) West Papua, (5) South Kalimantan, (6) Lampung, (7) South-East Sulawesi, (8) North Sumatera, (9) Aceh, (10) Central Kalimantan, (11) North Maluku, (12) Central Sulawesi, (13) South Sulawesi, (14) Maluku, (15) Papua, (16) Bengkulu, (17) West Sumatera, (18) Gorontalo, (19) West Kalimantan and (20) Jambi.

Public health issue will become a severe problem when stunting prevalence hits 30 – 39 percent and turn into a serious problem when this prevalence reaches ≥ 40 percent (WHO, 2010). Fourteen (14) provinces are categorized of facing severe problem and the other 15 provinces encountering serious problems. The latter is: (1) Papua, (2) Maluku, (3) South Sulawesi, (4) North Maluku, (5) Central Sulawesi, (6) Central Kalimantan, (7) Aceh, (8) North Sumatera, (9) South-East Sulawesi, (10) Lampung, (11). South Kalimantan, (12). West Papua, (13). NTB, (14). West Sulawesi and (15) NTT.

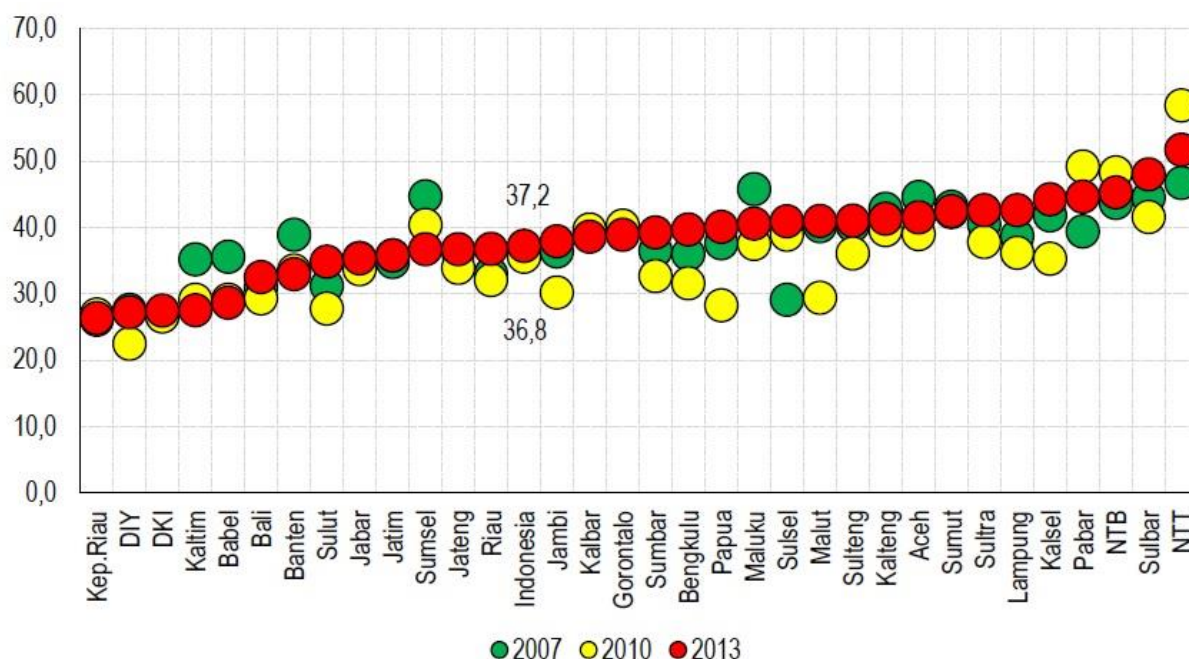


Figure 16.2 The Prevalence Trends of Nutrition Status by HB/A <-2SD by Province, Indonesia 2007, 2010, and 2013

16.1.5. Nutrition Status of Children under Five Years of Age by WEIGHT OF BODY/HEIGHT OF BODY (BB/HB) Indicator

Figure 16.3 present wasting prevalence by province and at nationwide. One indicator to determine whether a child must undergo treatment for malnourished management is that of wasting condition, i.e. a child with $Zscore < -3,0$ SD. The nationwide wasting prevalence in 2013 remains relatively high, i.e. 5.3 percent, despite decrease compared to 2010 (6.0%) and 2007 (6.2%). Likewise, thin prevalence at 6.8 percent also indicates a decrease from 7.3 percent (2010) and 7.4 percent (2007). In general, wasting prevalence and thin prevalence are to drop from 13.6 percent in 2007 to 12.1 percent in 2013 (Figure 16.4).

Seventeen (17) provinces have this prevalence above national rate with the sequence from the highest to the lowest: West Kalimantan, Maluku Aceh, Riau, Nusa Tenggara Timur, West Papua, North Sumatera, Bengkulu, Papua, Banten, Jambi, South Kalimantan, West Sumatra, South Sumatra, Central Kalimantan, Riau Island and North Maluku.

In 2013 the nationwide obesity prevalence of Indonesia is 11.9 percent implying a decrease from 14.0 percent in 2010. Twelve (12) provinces records obesity prevalence higher than national rate, i.e. from the highest to the lowest: (1) Lampung, (2) South Sumatra, (3) Bengkulu, (4) Papua, (5) Riau, (6) Bangka Belitung, (7) Jambi, (8) North Sumatera, (9) East Kalimantan, (10) Bali, (11) West Kalimantan, and (12) Central Java (Figure 16.3).

Public health will become serious issue if the stunting prevalence reaches 10.0 – 14,0 percent and turn into a critical problem when hitting ≥ 15.0 percent (WHO 2010). In 2013, at national scale, stunting prevalence is at 12.1 percent. It means that Indonesia still encounters serious public health problems. Of 33 provinces, 16 provinces fall in serious problems, and 4 provinces in critical category, i.e. West Kalimantan, Maluku, Aceh and Riau.

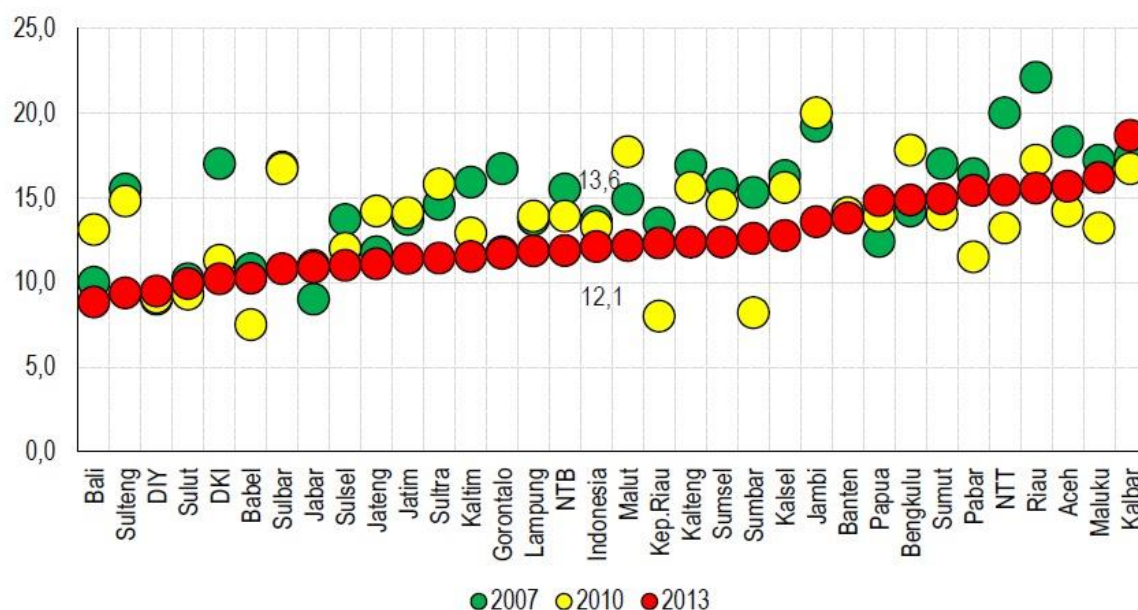


Figure 16.3 Prevalence Trends of Nutrition Status by WB/HB <-2SD by Province, Indonesia 2007, 2010, and 2013

6. Prevalence Trend of Nutrition Status of Children under Five Years of Age 2017-2013

Figure 16.4 presents prevalence trends of children under five years of age by three indices, i.e. WB/A (WEIGHT/AGE), HB/A (HEIGHT/AGE) and WB/HB (WEIGHT/HEIGHT). It is obvious that underweight prevalence is to increase from 2007 to 2013. Stunting prevalence is to drop 0.8 percent from 2007, but short prevalence is to go up 1.2 percent from 2007. Wasting prevalence is to decrease 0.9 percent from 2007. Thin prevalence is also to go down 0.6 percent from 2007. Obesity prevalence declines 2.1 percent from 2010 and 0.3 percent from 2007.



Figure 16.4 Malnourished, Stunting, Wasting and Obesity Prevalence Trends of Children under Five Years of Age, Indonesia 2007, 2010, and 2013

7. Nutrition Status of Children under Five Years of Age by WEIGHT/AGE (HB/A) and WEIGHT/HEIGHT (WB/HB) indicators

Figure 16.5 presents prevalence trends of nutrition status under combined indicator of HB/A and WB/HB at nationwide. According to Riskesdas 2007, 2010 and 2013, short-thin prevalence is to increase. It also prevails for short-normal prevalence (2.1%) and normal-fat prevalence (0.3%) from 2010. On the other hand, downward trend is observed in short-fat prevalence (0.9%), normal-thin (1.5%) and normal-normal prevalence (0.5%) from 2010.

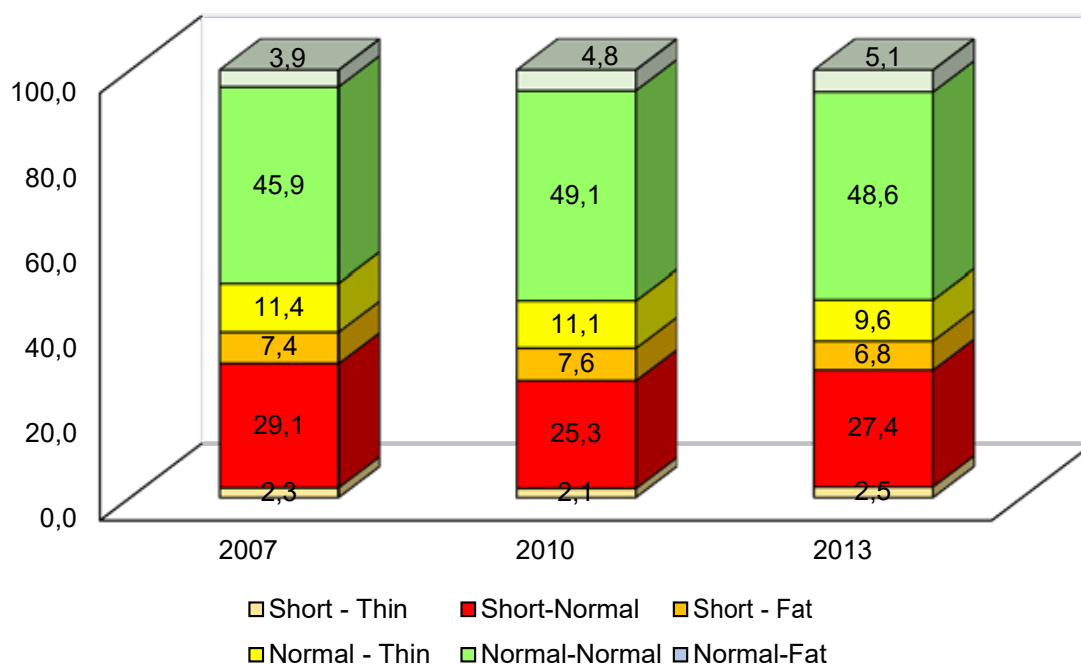


Figure 16.5 Prevalence Trends of Nutrition Status of Children under Five Years of Age by Combined Indicator HB/A and WB/HB, Indonesia 2007, 2010, and 2013

16.2. Nutrition Status of Children 5 – 18 Years of Age

The nutrition status of children 5 – 18 years of age is classified into three age groups, namely: 5-12 years of age, 13 – 15 years of age and 16 – 18 years of age. Nutrition status indicators used in this age groups constitute the results of antropometric measurement of weight (WB) and height (HB) expressed in Height for Age (HB/A) and Body Mass Index for Age (BMI/A).

According to antropometric standards WHO 2007 for children aged 5-18 years, their nutrition status is determined based on Zscore HB/A and BMI/A, from which the nutrition status of children can be categorized as follows:

Classification by HB/A Indicator:

Stunting	: Zscore < -3,
Short	: Zscore ≥ -3,0 to < -2,0
Normal	: Zscore ≥ -2,0

Classification by BMI/A indicator:

Wasting	: Zscore < -3,0
Thin	: Zscore ≥ -3,0 to < -2,0
Normal	: Zscore ≥ -2,0 to ≤ 1,0
Fat	: Zscore > 1,0 to ≤ 2,0
Obesity	: Zscore > 2,0

Generally speaking, stunting prevalence (HB/A) to children of 5-18 years old by sexes can be seen in Figure 16.6. In male children, the highest stunting prevalence is in 13 years of age (40.2%) and in female children it is particularly found in 11 years of age (35.8%).

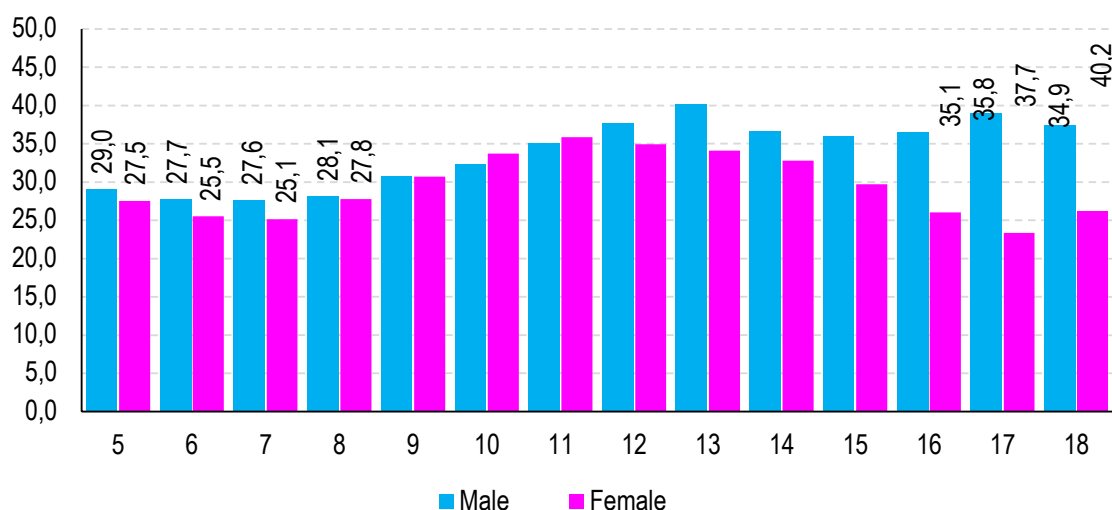


Figure 16.6 Stunting Prevalence of Children 5-18 Years of Age by Sexes, Indonesia 2013

1. Nutrition Status of Children 5 – 12 Years of Age

Figure 16.7 shows that at nationwide the stunting prevalence of children 5-12 years of age is to reach 30.7 percent (12.3% stunting and 18.4% short). The lowest stunting prevalence is observed in DKI Yogyakarta (14.9%) and the highest in Papua (34.5%).

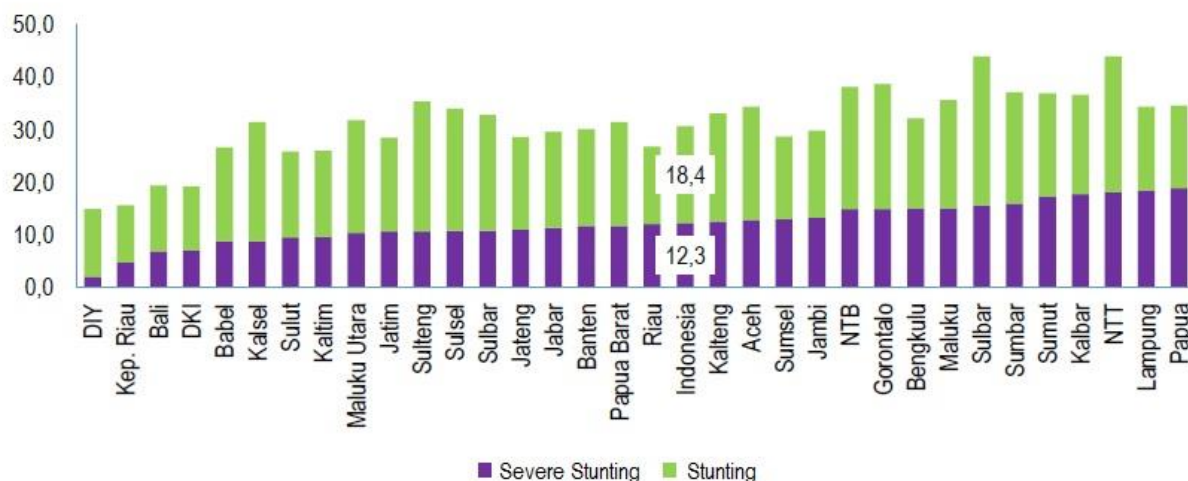


Figure 16.7 Stunting Prevalence of Children 5 – 12 Years of Age by Province, Indonesia 2013

Fifteen (15) provinces are identified of having stunting prevalence above national rate. They include Central Kalimantan, Aceh, South Sumatra, Jambi, NTB, Gorontalo, Bengkulu, Maluku, West Sulawesi, North Sumatra, West Kalimantan, NTT, Lampung and Papua.

Figure 16.8 shows that at nationwide the wasting prevalence (by BMI/A indicator) at children 5-12 years of age reaches 11.2 percent, consisting of 4.0 percent of wasting and 7.2 percent of short. The lowest wasting prevalence is detected in Bali (2.3%) with the highest in NTB (7.8%). Sixteen (16) provinces with wasting prevalence higher than national rate are: West Sumatra, NTB, Central Kalimantan, East Kalimantan, Papua, West Papua, Central Sulawesi, Banten, Central Java, South Kalimantan, Maluku, South Sumatra, West Kalimantan, Riau, Gorontalo and NTT.

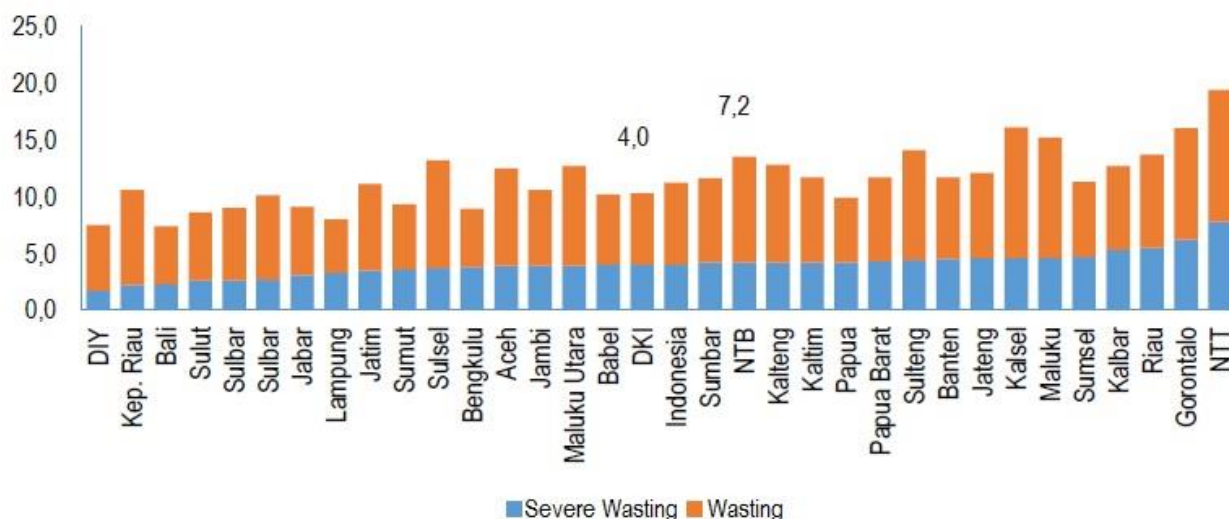


Figure 16.8 Wasting Prevalence (BMI/A) of Children 5 – 12 Years of Age by Province, Indonesia 2013

At nationwide, obesity prevalence to children 5 – 12 years of age is still relatively high, i.e. 18.8 percent consisting of 10.8 fat prevalence and 8.8 percent obesity. The lowest obesity prevalence is found in NTT (8.7%) and the highest in DKI Jakarta (30.1%). Fifteen (15) provinces have obesity prevalence exceeding the national rate. They include: Central Kalimantan, East Java, Banten, East Kalimantan, Bali, West Kalimantan, North Sumatra, Riasu Islands, Jambi, Papua, Bangka Belitung, Lampung and DKI Jakarta.

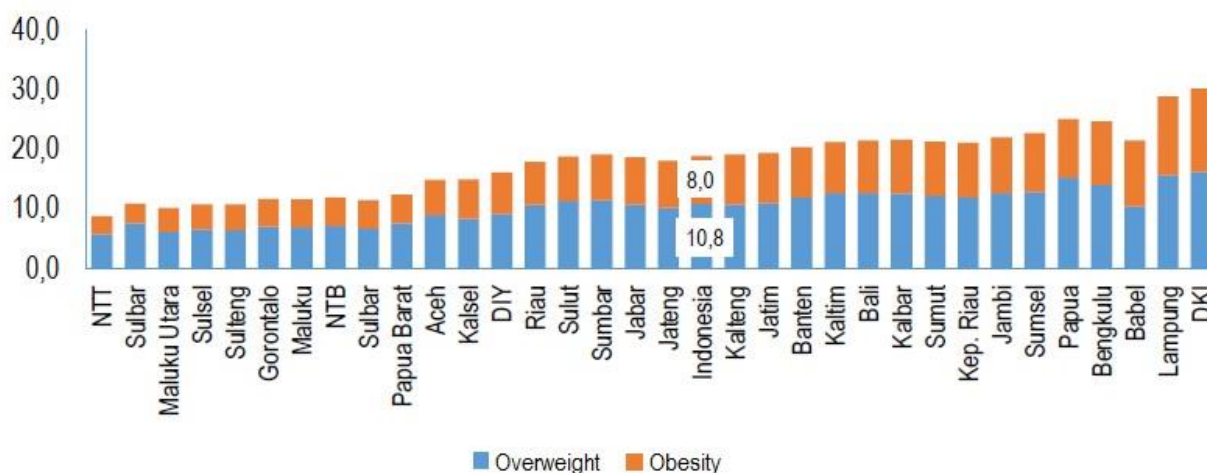


Figure 16.9 Overweight and Obesity Prevalence of Children 5-12 Years of Age by Province, Indonesia 2013

2. Nutrition Status of Adolescent 13-15 Years of Age

Similar to children 5-12 years of age, the nutrition status assessment for children 13-15 years of age has been made based on HB/A and BMI/A indicators. Figure 16.11 presents stunting prevalence of adolescent 13-15 years of age. At nationwide, stunting prevalence of adolescent reaches 35.1 percent (13.8% stunting and the other 21.3% short). The lowest stunting prevalence is observed in DI Yogyakarta (4.0%) and the highest in Papua (27.4%). Sixteen (16) provinces have stunting prevalence higher than the national rate, i.e.: NTB, Riau, Banten, Maluku, West Sumatra, South Sumatra, Gorontalo, Aceh, Bengkulu, North Sumatra, Jambi, West Sulawesi, West Kalimantan, Lampung, NTT and Papua.



Figure 16.10 Stunting Prevalence of Adolescent 13-15 Years of Age by Province, Indonesia 2013

Figure 16.11 shows wasting prevalence of adolescent 13-15 years of age reaching 11.1 percent, which consist of 3.3 percent for wasting prevalence and 7.8 percent for thin prevalence. The lowest wasting prevalence is detected in Bangka Belitung (1.4%) and the highest in NTT (9.2%). Seventeen (17) provinces record wasting prevalence (BMI/A) above national rate. They include Riau, Aceh, Central Java, Lampung, Jambi, Central Kalimantan, South Sulawesi, West Sumatra, West Kalimantan, Banten, Papua, South Sumatra, Gorontalo, West Papua, NTB and NTT.

Obesity prevalence of adolescent 13-15 years of age in Indonesia is to reach 10.8 percent. It consists of 8.3 percent for fat prevalence and 2.5 percent for obesity prevalence. Thirteen (13) provinces are identified of having obesity prevalence higher than national prevalence. They are inclusive of East Java, Riau Islands, DKI Jakarta, South Sumatra, West Kalimantan, Bangka Belitung, Bali, East Kalimantan, Lampung, North Sulawesi and Papua.

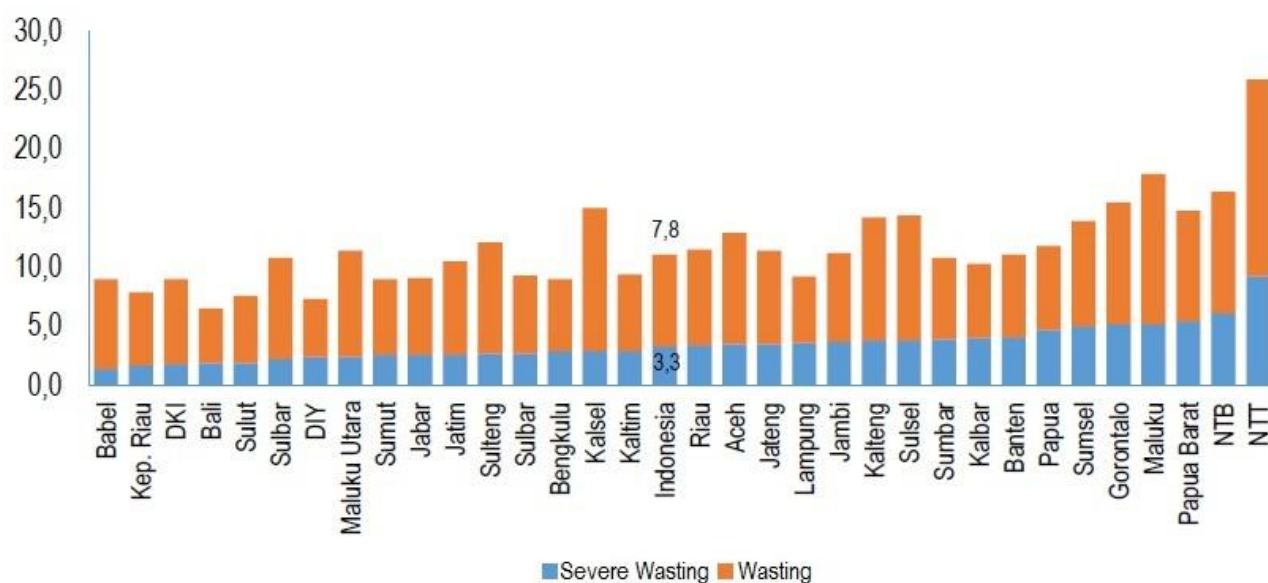


Figure 16.11 Wasting Prevalence (BMI/A) of Adolescent 13-15 Years of Age by Province, Indonesia 2013

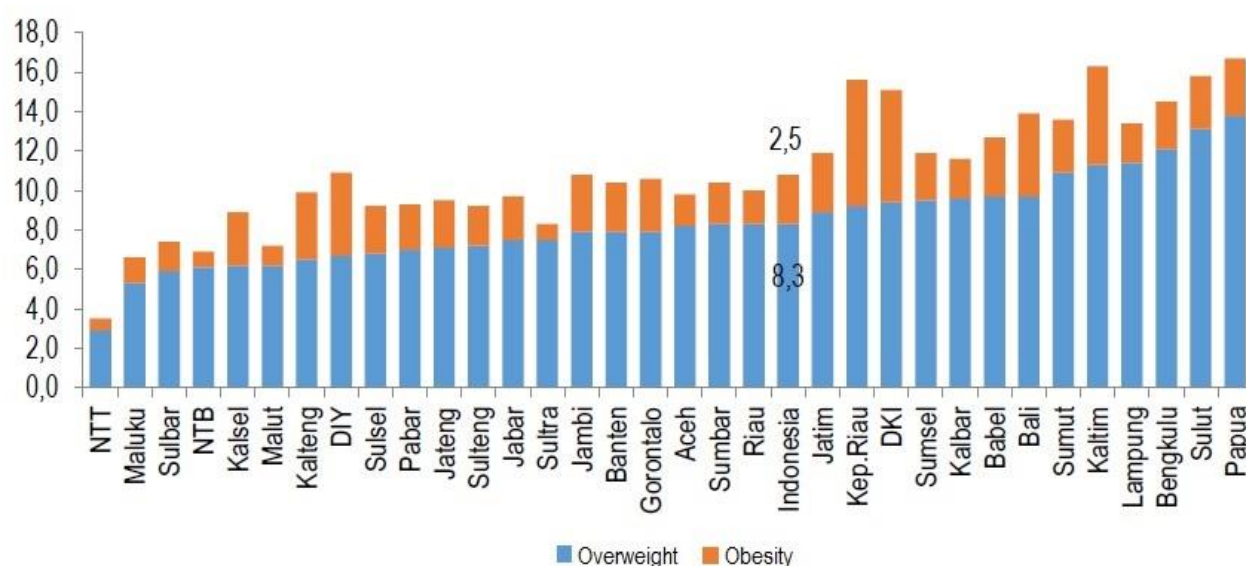


Figure 16.12 Overweight and Obesity Prevalence (BMI/A) of Adolescent 13-15 Years of Age by Province, Indonesia 2013

3. Nutrition Status of Adolescent 16-18 Years of Age

Figure 16.13 presents the nutrition status of adolescent 16-18 years of age. At nationwide, the stunting prevalence reaches 31.4 percent (7.5% stunting prevalence and 23.9% short prevalence). Seventeen (17) provinces have stunting prevalence higher than national rate, i.e. Central Kalimantan, South Sumatra, Riau, West Sumatra, Bengkulu, Aceh, Banten, Bangka Belitung, South-East Sulawesi, West Kalimantan, Central Sulawesi, Lampung, North Sumatra, West Sulawesi, Gorontalo, NTT and Papua.

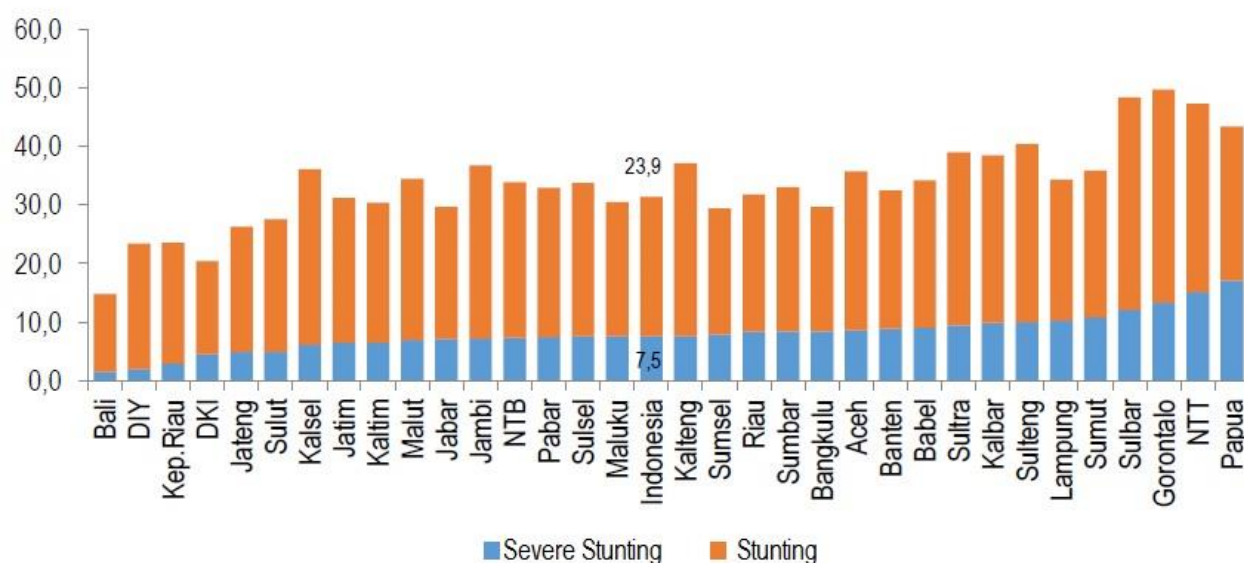


Figure 16.13 Stunting Prevalence (HB/A) of Adolescent 16-18 Years of Age by Province, Indonesia 2013

Figure 16.14 presents wasting prevalence to adolescent 16-18 years of age at nationwide, which reaches 9.4% (1.9% wasting prevalence and 7.5% thin prevalence). Eleven (11) provinces have wasting prevalence higher than national rate. They include Aceh, Riau, South Kalimantan, North Maluku, DKI Jakarta, Central Kalimantan, Banten, South Sumatra, NTB, Maluku, Papua and NTT.

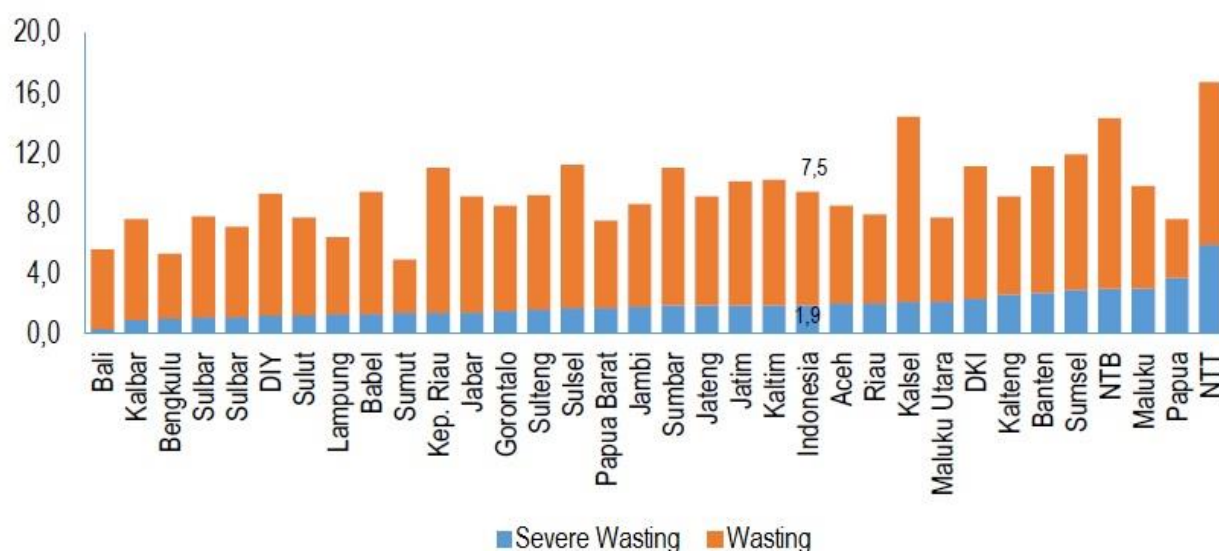


Figure 16.14 Wasting Prevalence (BMI/A) of Adolescent 16-18 years of age by province, Indonesia 2013

Obesity prevalence to adolescent 16-18 years of age records 7.3 percent consisting of 5.7 percent for fat prevalence and 1.6 percent for obesity prevalence. Province with the highest fat prevalence is DKI Jakarta (4.2%) and the lowest in West Sulawesi (0.6%). Fifteen (15) provinces with obesity prevalence higher than national prevalence are: Bangka Belitung, Central Java, South Sulawesi, Banten, Central Kalimantan, Papua, East Java, Riau Island, Gorontalo, DI Yogyakarta, Bali, East Kalimantan, North Sulawesi and DKI Jakarta.

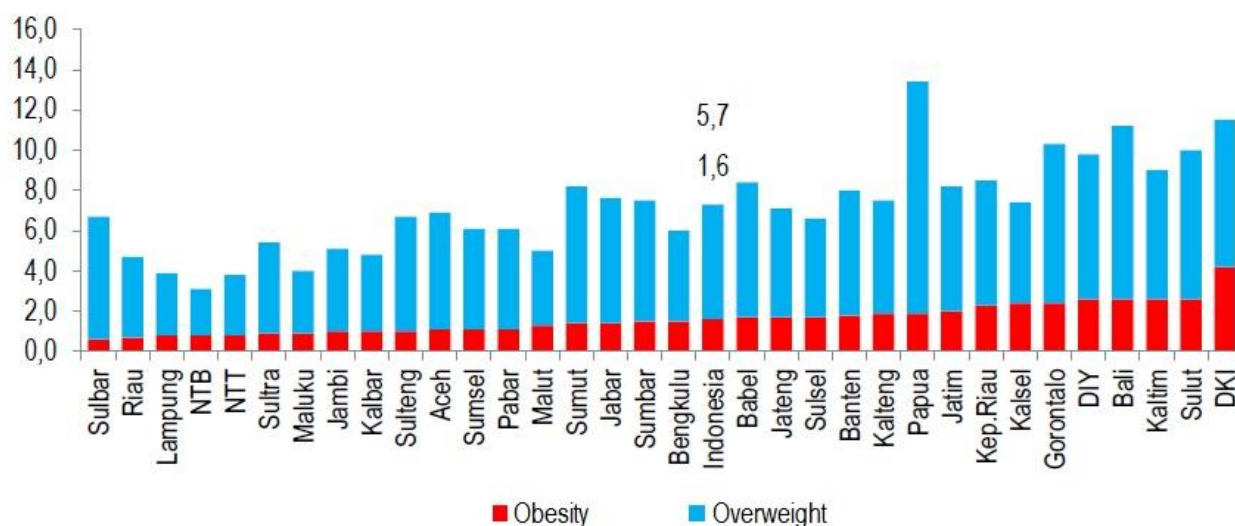


Figure 16.15 Obesity Prevalence (BMI/A) of Adolescent 16-18 Years of Age by Province, Indonesia 2013

4. Nutrition Status Trend (BMI/A) of Adolescent 16-18 Years of Age 2010 and 2013

Figure 16.16 indicates that thin prevalence to adolescent in 2007 and 2013 is relatively identical. Meanwhile, wasting prevalence is to increase 0.4 percent. On the other hand, obesity prevalence is to surge up 1.4 percent in 2007 to 7.3 percent in 2013.

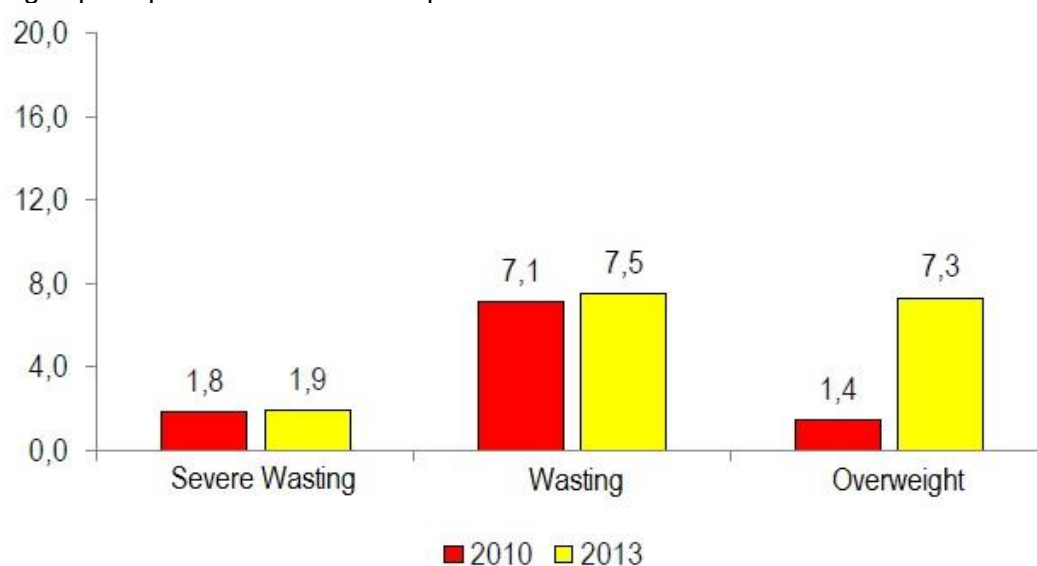


Figure 16.16 Nutrition Status (BMI/A) Trend of Adolescent 16-18 Years of Age, Indonesia 2010 and 2013

16.3. Nutrition Status of Adult Population

Nutrition status of adult population aged > 18 years of has been differentiated into: 1) nutrition status by Body Mass Index (BMI) and Height and BMI/A composite index; 2) nutrition status by weist circumference; 3) Chronic Energy Deficiency (CED) risk of pregnant and non-pregnant women of childbearing age; 4) women with high-risk pregnancy (Height < 150 cm).

1. Nutrition Status of Adult Population (> 18 years) by Body Mass Index (BMI)

Nutrition status by BMI has been assessed with the following BMI formula:

$$BMI = \text{weight (kg)} \div \text{height (m)}^2$$

BMI definitions to assess nutrition status of adult population:

Thin category	BMI <18,5
Normal category	BMI ≥18,5 -<24,9
Overweight category	BMI ≥25,0 -<27,0
Obese category	BMI ≥27,0

Figure 16.17 presents the prevalence of thin adult population, overweight and obese population by MBI/A in provinces. Thin adult population prevalence is to record 8.7 percent, overweight population 13.5 percent and obese population 15.4 percent. The lowest prevalence of thin population is found in North Sulawesi (5.6%) and the highest in NTT (19.5%). Twelve (12) provinces with thin adult population prevalence higher than national rate are Central Kalimantan, West Sulawesi, West Sumatra, East Java, Maluku, Central Java, Banten, South Sulawesi, NTB, South Kalimantan, DI Yogyakarta and NTT. The lowest obese population prevalence is in NTT (6.2%) and the highest in North Sulawesi (24.0%). Sixteen (16) provinces with prevalence above national rate are inclusive ofL West Java, Bali, Papua, DI Yogyakarta, Aceh, Central Sulawesi, East Java, Bangka Belitung, North Sumatra, West Papua, Riau Island, North Maluku, East Kalimantan, DKI Jakarta, Gorontalo and North Sulawesi.

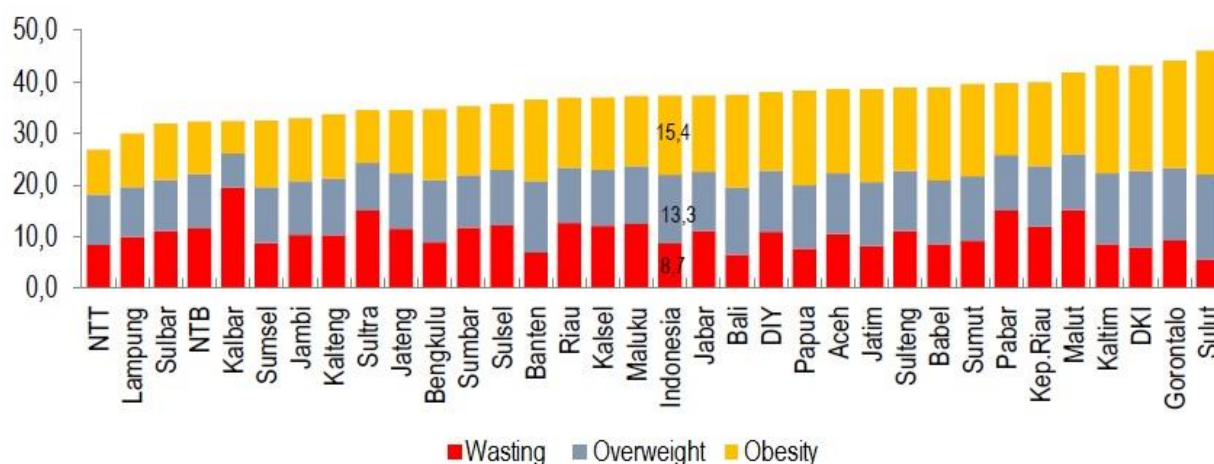


Figure 16.17 Thin, Overweight and Obesity Prevalence to Adult Population (> 18 years) by province, Indonesia 2013

Figure 16.18 presents the obesity prevalence trend of male adult population (> 18 years) by province in 2007, 2010 and 2013. In 2013 this prevalence is to reach 19.7 percent, which is higher than in 2007 (13.9%) and 2010 (7.8%). In the same year, i.e. 2013, the lowest prevalence of is found in NTT (9.8%) and the highest in North Sulawesi (34.7%). Sixteen (16) provinces records obesity prevalence of male adult population higher than national rate are: Aceh, Riau, Central Sulawesi, Bangka Belitung, East Java, DI Yogyakarta, North Maluku, Gorontalo, Riau Island, North Sumatra, West Papua, Bali, East Kalimantan, Papua, DKI Jakarta and North Sulawesi.

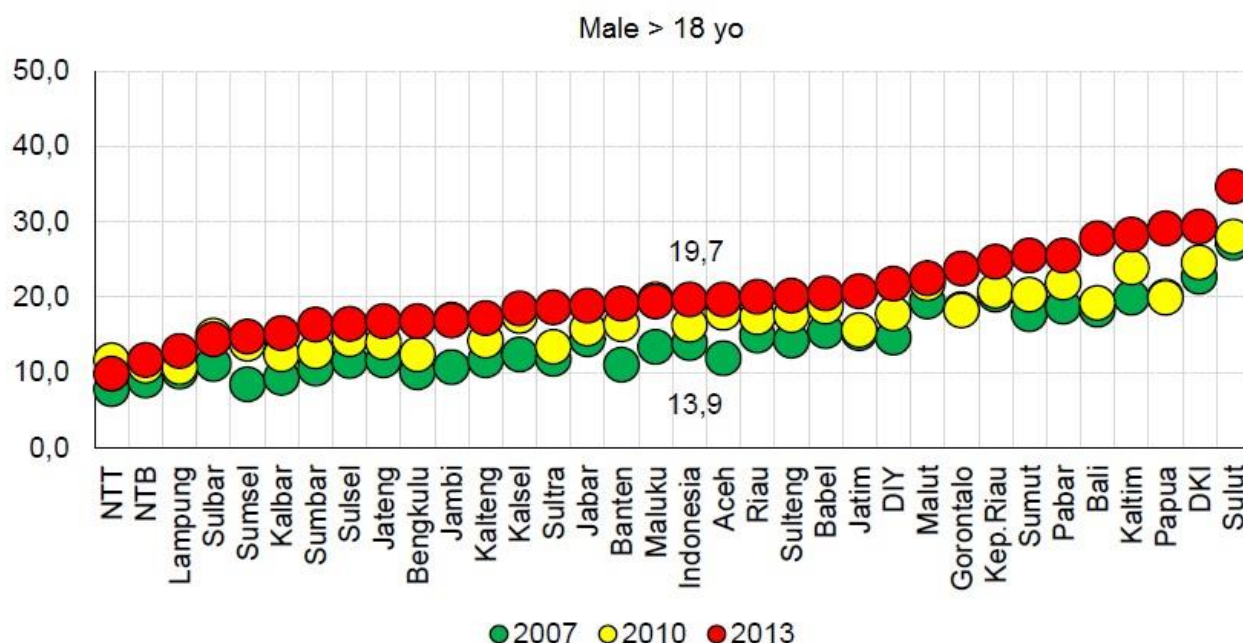


Figure 16.18 Obesity Prevalence Trend (BMI $\geq$ 25) to Male Population aged > 18 years, Indonesia 2007, 2010, and 2013

In 2013, obesity prevalence to female adult population (> 18 years) is 32.9 percent or increased 18.1 percent from 2007 (13.9%) and 17.5% from 2010 (15.5%). The lowest obesity prevalence is detected in NTT (5.6%) and the highest in North Sulawesi (19.5%). Thirteen (13) provinces with obesity prevalence higher than national rate are inclusive of: West Java, West Java, Aceh, West Papua, North Sumatra, Central Sulawesi, Riau Island, North Maluku, DKI Jakarta, Bangka Belitung, East Kalimantan, Gorontalo and North Sulawesi.

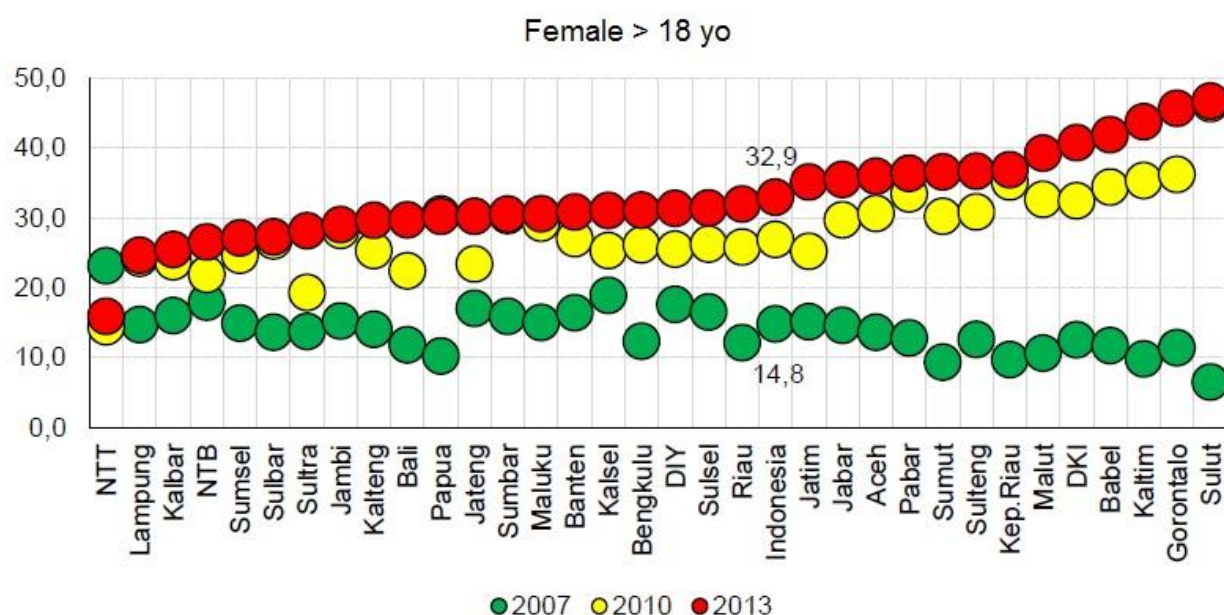


Figure 16.19 Obesity Prevalence Trend (BMI $\geq$ 25) of Female Adult Population Aged > 18 Years based on Riskesdas 2007, 2010 and 2013 Data

Figure 16.20 presents nutrition status trend of adult population according to composite Height and BMI indicators. No significant change is identified with respect of normal nutrition status from 2007 to 2013 (< 40%). However, variations are detected in short-fat and normal-fat categories, which show upward trend.

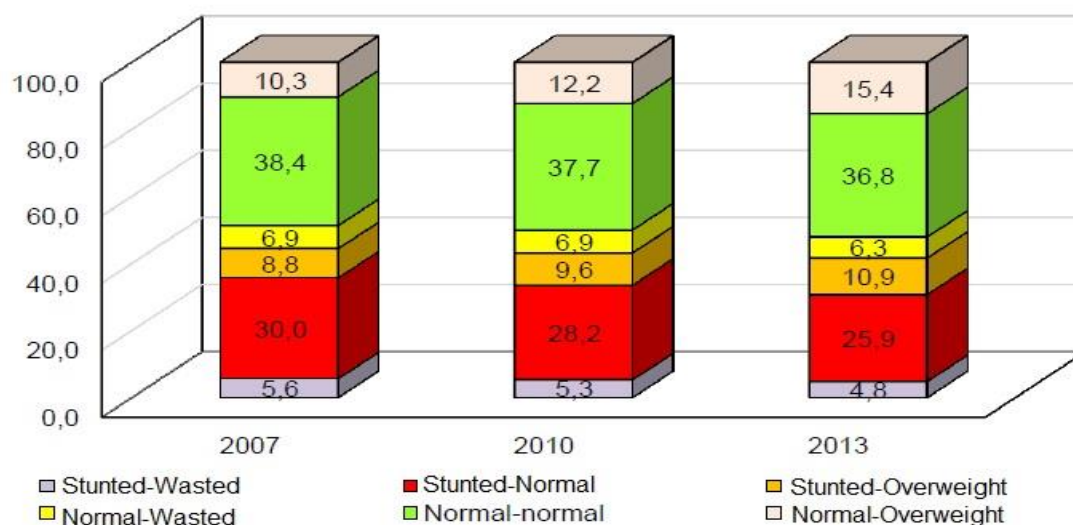


Figure 16.20 Nutrition Status Trend of Adult Population (> 18 Years) by Composite Height and BMI Indicators, Indonesia 2010 -2013

2. Nutrition Status of Adult Population by Weist Circumference

Figure 16.21 presents information of central obesity prevalence to population aged $\geq$ 15 years old by province. Central obesity is a risk factor closely relating to some chronic diseases. For male population with weist circumference > 90 cm or > 80 cm for females they are categorized as central obesity (WHO Asia-Pacific, 2005)

At nationwide, central obesity prevalence is to reach 26.6 percent, which is higher than its prevalence in 2007 (18.8%). The lowest central obesity prevalence is in NTT (15.2%) and the highest in DKI Jakarta (39.7%). Eighteen (18) provinces with central obesity prevalence above national rate are: East Java, Bali, Riau, DI Yogyakarta, Central Sulawesi, Maluku, North Maluku, Riau Islands, West Sumatra, North Sumatra, West Papua, East Kalimantan, Bangka Belitung, Papua, Gorontalo, North Sulawesi and DKI Jakarta.

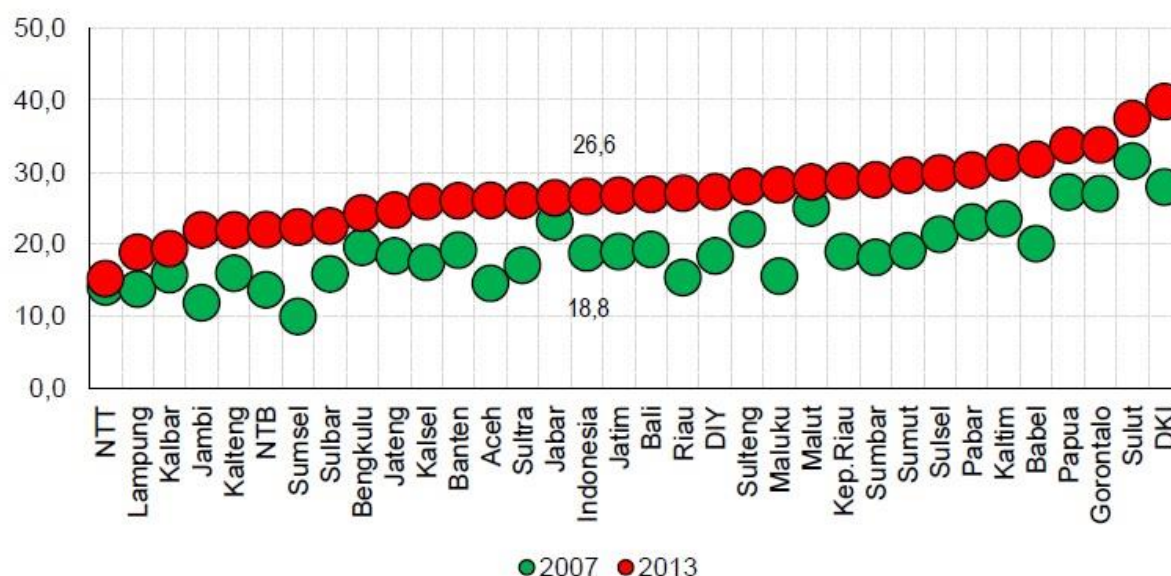


Figure 16.21 Central Obesity Prevalence Trend of Population Aged ≥ 15 Years Old by Province, Indonesia 2007 and 2013

3. Chronic Energy Deficiency (CED) Risk Status to Women of Childbearing Age (15-49 Years)

Figure 16.22 and Figure 16.23 present information of chronic energy deficiency (CED) to women of childbearing age and pregnant women of 15-49 years old based on Upper Arm Circumference indicator. To describe CED risk relating to reproductive health of pregnant women and women of childbearing age, Upper Arm Circumference cut-off points < 23.5 has been adopted.

Table 16.22 presents CED risk prevalence to pregnant women aged 15-49 years old at nationwide which record 24.2 percent. The lowest CED risk prevalence in Bali (10.1%) and the highest in NTT (45.5%). Thirteen (13) provinces with CED risk prevalence above national rate are North Maluku, West Papua, Riau Island, Banten, South Kalimantan, East Kalimantan, West Kalimantan, East Java, South Sulawesi, Central Sulawesi, Maluku, Papua and NTT.

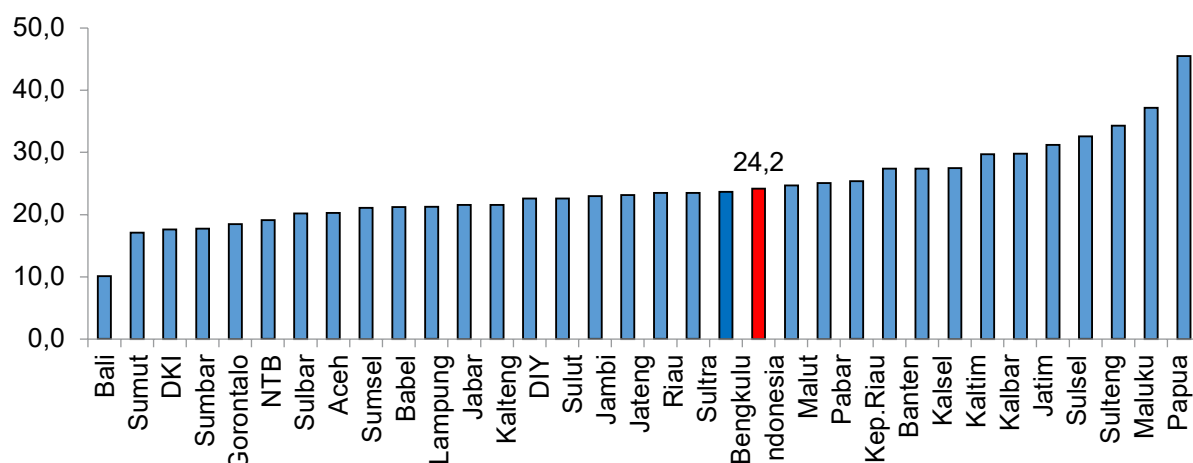


Figure 16.22 CED Risk Prevalence to Pregnant Women Aged 15-49 Years Old by Province, Indonesia 2013

Figure 16.23 shows CED risk prevalence to women of childbearing age (not pregnant). At nationwide, this prevalence reaches 20.8 percent. The lowest prevalence is detected in Bali (14%) and the highest in NTT (46.5%). Sixteen (16) provinces have prevalence higher than national rate. They are: Central Kalimantan, East Java, Banten, South Kalimantan, Aceh, DI Yogyakarta, NTB, South Sulawesi, Central Sulawesi, North Sulawesi, South-East Sulawesi, West Sulawesi, West Papua, Maluku, Papua and NTT.

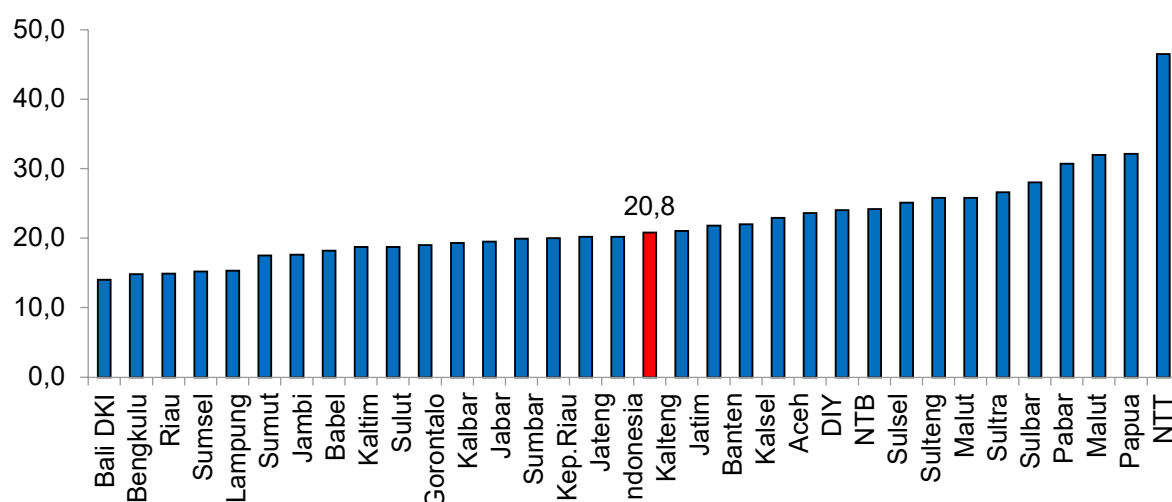


Figure 16.23 CED Risk Prevalence of Women at Childbearing Age (15-49 Years Old) by Province, Indonesia 2013

Figure 16.24 presents the prevalence of women of childbearing age vulnerable for chronic energy deficiency (CED) risk in 2007 and 2003. Generally speaking, this CED risk prevalence is to rise at all age groups and conditions (pregnant and not pregnant). In not pregnant women of 15-19 years old, the prevalence goes up 15.7%. Accordingly, for pregnant women at age group of 45-49 years old the prevalence is to increase 15.1 percent.

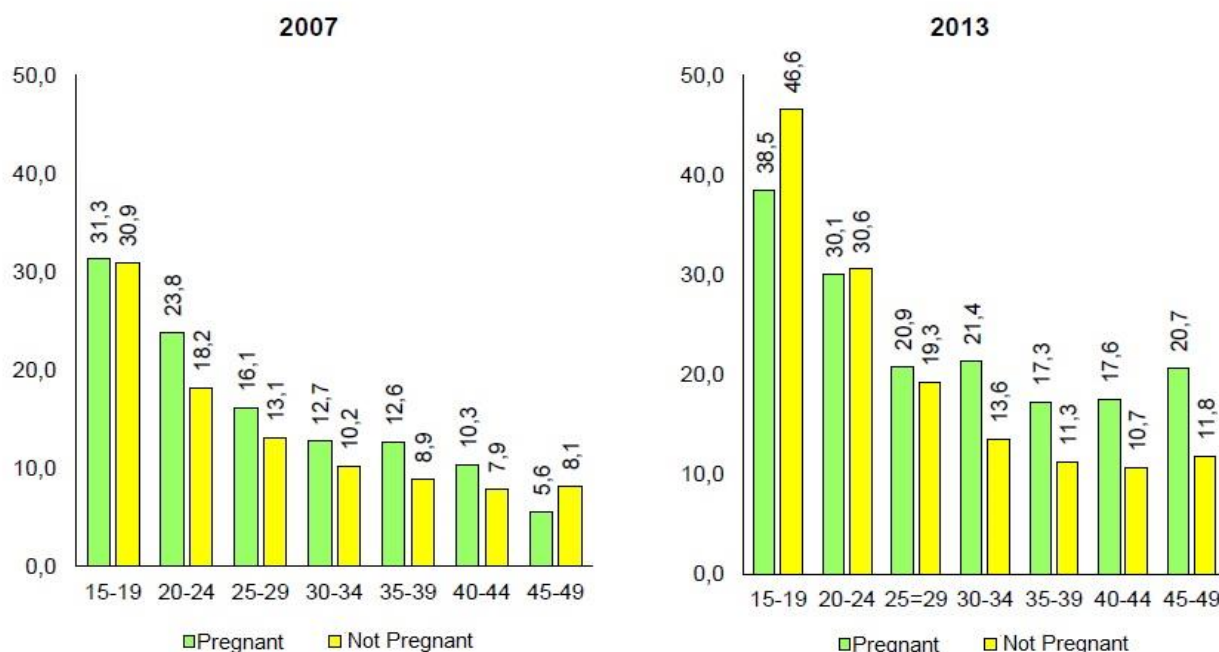


Figure 16.24 CED Risk Prevalence to Women of Childbearing Age by Age Groups, Indonesia 2007 and 2013

4. Women with High-Risk Pregnancy

Riskesdas 2013 presents the prevalence of women with high-risk pregnancy with height of body < 150 cm (WHO 2007). Figure 16.25 indicates that the prevalence of women with high-risk reaches 31.3 percent. The lowest prevalence is found in Bali (12.1%) and the highest in West Sumatra (39.8%). Nineteen (19) provinces with prevalence above national rate are: South-East Sulawesi, North Sumatra, Jambi, Bengkulu, Aceh, Central Sulawesi, Gorontalo, South Sulawesi, West Papua, Central Kalimantan, NTT, West Java, East Java, DI Yogyakarta, West Kalimantan, South Kalimantan, West Sulawesi, Bangka Belitung and West Sumatra.

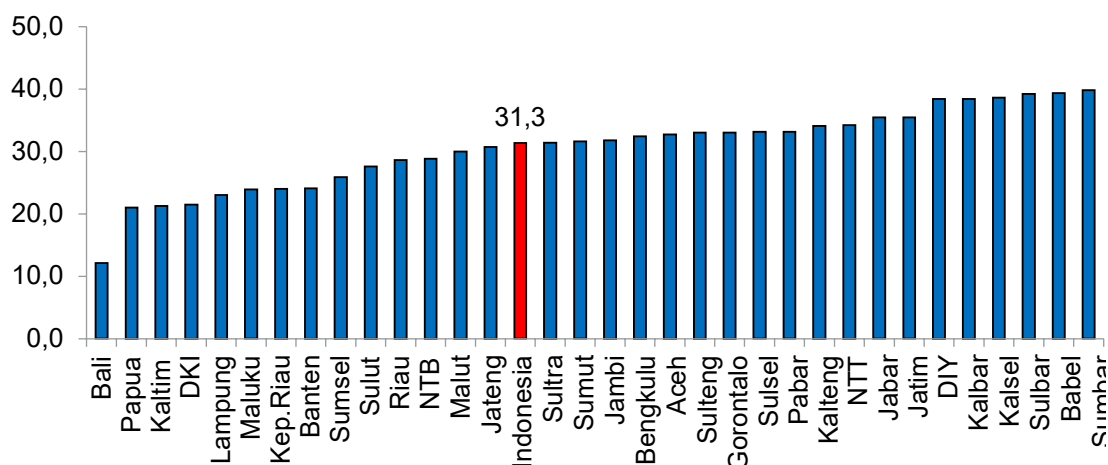


Figure 16.25 Women with High-Risk Pregnancy Prevalence (Height of Body < 150 cm) by Province, Indonesia 2013

Bibliographies

Bappenas 2012. Laporan Pencapaian Tujuan Pembangunan Millenium di Indonesia 2011. Kementrian Perencanaan Pembangunan Nasional/Badan Perencanaan Pembangunan Nasional (Bappenas)

[Bappenas 2012. Indonesia MDG Realization Report 2011. The Ministry of National Development Planning/National Development Planning Body (Bappenas)]

Departemen Kesehatan 1994, Ditjen Pembinaan Kesehatan Masyarakat. Pedoman penggunaan alat ukur lingkaran lengan atas (LILA) pada wanita usia subur. Jakarta: Depkes,

[Ministry of Health 1994, Directorate General of Public Health Development. Manual of Using Upper Arm Circumference Measuring Tools to Women of Childbearing Age. Jakarta: Ministry of Health]

Departemen Kesehatan 1996. Pedoman Penanggulangan Ibu Hamil Kurang Energi Kronis. Jakarta Dep.Kes RI

[Ministry of Health 1996. Manual of Chronic Energy Deficiency Response to Pregnant Mothers]

Departemen Kesehatan 2001. Pedoman Praktis memantau status gizi orang dewasa. Jakarta Departemen Kesehatan.

[Ministry of Health 2001. Practical Manual on Adult Population Nutrition Status Monitoring. Jakarta. Ministry of Health]

WHO 2000. The Asia-Pacific Perspective Redefining Obesity and Its Treatment. February. WHO- Western Pacific Region

WHO 2005. WHO Child Gold Standards. WHO. Geneva

WHO 2007. WHO Reference 2007 for Child and Adolescent. WHO. Geneva

WHO 2010. Interpretation Guide Nutrition Landscape Information System (NLIS) Country Profile Indicators.

CHAPTER 17. SENSORY HEALTH

Lutfah Rif'ati, Tita Rosita, Nur Hasanah, and Lely Indrawati

Sensory system plays leading roles in optimizing the growth of every individual. Since baby age, it becomes the main tools of human beings to collect diverse visual, audio, olfactory, gustatory and vestibular information. Visual information is perceived by eyes (visual system). Auditory information is caught by ears and alfactory information by nose (smell). Meanwhile, gustatory information is received by tongue (gustatory system) and somatic sensation is felt by skin surface (somatosensory system). Around 90 percent of visual and auditory information are collected through eyes and ears. Sensory function assessment normarly conducted in objective way is to assess the visual function (visus) and hearing function (hearing acuity).

At nationwide, data describing the severity of disorders of visual and auditory systems were lastly collected in 1993-1997 and not yet updated to date. Riskesdas 2007 was intended to provide more up-to-date data of blindness prevalence. However, some profession organizations surmised the data collection method inadequate. Given that, the blindness prevalence data in Riskesdas 2007 were therefore deemed controversial. No latest data on auditory disorders were gathered in Riskesdas 2013.

Riskesdas 2013 collects again blindness prevalence data with same method as in Riskesdas 2007. The method has been improved upon discussion along with several profession organizations, which include Profession Organization of Indonesian Doctors Specialized in Eyes (PERDAMI) and Association of Indonesian Doctors Specialized in Ears, Nose and Throat (PERHATI). Riskesdas 2013 has been completed with validation study that has been conducted after Riskesdas 2013 data are completely compiled. The validation study of visual and auditory systems produces correction factor for blindness and deaf prevalence. PERDAMI and PERHATI have carried out this validation study only in some selected provinces because of limited human resources and other factors.

Complete information of sensory health is presented in Book 2: Riskesdas 2013 in Figures, pp. 416 to 426.

17.1 Eye Health

Data collected to identify eye health indicators in Riskesdas 2013 include visus measurement using *tumbling-E* card (with and without pin-hole) to respondents > 6 years old and eye anterior segment examination to respondents of any age group. Visus examination and pterygium morbidity observation have been carried out in dimmed room with pen-light. Visus is checked at distance 6 or 3 meter with E-card that can be rotated at any direction (*tumbling E*) to follow the eyes of respondents being examined. Respondents who suffer serious illness that prevent them from sitting for visus examination have been excluded in blindness prevalence count. Accordingly, this exclusion also applies for respondents who refuse or can't cooperate with enumerator team.

Low vision and blindness prevalence has been counted based on the results of visus measurement with or without correction glasses/contact lenses. Blindness is defined as visus of the best eyes <3/60 or in other words, bilateral blindness. Severe low vision is defined as visus to the best eyes <6/60-3/60 or covers bilateral severe low vision and unilateral blindness compounded with unilateral severe low vision. Pterygium, cornea turbidity and cataract prevalence is set based on the results of examination and observation in health facilities at all respondents regardless of their ages.

The weakness of visus data collection comes from no visus correction despite visus measurement without pin-hole. If the visus is found abnormal ($< 6/6$ or $20/20$), it has been continued with visus examination with pin-hole as conducted in Riskesdas 2007. The limiting factor for ocular and lens morbidity prevalence data lies with the clinical capacity of enumerators, which are varying in assessing eyes and lens with pen-light. In light of that, pterygium, cornea turbidity and cataract prevalence has been considered a bit invalid.

17.1.1 Blindness and Severe Low Vision Prevalance

Method applied for visus measurement in Riskesdas 2007 with Snellen chart is different from that adopted for Riskesdas 2013, which used *tumbling E*. The latter is simpler than Snellenn chart but has limitation in identifying visus for certain range. The visus is not expressed in a single value as in found in Snellen chart. Nineththeless, *tumbling E* is much more user-friendly and capable of specifically identifying any vision disorder (Limburg, 2001). Meanwhile, Snellen chart is more detailed and takes longer time for examination and the report format of visus numeric figures is more complicated.

Equipment used for visus examination is that of distance measuring rope of 6 m, a set of *tumbling E card* (big zise for visus 6/60, medium size for visus 6/19, and small size for visus 6/6) and blindfold with pin-hole. Six (6) answer options are provided for visus categories:

1. Can see small E (at distance 6 m)
2. Can't see small E, but can see medium E (at distance 6 m)
3. Can't see medium E, but can see big E (at distance 6 m)
4. Can't see big E (at distance 6 m), but can see big E (at distance 3 m)
5. Can't see big E at distance 3 m
6. NOT EXAMINED

The interpretation of visus code for each eyeball is as follows: code 1 means normal visus (6/6), code 2 implies minor visus disorder (visus less than 6/6 to 6/18), code 3 indicates low vision (visus less than 6/18 to 6/60), code 4 is severe low vision (less than 6/60 to 3/60) and code 5 denotes blindness (less than 3/60). Not examined visus refers to respondents aged > 6 years but refuse to cooperate or it is impossible to do so such as to respondents who suffer severe mental disorders or those who are totally paralyzed.

Respondents > 6 years old complying with criteria for analysis record 924,780 persons.

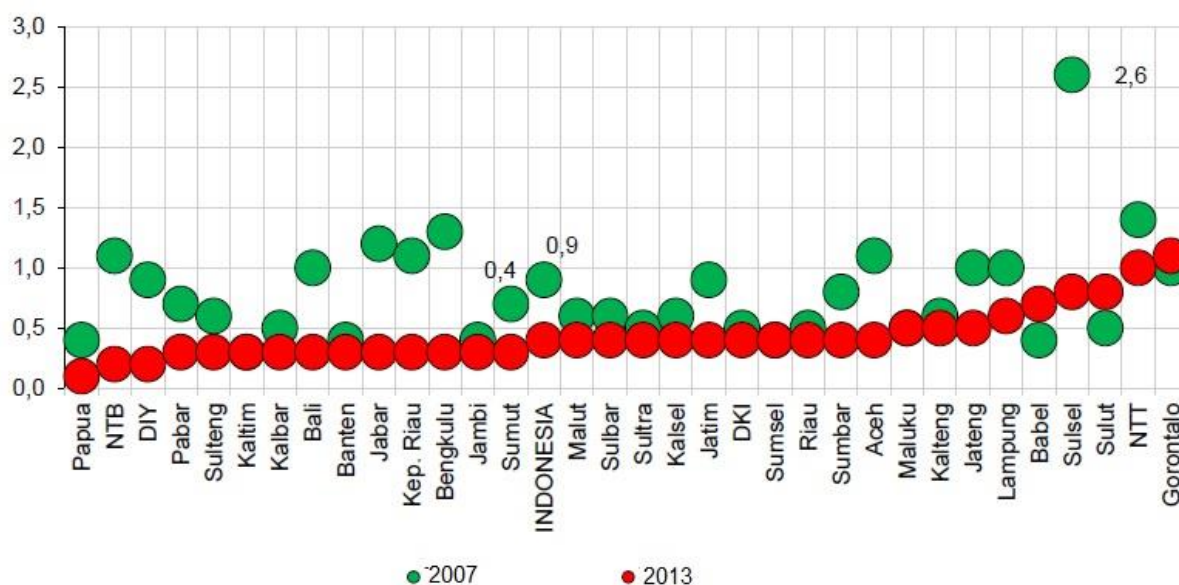


Figure 17.1 Blindness Prevalence of Respondents ≥ 6 Years Old with/without Optimum Correction by Province, Indonesia 2007-2013

Figure 17.1 shows that blindness prevalence in Riskesdas 2013 is lower than that in 2007. The highest blindness prevalence of population aged > 6 years is found in Gorontalo (1.1%) followed by NTT (1.0%), South Sulawesi and Bangka Belitung (0.8% respectively). In Riskesdas 2007, the highest blindness prevalence is observed in South Sulawesi (2.6%) followed by NTT (1.4%) and Bengkulu (1.3%). The lowest blindness prevalence is detected in Papua (0.1%) followed by NTB and DI Yogyakarta (0.2% respectively). Response Rate in Papua is relatively low. Given that, its validity raises doubt. Like in Riskesdas 2007 blindness prevalence 0.4% in Papua was considered not representing the actual conditions in there. PERDAMI has conducted validation study to verify respondents who have been visited by Riskesdas enumerators. From this validation study, correction factor value to blindness prevalence is issued.

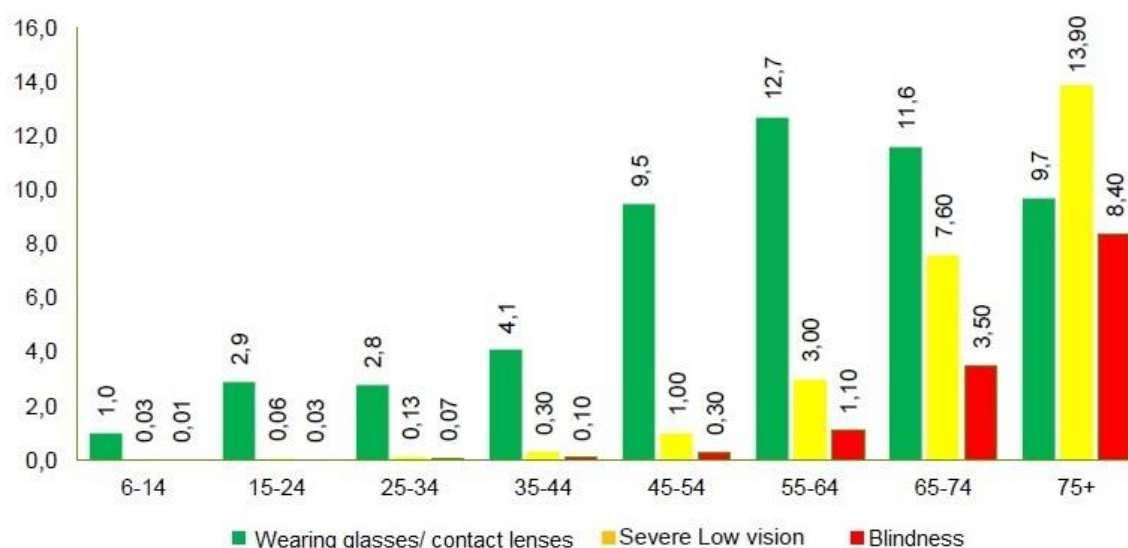


Figure 17.2 Prevalence of Glasses/Contact Lenses Wears, Severe Low Vision and Blindness by Age Groups, Indonesia 2013

Figure 17.2 indicates that population having or wearing farsightedness correction aids (glasses or contact lenses) shows upward trend in line with the increasing age. The highest prevalence is found in age group 55-64 years. However, it declines to the elderly group (> 65 years old). It may correlate with the lowering productivity of the elderly group so that needs of optimum farsight are to decrease. In other words, these elderly persons are relatively satisfied with their non optimum farsight quality. They can perform day-to-day social activities without significant barriers.

Severe low vision prevalence at productive age group (15-54 years) records 1.49 percent and blindness prevalence of 0.5 percent. Severe low vision and blindness prevalence drastically increases at population aged > 45 years old at two or three times every 10 years on average. The highest severe low vision and blindness prevalence is found in population > 75 years old. This is consistent with degenerative process of old persons.

Figure 17.3 and 17.4 show an obvious trend that the higher formal education and wealth quantile index, the higher proportion of population wearing glasses or contact lenses is found to see far distance. This condition may be due the increasing demands on optimum farsight acuity in performing their day-to-day social activities. It has been assumed that population with higher education and wealth quantile index more prefer to engaged in formal professions such as employees, for which maximum visus of farsight is necessary according to the types of their main formal activities.

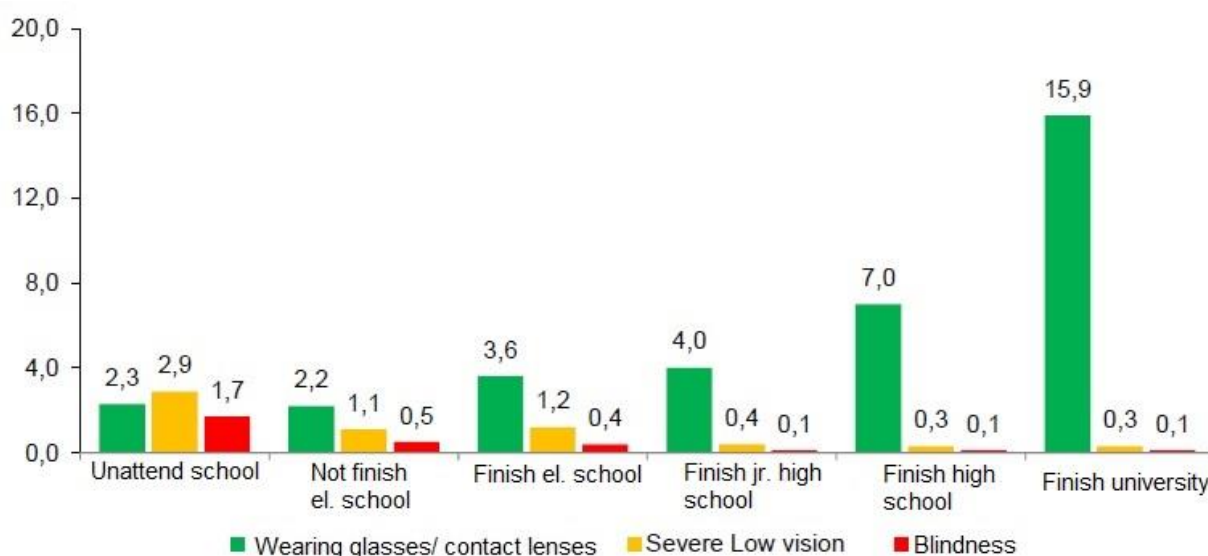


Figure 17.3 Prevalence of Glasses/Contact Lenses Wears, Severe Low Vision and Blindness by Education, Indonesia 2013

On the other hand, severe low vision and blindness prevalence is to go down proportional to the increasing formal education and wealth quantile index. It closely relates to the awareness of people on the importance of maximum visual acuity and more intensive efforts to enhance living standards, for which good visual capacity is crucial coupled with the increasing knowledge of individuals on the roles of robust health status in augmenting economic capacity.

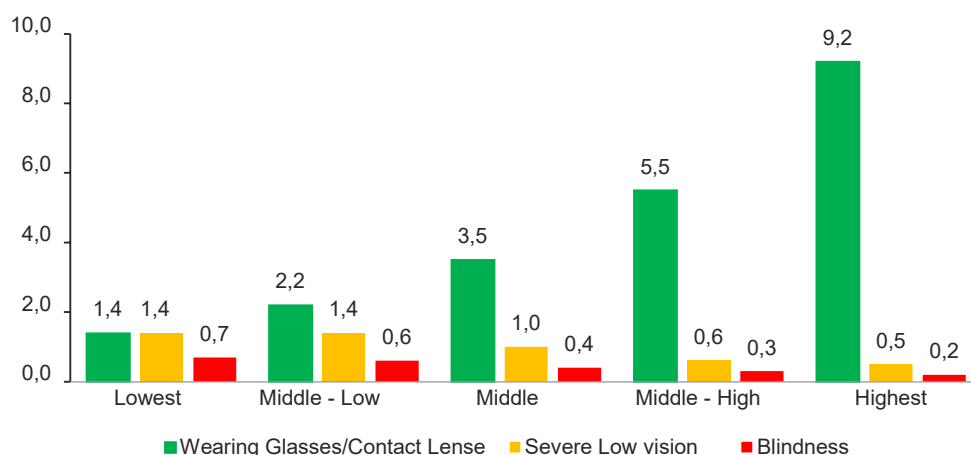


Figure 17.4 Prevalence of Glasses/Contact Lenses Wears, Severe Low Vision and Blindness by Wealth Quantile Index, Indonesia 2013

Figure 17.5 shows that the proportion of population wearing glasses or contact lenses in urban areas is nearly double than respondents in rural areas. Severe low vision and blindness prevalence is apparently higher in rural areas.



Figure 17.5 Prevalence of Glasses/Contact Lenses Wears, Severe Low Vision and Blindness by Residence, Indonesia 2013

Table 17.1 shows the proportion of employees wearing glasses or contact lenses, which is three times as many as farmers/fishermen/workers. More female respondents wear glasses or contact lenses than male respondents to see farsight.

Severe low vision and blindness prevalence is more found in respondents who are unemployed or work as farmers/fishermen/workers. This prevalence tends to decrease in respondents with higher formal education and wealth quantile index.

Table 17.2 shows distribution of glasses or contact lenses for farsight vision by province. The highest proportion for glasses and contact lenses are found in DKI Jakarta (11.9%) followed by DI Yogyakarta (9.2%) and North Sulawesi (7.5%).

Table 17.2 also reveals that severe low vision prevalence to population aged > 6 years at nationwide reaches 0.9 percent. The highest severe low vision prevalence is detected in Lampung (1.7%) followed by NTT and West Kalimantan (1.6% respectively). In NTT, this severe low vision and blindness prevalence is relatively high as recorded in Riskesdas 2013.

Province with the lowest severe low vision prevalence in DI Yogyakarta (0.3%) followed by West Papua and Papua (0.4% respectively).

Blindness prevalence to population aged > 6 years at nationwide is to record 0.4 with the highest prevalence, as previously noted found in Gorontalo (1.1%) followed by NTT (1.0%), South Sulawesi and Bangka Belitung (0.8% respectively). The lowest blindness prevalence, as also previously noted, is detected in Papua (0.1%) followed by NTB and DI Yogyakarta (0.2% respectively). In Papua and DI Yogyakarta, their severe low vision and blindness prevalence is much lower than other provinces.

Table 17.1 Refraction Correction Proportion and Severe Low Vision and Blindness Prevalence to Population Aged ≥ 6 Years with/without Optimum Correction by Respondent Characteristics, Indonesia 2013

Characteristics	Wearing Glasses/ Contact Lenses	Severe low vision	Blindness
Age Group (year)			
6-14	1,0	0,03	0,01
15-24	2,9	0,06	0,03
25-34	2,8	0,13	0,07
35-44	4,1	0,3	0,1
45-54	9,5	1,0	0,3
55-64	12,7	3,0	1,1
65-74	11,6	7,6	3,5
75+	9,7	13,9	8,4
Sexes			
Male	4,3	0,7	0,3
Female	5,0	1,2	0,5
Education			
Never attending school	2,3	2,9	1,7
Not graduate el. school	2,2	1,1	0,5
Graduate elementary sch	3,6	1,2	0,4
Graduate jr. high sch	4,0	0,4	0,1
Graduate high school	7,0	0,3	0,1
Graduate Dipl./Bachelor	15,9	0,3	0,1
Professions			
Unemployed	4,6	1,2	0,6
Employees	9,7	0,2	0,1
Entrepreneurs	6,6	0,6	0,2
Farmers/Fishermen/Workers	3,0	1,3	0,4
Others	5,2	0,8	0,3
Residence			
Urban	6,6	0,8	0,4
Rural	2,6	1,1	0,5
Wealth Quantile Index			
Lowest	1,4	1,4	0,7
Middle-Low	2,2	1,4	0,6
Middle	3,5	1,0	0,4
Middle-High	5,5	0,6	0,3
Highest	9,2	0,5	0,2

Table 17.2 Refraction Correction Proportions and Severe Low Vision and Blindness Prevalence to Population Aged ≥ 6 Years with/without Optimum Correction by Province, Indonesia 2013

Province	Wearing Glasses/ Contact Lenses	Severe low vision	Blindness
Aceh	2,6	1,2	0,4
North Sumatera	4,0	0,9	0,3
West Sumatera	6,6	0,8	0,4
Riau	3,6	0,7	0,4
Jambi	4,5	0,9	0,3
South Sumatera	4,5	1,0	0,4
Bengkulu	3,7	0,7	0,3
Lampung	3,1	1,7	0,6
Bangka Belitung	4,2	1,0	0,7
Riau Island	7,3	0,5	0,3
DKI Jakarta	11,9	0,6	0,4
West Java	4,8	0,8	0,3
Central Java	4,0	1,1	0,5
DI Jogjakarta	9,2	0,3	0,2
East Java	4,8	1,0	0,4
Banten	5,3	0,7	0,3
Bali	5,2	0,6	0,3
West Nusa Tenggara (NTB)	1,8	0,6	0,2
East Nusa Tenggara (NTT)	2,0	1,6	1,0
West Kalimantan	3,4	1,6	0,3
Central Kalimantan	4,0	1,1	0,5
South Kalimantan	4,4	0,9	0,4
East Kalimantan	4,2	0,7	0,3
North Sulawesi	7,5	0,9	0,8
Central Sulawesi	3,2	0,6	0,3
South Sulawesi	2,6	1,2	0,8
South-east Sulawesi	3,0	0,9	0,4
Gorontalo	3,1	1,3	1,1
West Sulawesi	1,7	0,5	0,4
Maluku	3,5	1,3	0,5
North Maluku	2,2	0,8	0,4
West Papua	3,5	0,4	0,3
Papua	2,4	0,4	0,1
Indonesia	4,6	0,9	0,4

3.17.1.2 Pterygium Disorders and Cataract

Scleral disorder or morbidity checked by surveyors is that of pterygium and corneal turbidity (cataract). Lens disorders, which are expected to be identified by enumerators relate to thick corneal turbidity only (cataract) and normally compounded with visual impairment. This sclera and lens morbidity is for all respondents. Total respondents at all age groups record 1,027,783 persons.

Pterygium is a growth of tissue on the conjunctiva (clear tissue) at medial side or lateral side, normally found in old persons, despite some cases detected in younger old persons. The growth will spread to cornea. Corneal turbidity is disorder in cornea consisting of turbid while color and usually has no correlation with the increasing age.

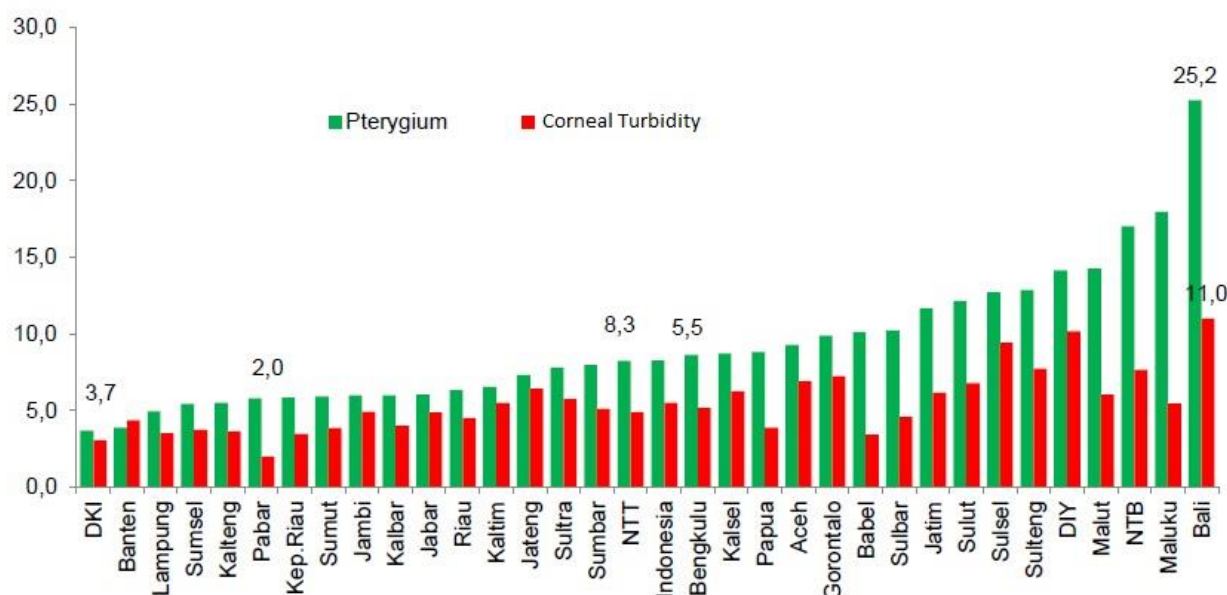


Figure 17.6 Pterygium and Corneal Turbidity Prevalence by Province, Indonesia 2013

Figure 17.6 shows that at nationwide, pterygium prevalence reaches 8.3 percent with the highest prevalence found in Bali (25.2%) followed by Maluku (18.0%) and NTB (17.0%). DKI Province is the province with the lowest prevalence 3.7 percent followed by Banten 3.9 percent.

At nationwide, corneal turbidity prevalence is 5.5 percent with the highest prevalence detected in, again, Bali (11.0%) followed by DI Yogyakarta (10.2%) and South Sulawesi (9.4%). The lowest corneal turbidity prevalence is reported in West Papua (2.0%) and DKI Jakarta (3.1%).

Table 17.3 shows that pterygium and corneal prevalence is getting higher in line with the increasing age. It is very rare to find pterygium in children 0–4 years of age. Thus, data of pterygium prevalence for children under five years of age in this analysis are not valid. Corneal turbidity prevalence, which tends to increase with higher age may be due lack of skills of enumerators in examining corneal turbidity. The data they collected are considered invalid.

Pterygium and corneal turbidity prevalence in male population is apparently higher than prevalence in female population. The highest pterygium and corneal turbidity prevalence (16.8% for pterygium and 13.6% for corneal prevalence) is found in respondents who are unemployed. Farmers/fishermen/workers tend to have higher prevalence for pterygium and corneal turbidity (15.8% and 9.7% respectively) than other professions. This exceeding prevalence is because of intensive exposure to sun shines containing ultraviolet due to their livelihood activities. Ultraviolet is a factor that can increase pterygium prevalence. High corneal turbidity prevalence in farmers/fishermen/workers is very likely from mechanical trauma history or occupational accidents to eyes since they not optimally use personal protection equipment when working.

Table 17.3 Pterygium and Corneal Turbidity Prevalence to Population of All Ages by Characteristics, Indonesia 2013

Characteristics	Scleral Morbidity	
	Pterygium	Corneal Turbidity
Age Group (year)		
0-4	0,8	0,8
5-14	0,8	0,9
15-24	2,0	1,2
25-34	5,4	2,1
35-44	11,0	4,7
45-54	17,6	10,6
55-64	25,2	19,5
65-74	32,2	30,7
75+	36,4	39,6
Sexes		
Male	8,5	5,5
Female	8,0	5,4
Education		
Never attending school	16,8	13,6
Not graduate el. school	8,7	6,4
Graduate elementary sch	11,4	7,7
Graduate jr. high sch	6,5	3,6
Graduate high school	6,6	3,4
Graduate Dipl./Bachelor	6,9	3,6
Professions		
Unemployed	7,3	5,8
Employees	7,4	3,6
Entrepreneurs	10,7	6,3
Farmers/Fishermen/Workers	15,8	9,7
Others	12	7,3
Residence		
Urban	7,1	5,0
Rural	9,4	6,0
Wealth Quantile Index epemilikan		
Lowest	11,3	7,5
Middle-Low	10,1	6,8
Middle	8,3	5,8
Middle-High	7,0	4,4
Highest	6,0	3,8

Population who resides in rural areas tends to have higher pterygium and corneal turbidity prevalence than those who live in urban areas. This prevalence is to decline in line with the increasing wealth quantile index.

Table 17.4 indicates that the highest cataract prevalence is detected in North Sulawesi (3.7%) followed by Jambi (2.8%) and Bali (2.7%). The lowest cataract prevalence is found in DKI Jakarta (0.9%) followed West Sulawesi (1.1%).

In majority, Indonesian population suffering cataracts not yet takes cataract surgery/rehabilitation. The reason is lack of financial affordability to take cataract surgery (Figure 17.7).

Complete report of cataract prevalence and the reasons of not taking cataract surgery by respondent characteristics are presented in Riskesdas 2013 in Figures.

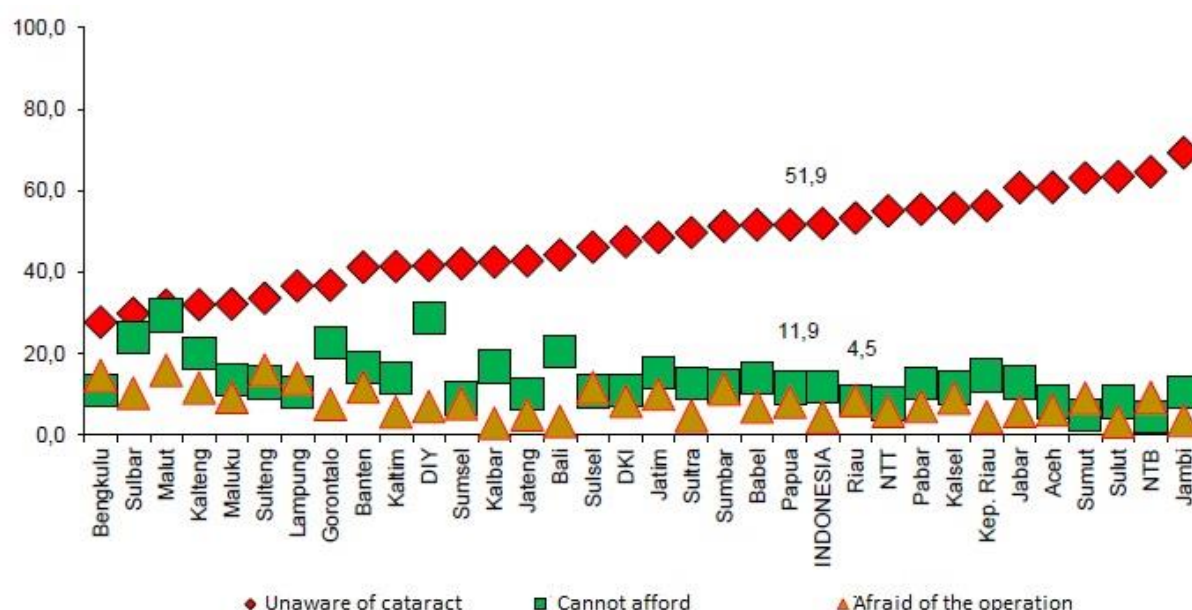


Figure 17.7 Three Main Reasons of Cataracts Patients Not Taking Surgery by Province, Indonesia 2013

Table 17.4 Cataract Prevalence and Three Main Reasons Not Taking Cataract Surgery by Population at All Ages by Province, Indonesia 2013

Province	Cataract	Reasons not Taking Surgery		
		Unaware of Cataract	Can't Afford	Afraid
Aceh	2,8	27,7	11,0	14,6
North Sumatera	1,4	36,6	10,6	13,9
West Sumatera	2,3	41,2	16,6	11,8
Riau	1,9	32,0	20,2	11,6
Jambi	2,8	53,3	8,4	8,5
South Sumatera	1,7	42,1	9,0	7,7
Bengkulu	1,9	56,3	14,7	4,5
Lampung	1,5	47,5	11,0	8,3
Bangka Belitung	1,8	60,7	13,0	5,8
Riau Island	1,4	42,5	16,8	2,9
DKI Jakarta	0,9	29,9	24,0	10,3
West Java	1,5	55,4	12,8	7,1
Central Java	2,4	60,8	8,1	6,1
DI Jogjakarta	2,0	63,1	4,8	9,1
East Java	1,6	51,3	12,1	11,3
Banten	1,8	69,3	10,5	3,6
Bali	2,7	64,6	4,4	9,2
West Nusa Tenggara (NTB)	1,6	55,7	11,6	9,1
East Nusa Tenggara (NTT)	2,3	41,4	14,1	5,7
West Kalimantan	1,8	49,7	12,8	4,7
Central Kalimantan	1,4	51,9	11,9	4,5
South Kalimantan	1,4	51,6	14,1	6,9
East Kalimantan	2,0	42,7	10,1	5,0
North Sulawesi	3,7	48,5	15,3	10,0
Central Sulawesi	2,4	44,2	20,4	3,4
South Sulawesi	2,5	55,0	7,7	5,9
South-east Sulawesi	1,8	36,8	22,8	7,6
Gorontalo	1,9	31,9	29,3	15,9
West Sulawesi	1,1	41,6	28,8	7,0
Maluku	2,2	33,6	13,0	16,0
North Maluku	2,3	46,1	10,8	11,7
West Papua	1,5	32,2	13,7	9,3
Papua	2,4	63,4	8,2	3,3
Indonesia	1,8	51,6	11,6	8,1

17.2 Ear Health

Data collected for ear health status cover the anatomy of ear canal, middle ear and retroauricular area disorder, ear drum and auditory function disorder. The data are gathered based on physical examination by trained healthcare professionals to respondents of 2 years old and above. As to auditory function, conversation test has been made to respondents who are voluntarily available to take part and have no difficulty in speaking.

Limitation to ear health data collection comes from the clinical capacity of enumerators, which is widely varying in identifying auditory and retroauricular disorders. For limitation of hearing acuity it relates to the absence of audiometer equipment in the field. Only conversation test has been carried out.

17.2.1 Auditory Disorder and Deafness Prevalence

In this survey, the scores are interpreted as follows:

Enumerators whisper a simple sentence, for which the respondents must repeat such sentence. If the respondents can repeat what enumerators say, score "0" will be given. If fail, enumerator will tell a sentence in normal volume and the respondents are asked to repeat it. If succeed, score "1" → **NORMAL hearing acuity** will be given.

If the respondents can't follow the words told by enumerators, the same sentence will be spoken out in louder volume and the respondents are asked to repeat it. If succeed, score "2" → **mild hearing impairment** will be given.

If the respondents fail to repeat the words told by enumerators, the latter will shout a sentence in the ear with better hearing acuity and the respondents must repeat it. If the respondents can retell the words said by enumerators, score "3" → **moderate hearing impairment** will be given.

If respondents can't repeat the words shouted by enumerators, score "4" → **deafness** will be given.

In Riskesdas 2013, the highest hearing impairment prevalence is found at age 75 years and above (36.6%) followed by age group 65-74 years (17.1%). The smallest prevalence is detected in age group 5-14 years and 15-24 years (0.8% respectively) as indicated in Table 17.1. The highest deafness prevalence is found in the same age group of hearing impairment, i.e. ≥ 75 years (1.45%). Accordingly, the smallest deafness prevalence is observed in age group 5-14 years and 15-24 years (0.04% respectively). The prevalence of female respondents with hearing disorders is a bit higher than male respondents (2.8% to 2.4%). Likewise, deafness prevalence of female respondents is higher than male population, i.e. 0.10 percent to 0.09 percent.

The highest prevalence for hearing disorder and deafness is found in the population who never attend schools (8.0% for hearing disorder and 0.38% for deafness). Hearing disorder prevalence in unemployed respondents is also high, i.e. 3 percent followed in the population who works as farmers/entrepreneurs/workers at 3.3 percent. The lowest hearing disorder prevalence is detected in employees (1.0%). For the highest deafness prevalence, it is found in respondents who are unemployed (0.15%) and the lowest in employees (0.02%).

For hearing disorder and deafness prevalence by residence, it is identified that hearing disorder prevalence in urban areas records 2.2 percent and 0.09 percent for deafness prevalence. In rural areas, the prevalence is a bit higher i.e. 3 percent and 0.1 percent respectively.

Table 17.5 Hearing Disorder and Deafness Prevalence of Population Aged ≥ 5 Years according to Conversation Test by Characteristics, Indonesia 2013

Characteristics	Hearing Disorders	Deafnes
Age Group (Year)		
5-14	0,8	0,04
15-24	0,8	0,04
25-34	1,0	0,05
35-44	1,2	0,05
45-54	2,3	0,06
55-64	5,7	0,14
65-74	17,1	0,52
75+	36,6	1,45
Sexes		
Male	2,4	0,09
Female	2,8	0,10
Education		
Never attending school	8,0	0,38
Not graduate el. school	3,2	0,12
Graduate elementary sch	2,9	0,08
Graduate jr. high sch	1,3	0,04
Graduate high school	1,1	0,03
Graduate Dipl./Bachelor	1,2	0,04
Professions		
Unemployed	3,4	0,15
Employees	1,0	0,02
Entrepreneurs	1,6	0,03
Farmers/Fishermen/Workers	3,3	0,07
Others	2,2	0,10
Residence		
Urban	2,2	0,09
Rural	3,0	0,10
Wealth Quantile Index epemilikan		
Lowest	4,1	0,14
Middle-Low	3,4	0,13
Middle	2,6	0,08
Middle-High	1,9	0,06
Highest	1,6	0,07

Hearing disorder and deafness prevalence has same pattern if observed by wealth quantile index, i.e. the higher wealth quantile index, the lower prevalence is found. At the lowest wealth quantile index, the highest hearing disorder prevalence is detected (4.1%) and (0.14%) for deafness prevalence. The lowest prevalence of hearing disorder and deafness is observed at the highest wealth quantile index (1.6% and 0.07% respectively).

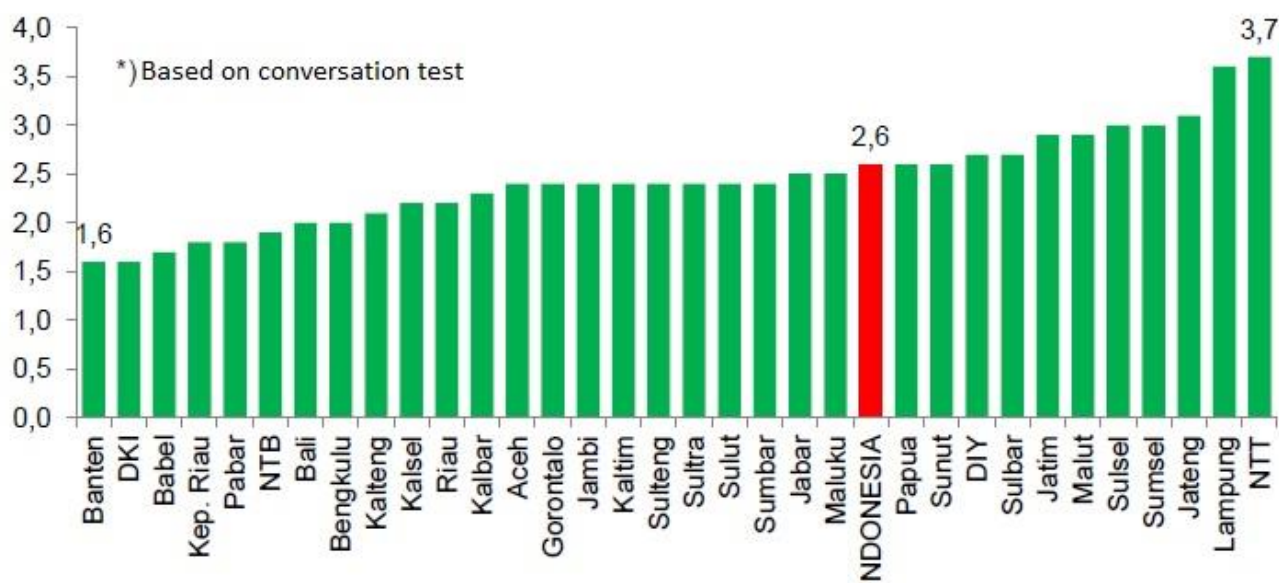


Figure 17.8 Hearing Disorder Prevalence of Population Aged ≥ 5 Years According to Conversation Test by Province, Indonesia 2013

By province, the highest hearing disorder prevalence is detected in NTT (3.7%) and the lowest in Banten (1.6%). Nine (9) provinces record hearing disorder prevalence higher than national average (2.6%). They are presented in Figure 3.15.8.

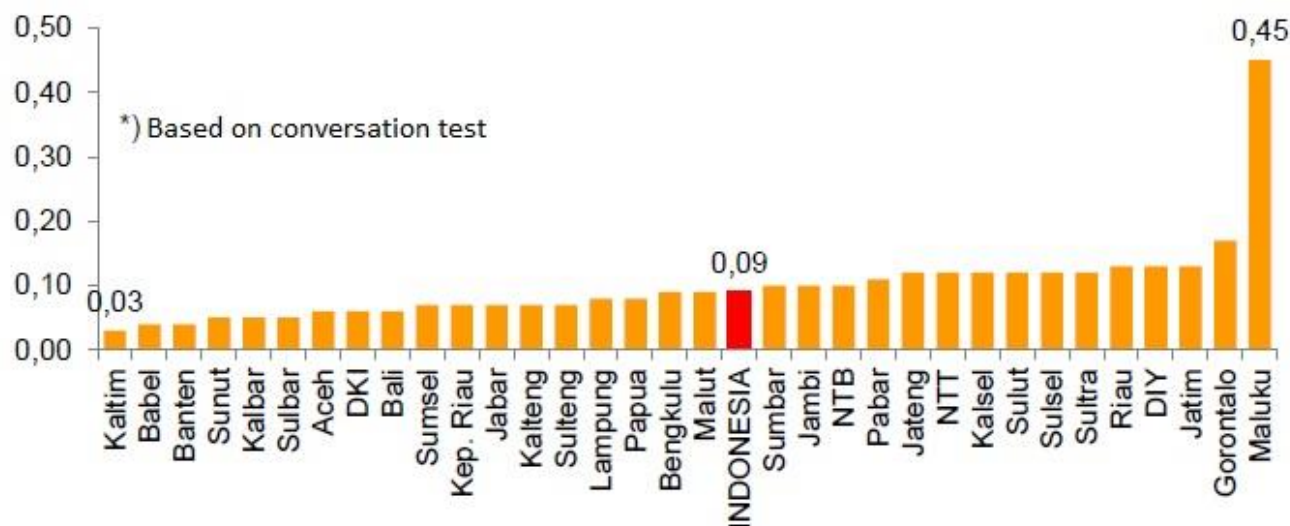


Figure 17.9 Deafness Prevalence of Population ≥ 5 Years Old According to Conversation Test by Province, Indonesia 2013

Figure 17.9 indicates deafness prevalence of Indonesia recording 0.09 percent. Two (2) provinces have deafness prevalence equivalent to national average, i.e. Bengkulu and North Maluku. The other fifteen (15) provinces record deafness prevalence above the national average and the highest is found in Maluku with the lowest in East Kalimantan (0.03%).

17.2.2 Other Ear Morbidity

To identify ear morbidity prevalence in addition to hearing disorder and deafness, physical/anatomy examination has been made to respondents aged > 2 years. The examination covers outer parts of ears to detect any retroauricular abscess/fistula and ear canal to observe any acute/chronic infection, tumor or other disorders. The existence of retroauricular abscess/fistula may become indication of ear infection.

The highest prevalence of cerumen, secretion in ear canals and retroauricular accumulation is found in age group ≥ 75 years old, i.e. 37.3 percent; 3.8 percent and 0.77 percent respectively. The lowest ear morbidity prevalence is identified at age group 15-24 years for cerumen prevalence (14.3%), 15-24 years and 25-34 years for secretion (2.0% respectively) and 2-4 years for retroauricular abscess/fistula. By province, population with the highest cerumen prevalence is in Central Sulawesi (40.1%) and the lowest in South Sumatra (5.7). Complete report of other ear morbidity by characteristics of respondents and provinces are presented in Riskesdas 2013 in Figures.

Bibliographies

Bashiruddin J, Soetirto I. 2010. Gangguan Pendengaran Akibat Bising (Noise Induced Hearing Loss). Dalam: Soepardi EA, Iskandar N, Bashiruddin J & Restuti RD. Buku Ajar Ilmu Penyakit THT. Edisi ke-6. Jakarta: Balai Penerbit FK UI; 49-52.

[Bashiruddin J, Soetirto I. 2010. Noise Induced Hearing Loss). Quoted: Soepardi EA, Iskandar N, Bashiruddin J & Restuti RD. Ear Nose Throat Disease Science Textbook]

Dandona R, Dandona L. Socioeconomic status and blindness. *Br J Ophthalmol* 2001;95:1494-9.

Departemen Kesehatan Republik Indonesia. Laporan Hasil Riset Kesehatan Dasar Indonesia (Riskesdas). 2007

[Ministry of Health, Basic Health Research Report (Riskesdas) 2007]

Direktorat Jenderal Bina Kesehatan Masyarakat Depkes RI 1996: Survei Nasional Kesehatan Indera Penglihatan dan Pendengaran 1993-1995.

[Directorate General of Public Health Development, the Ministry of Health 1996: National Visual and Auditory Health Survey, 1993-1995]

Foster A. Cataract and "Vision 2020-the right to sight" initiative. *Br J Ophthalmol* 2001;95:635-7. Limburg H. 2001. Manual for rapid assessment of cataract surgical services. Switzerland: WHO Prevention of blindness and deafness.

Putri Herman NW. 2011. Prevalensi Gangguan Pendengaran Pada Mahasiswa Program Studi Pendidikan Dokter Universitas Islam Negeri Syarif Hidayatullah Jakarta Tahun 2011. Diakses dari: http://perpus.fkik.uinjkt.ac.id/file_digital/NING%20WIDYA%20PUTRI%20HERMAN.pdf

[Putri Herman NW. 2011, Hearing Disorder Prevalence to Students. Doctor Education Study Program, State Islamic University Syarif Hidayatullah Jakarta, 2001. Accessed from: http://perpus.fkik.uinjkt.ac.id/file_digital/NING%20WIDYA%20PUTRI%20HERMAN.pdf

Rundjan L, Amir I, Suwento R, Mangunatmadja I. Skrining Gangguan Pendengaran pada Neonatus Risiko Tinggi. *Sari Pediatri*, Vol. 6, No. 4, Maret 2005: 149-54.

[Rundjan L. Amir I, Suwento R, Mangunatmadja I. Hearing Disorder Screening to High-Risk Neonatus, *Sari Predatri*, Vol. 6, No. 4 March 2005: 149-54]

Soetjipto, Damayanti. Komite Nasional Penanggulangan Gangguan Pendengaran dan Ketulian. 2010. Diakses dari: <http://ketulian.com/vi/web/index.php?to=home>.

[Soetjipto, Damayanti. National Committee for Hearing Disorder and Deafness Management. 2010.

Accessed from: <http://ketulian.com/vi/web/index.php?to=home>

Survei Nasional Kesehatan Indera Penglihatan dan Pendengaran 1993-1995.

[National Visual and Auditory Sensory Health Survey 1993-1995]

WHO Fact Sheet No. 282. <http://www.who.int/about/regions/en/index.html>.

World Health Organization. Global data on visual impairment 2010.

World Health Organization: International Statistical Classification of Diseases and Related Health Problems. 10th revision. Current version. Version for 2003. Chapter VII. H54. Blindness and low vision. Diakses di: <http://www.who.int/classifications/icd/en>.

CHAPTER 18. BIOMEDICAL EXAMINATION

Rita Marleta Dewi, Khariri, Frans Dany, Widoretno, Kambang Sariadji, Sarwo Handayani, Vivi Lisdawati, Indri Rooslamati, Holly Arif Wibowo, M. Samsudin, Djoko Kartono, Dwi Hapsari Tjandrarini, and Ina Kusriani

Biomedical examination aims to provide supporting data acquired from laboratory tests, which consist of a number of parameters to corroborate the results of public health data analysis. Biomedical data become part of Riskesdas 2013 with nationwide samples representing provinces and regencies/municipalities. Biomedical data are collected from sample and specimen tests to identify several indicators of some diseases including Communicable Disease (CD), Non Communicable Disease (NCD) or degenerative chronic disease, Vaccine-Preventable Disease and Nutrition Status Disorder. Information on these diseases has close correlation with the double burden of disease currently encountered by Indonesian people, which is apparently shifting from infections to degenerative diseases and other malignant diseases. Biomedical data can be used as basis in working out more focused and proportional health policies.

Biomedical samples and specimens for Riskesdas 2013 consist of water, salt, urine and blood. The tests have been carried out in some places, namely: (1) Field Laboratory, such as *Puskesmas*, *Pustu*, *Posyandu*, *Poskesdes* or other facilities as appropriate for blood glucose test, hemoglobin (Hb) test and Malaria Rapid Diagnostic Test (RDT); (2) Biomedical and Basic Health Technology Center Laboratory, NATIONAL INSTITUTE OF HEALTH RESEARCH AND DEVELOPMENT for Malaria chemical-clinical and microscopic tests; (3) GAKI Laboratory, Magelang for urinary iodine specimen tests, drinking water and salt sample tests; (4) the houses of respondents for iodine concentration test in salt consumed by households with rapid test kit (RTK) to 12,000 BS.

Biomedical examination covers the inspection of iodine concentration in drinking water sources of households, urine iodine excretion of women of childbearing age (15-49 years old), urines of children 6-12 years of age; Hb level and Malaria RDT test to population aged ≥ 1 year, especially respondents with history of fever for the last 2 days. They undergo thick malaria blood clot check; blood glucose level and chemical-clinical test to population ≥ 15 years old.

In details, the results of biomedical examination have been presented in Book 2: Riskesdas 2013 in Figure, pp. 437 to 445 and Book 3: Biomedical Riskesdas 2013.

18.1 Biomedical Sample Recruitment

Water samples come from the primary drinking water sources of households, from which a least three households for every biomedical BS (Census Block) are taken as respondents. Salt samples are from all households in biomedical BS. Urine specimens for iodine concentration check are collected from one of household members aged 6-12 years and one household member of woman of childbearing age (15-49 years old) taken as samples of households in biomedical BS. Special for women of childbearing age (15-49 years old) the samples are more prioritized for pregnant and lactating women.

Targets for water samples are 3,000 samples. However, samples received and examined in GAKI Laboratory, Magelang reach 3,268 samples. Out of them 3,028 water samples have been checked for analysis. The other 240 samples are excluded from analysis because of incomplete identities or duplication.

To identify iodine concentration in salt samples (part per million potassium iodate/ppm KIO_3) it has been expected that 25,000 samples be collected according to the number of households in Biomedical BS. Of them 21,741 salt samples have been received and 12,653 samples are checked in laboratory. However, only 11,430 examination results can be analyzed. The other 1,223 samples are excluded from analysis due to incomplete identities.

Urine samples are expected to reach 26,000 (18,000 samples from women of childbearing age – 15-49 years old). Of 23,067 samples received, 22,794 samples are tested in laboratory with the other 273 samples excluded for checks. They have been contained in non standard containers or inadequate volume. Of 22,794 samples examined in laboratory, only 19,964 samples have been analyzed. The remaining 2,829 samples are disregarded for their incomplete identities. Out of 19,965 samples analyzed, 13,811 consist of urine specimens of women of childbearing age (including pregnant and lactating women) and 6,154 urine specimens from children aged 6-12 years. Figure 18.1 presents the recruitment of water samples, salt samples and urine samples for iodine concentration test.

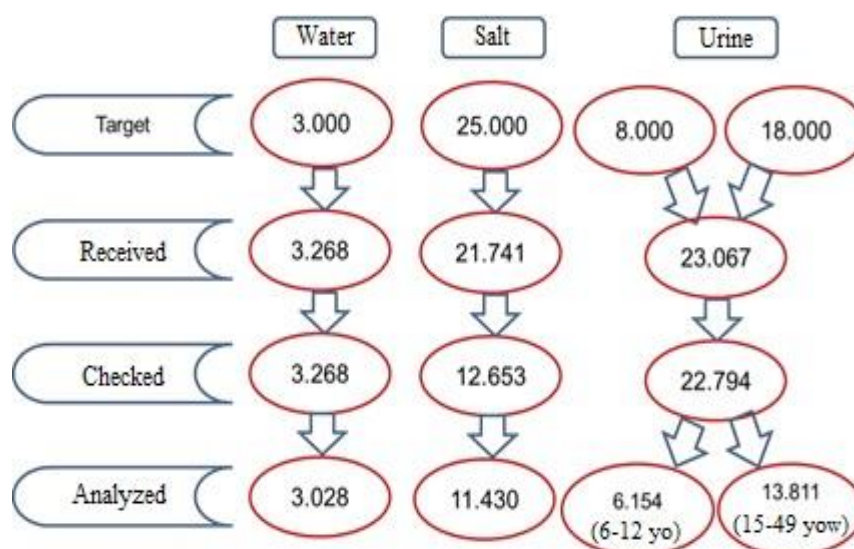


Figure 18.1 Water, Salt and Urine Sample Recruitment, Indonesia 2013

Blood specimens are taken in field laboratories. Blood samples taken from household members aged ≥ 15 years reach 10 ml and 5 ml from household members aged 1-4 years and pregnant women.

During biomedical data collection of blood specimens, out of 92,000 target respondents, only 56,719 respondents are available to give their bloods for biomedical examination. Of the latter who have expressed their availability and signed informed consent, only 50,912 respondents attend field laboratories. When inclusion/exclusion criteria are applied for blood taken by doctors only 49,931 respondents are examined.

Among the examined respondents, from those who are ≥ 1 years old, 48,494 respondents take Hb test and 46,394 respondents undergo Malaria RDT test. From respondents aged ≥ 15 years, 39,202 persons participate in blood glucose level check and 39,377 respondents engage in chemical-clinical examination. Meanwhile, serum specimens are collected from 47,746 respondents. In the next analysis when biomedical data are merged with public health data, it is identified that 46,428 respondents are available for Hb test, 44,731 respondents take Malaria RDT tests, 38,136 respondents for blood glucose test and 35,609 respondents for chemical-clinical examinations.

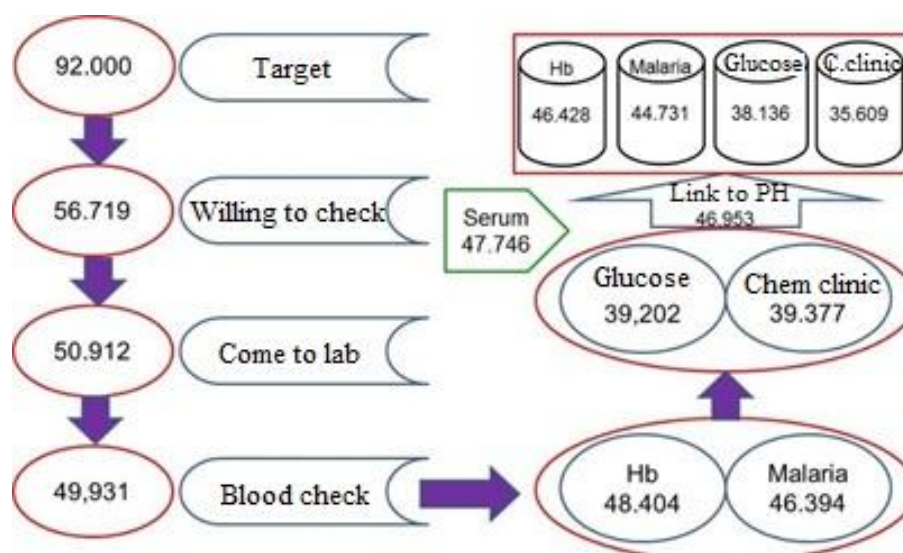


Figure 18.2 Blood Specimen Recruitment, Indonesia 2013

The lower number of respondents available for examination than the specified target is because two BS refuse to participate. The other factors include some selected BS with households less than 25 or respondents receive no permission to leave the jobs or school exams, difficult locations and bad weather during biomedical examination, security-related problems, excluded by counterpart doctors or resignation of respondents (Figure 18.2).

18.2. Iodine Status

Iodine status is verified through examination to the entire domestic salt samples in 12,000 BS with rapid test method, i.e. to drop iodine to salt and take salt from national sub-samples for confirmation in laboratory with titration method. As to iodine status, the population is checked based on iodine excretion contained in urine. Water as one of iodine intake sources in addition to salt has been also checked.

From rapid tests to domestic salt samples in 12,000 BS covering all regencies/municipalities, 289,600 domestic salt samples are collected. The test is to drop RTK solution to the salt consumed by households. They will be deemed to consume salt with sufficient iodine concentration (30 ppm KIO_3), if the test shows blue/old purple color; otherwise in case of no color change, the salt contains no iodine.

Table 18.1 shows that at nationwide, 77.1 percent of households consume salt with sufficient iodine and 14.8 percent with less iodine content and the other 8.1 percent households consume salt without iodine content. Province with the highest proportion of households consuming salt with sufficient iodine content is Bangka Belitung (98.1%) and the lowest in Aceh (45.7%). At nationwide, this percentage is not yet to reach the specified target Universal Salt Iodization (USI), i.e. 90 percent of total households consuming salt with sufficient iodine content (WHO/UNICEF ICCIDD, 2010).

Figure 18.3 presents the trends of iodized salt consumption based on rapid test in 2013 (77.1%), which indicate an increase from 2007 (62.3%). Target set by WHO for Universal Salt Iodization (USI) minimum 90 percent is not yet realized. In 2003, 13 provinces reach USI, which in 2007 only 6 provinces complied with such target.

Table 18.1 The Proportion of Households Consuming Iodized Salt according to Rapid Test by Province, Indonesia 2013

Province	Iodine Concentration in Salt		
	Sufficient	Not Enough	None
Aceh	45,7	28,8	25,5
North Sumatera	87,6	11,1	1,2
West Sumatera	63,2	28,2	8,5
Riau	88,0	9,1	2,9
Jambi	90,5	7,2	2,3
South Sumatera	92,2	6,4	1,4
Bengkulu	93,7	5,6	0,7
Lampung	85,0	13,5	1,5
Bangka Belitung	98,1	1,5	0,3
Riau Island	83,0	14,1	2,9
DKI Jakarta	83,9	12,6	3,5
West Java	68,6	20,5	10,9
Central Java	80,1	13,2	6,7
DI Jogjakarta	90,0	7,3	2,7
East Java	75,4	13,7	10,9
Banten	80,1	15,1	4,8
Bali	50,8	19,1	30,1
West Nusa Tenggara	54,6	25,6	19,8
East Nusa Tenggara	52,4	26,5	21,1
West Kalimantan	91,2	7,3	1,5
Central Kalimantan	90,5	7,0	2,5
South Kalimantan	91,6	6,8	1,6
East Kalimantan	94,1	4,1	1,8
North Sulawesi	94,4	5,4	0,2
Central Sulawesi	91,6	7,4	1,0
South Sulawesi	65,6	18,7	15,8
South-east Sulawesi	77,9	16,1	6,0
Gorontalo	95,2	3,9	0,8
West Sulawesi	72,5	22,6	4,9
Maluku	62,5	18,8	18,8
North Maluku	91,4	7,9	0,7
West Papua	96,4	2,6	0,9
Papua	85,6	13,6	0,7
Indonesia	77,1	14,8	8,1

Table 18.3 shows the proportion of domestic salt with sufficient iodine concentration according to rapid test by respondent characteristics. By education of household heads, the higher education, the higher proportion of householdes consume salt with sufficient iodine concentration. By professions of household heads, the highest proportion in iodized salt consumption is found in respondents who work as employees and the lowest is detected in those whose livelihoods come from farming/fishing/worker sectors. The proportion in urban areas is higher than in rural areas.

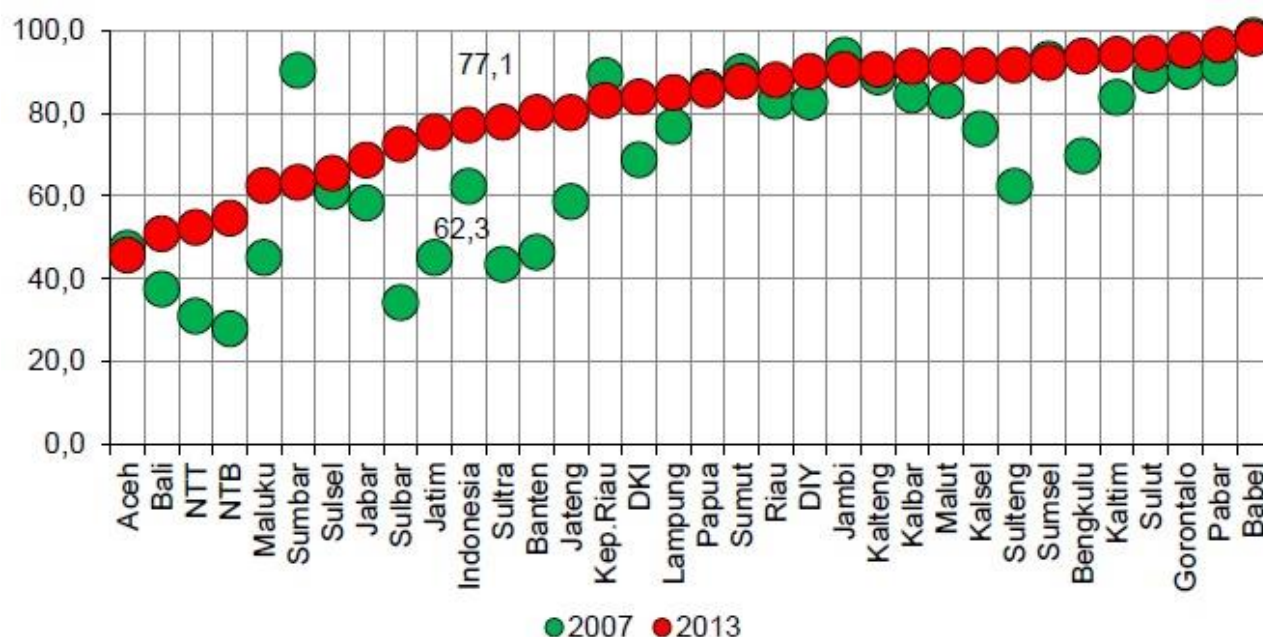


Figure 18.3 The Trends of Households in Iodized Salt Consumption according to Rapid Test by Province, Riskesdas 2007 and 2013

Table 18.2 Proportion of Households Consuming Iodized Salt according to Rapid Test Results by Respondent Characteristics, Riskesdas 2007 and 2013

Characteristics	2007	2013
Education		
Never attending school	50,9	74,0
Not graduate el. school	59,5	76,8
Graduate elementary sch	68,8	82,0
Graduate jr. high sch	75,1	85,1
Graduate high school	80,8	88,1
Professions		
Unemployed	60,7	77,9
Employed	79,2	86,9
Entrepreneurs	75,7	83,3
Farmer/Fisherman/Woker	56,9	75,4
Others	56,5	78,6
Residence		
Urban	70,4	82,0
Rural	56,3	72,3

Table 18.3 indicates the proportion trends of iodine concentration in domestic salt under titration test method in 2013. Half of sample households consuming salt with insufficient iodine content is to record 50.8% or much lower than in 2007 (67.7%). As to those who consume domestic salt with sufficient iodine concentration, they reach 43.2%, which are higher than in 2008 (23.4%). Households experiencing over iodine concentration are to rise from one percent in 2007 to five percent in 2013.

Table 18.3 Iodine Concentration Trend (ppm KIO₃) in Domestic Salt according to Titration Method, Riskesdas 2007 and 2013

Iodine Concentration	2007	2013
No iodine	7,8	1,0
Lack of iodine	67,7	50,8
Sufficient	23,4	43,2
Over iodine	1,1	5,0

The average and standard deviation of iodine concentration in domestic salt based on titration method in 2013 are record 34,1 ± 25,1 ppm kalium iodat (KIO₃), meanwhile in 2007 it was 38,9 ± 28,3 ppm potassium iodate (KIO₃). These average values indicate no improvement in iodized salt quality from 2007 to 2013. However, based on four classifications of iodine concentration, i.e.: no iodine, lack of iodine, sufficient and over iodine, some obvious improvements are identified.

Urine Iodine Excretion (UIE)

Urine iodine excretion gives illustration on iodine consumption since iodine absorbed in the body will be discharged in urines. Figure 18.4 presents median UIE value (µg/L) from random urine samples in 2013 by respondent characteristics, i.e. the residence where respondents live in. Median UIE value for children 6-12 years of age by residence is 215 µg/L, i.e. 237 µg/L in urban areas 201 µg/L in rural areas. Meanwhile, Median UIE value for women of childbearing age is to record 187 µg/L, i.e. 163 µg/L in pregnant women and 164 µg/L in lactating women. Proportion in urban areas always outnumbers rural proportion. The lowest median UIE value is found in lactating women and the highest is detected in children 6-12 years of age.

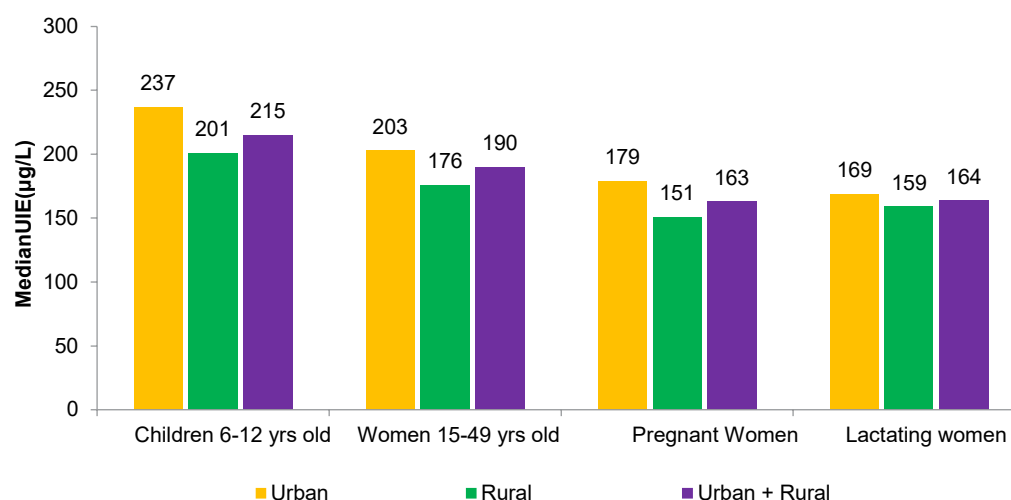


Figure 18.4 Median UIE Value in Urines (µg/L) in Children, Women of Childbearing Age, Pregnant Women and Lactating women, Indonesia 2013

Figure 18.5 shows the proportion of UIE values in 2013 to children 6-12 of age, women of childbearing age, pregnant women and lactating women by categories: lack of iodine (<100 µg/L), sufficient (100-199 µg/L), more than sufficient (200-299 µg/L) dan over iodine (≥300 µg/L). From the above description it is identified that nearly one fourth of four sample categories have UIE value < 100 µg/L indicating of lack of iodine consumption. However, around half of samples record UIE value ≥ 200 µg/L.

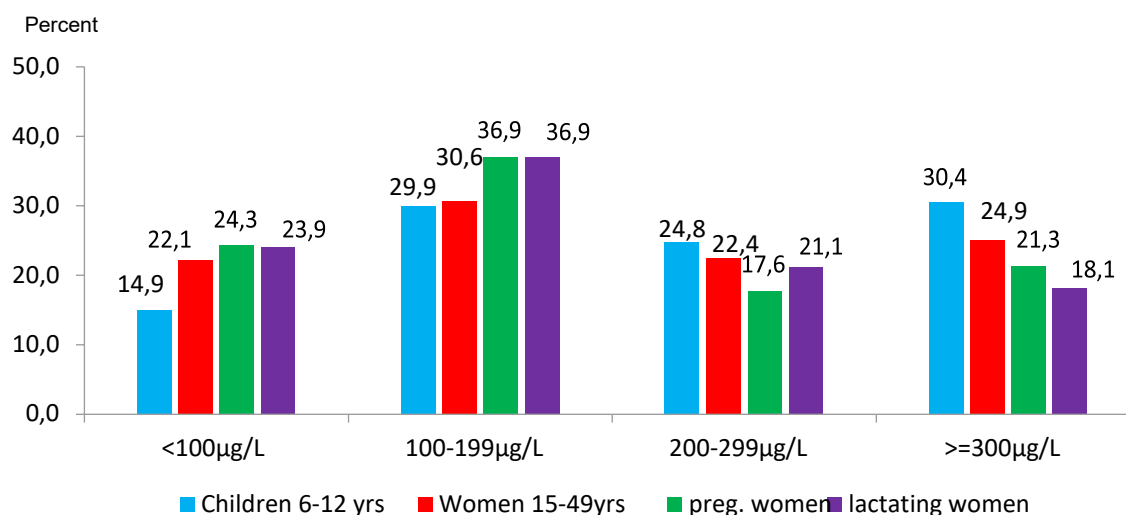


Figure 18.5 Urine Iodine Secretion Proportion of Urines from Children 6-12 Years of Age, Women of Childbearing Age, Pregnant Women and Lactating Women by UIE Categories, Indonesia 2013

Iodine Concentration in Domestic Drinking Water

At nationwide, the median UIE value for drinking water source is to reach 15.0 µg/L consisting of 17,0 µg/L in urban areas, which is higher than in rural areas (13.0 µg/L).

Iodine concentration in domestic drinking water sources in urban areas and rural areas in 2013 can be seen in Table 18.4. In majority, iodine concentration found in drinking water sources of households is detected as lack of iodine or no iodine (92.1%). The proportion in rural areas is higher than urban areas. At nationwide, the proportion of domestic drinking water with sufficient iodine concentration is relatively low (6.0%) with 7.4% in urban areas and 4.6% in rural areas.

Table 18.4 Proportion of Iodine Concentration in Domestic Drinking Water Sources by Residence, Indonesia 2013

Characteristics	No Iodine	Low Iodine	Sufficient Iodine	More than sufficient	High Iodine
Perkotaan	38,0	52,5	7,4	1,6	0,5
Perdesaan	42,3	51,5	4,6	1,3	0,3
Indonesia	40,1	52,0	6,0	1,5	0,4

18.3. Blood Specimen Test

The results of blood specimen examination can be classified into four: 1) blood glucose test; 2) hemoglobin test; 3) malaria RDT (Rapid Diagnostic Test); and chemical-clinical examination.

1. Blood Glucose Level Checking

Diabetes mellitus (DM) is a metabolic disease indicated with the increasing blood glucose level as a result of disorder in insulin secretion, insulin working time or both of them.

According to American Diabetes Association (ADA) 2011 and consensus of Indonesian Endocrinology Association (PERKENI) 2011 to prevent and treat DM type 2, DM diagnosis criteria can be applied in case of: 1) random plasma glucose ≥ 200 mg/dl followed with classical complaints associated with DM i.e. increased urination (polyuria), increased thirst (polydipsia), increased hunger (polyphagia), and weight loss due to unknown reasons; 2) fasting plasma glucose ≥ 126 mg/dl with classical associated symptoms; 3) 2-hour postprandial ≥ 200 mg/dl.

On the other side, individual with blood glucose level above normal but not yet complying with diabetes criteria will be considered experiencing prediabetes that may develops into DM type 2. Prediabetes conditions includes impaired fasting glucose (IFG) and impaired glucose tolerance (IGT). According to ADA 2011, the criteria of IGT are applicable if 2-hour postprandial blood glucose is 100 – 125 mg/dl. Meanwhile, IFG criteria will apply if 2-hour postprandial blood glucose is at 140-199 mg/dl. Fasting blood glucose levels are collected after the respondents take 12-14 hours fasting before blood checks. IGT value is taken from 2-hour postprandial blood glucose after the administration of 75 grams of anhydrous glucose.

Based on blood glucose checks, parameters analyzed are inclusive of DM proportion, disturbed IFG and IGT. Table 18.5 shows DM proportion to population aged ≥ 15 years according to laboratory tests of blood glucose level setting with cut-off points referring to ADA 2011 and unique DM symptoms. DM proportion of Indonesian women tends to be higher, but nearly equal in urban areas (6.8%) and rural areas (7.0%).

Table 18.5 DM Proportion in Population Aged ≥ 15 Years by Characteristics, Indonesia 2013

Characteristics	DM ^a (%)
Genders	
Male	5,6
Female	7,7
Residence	
Urban	6,8
Rural	7,0

***)Notes:**

It is identified that some respondents who have normal blood glucose content, yet they take DM medication. This has increased the proportion of population with DM.

Table 18.6 illustrates the proportion of population aged ≥ 15 years with impaired fasting glucose (IFG), i.e. a condition that will very likely develop into DM. The criteria of this condition are detected from fasting blood glucose examination with cut off points referring to ADA 2011. Criteria for IFG are met if the fasting blood glucose level is within 100-125 mg/dl range.

Generally speaking, more than one-third population (36.6%) suffer IFG. Men are more vulnerable to this condition than women with disparity of 6 percent. By characteristics of residence, the proportion of IFG is more found in rural areas than in urban areas.

Table 18.6 Proportion of IFG to Population of ≥ 15 Years Old based on ADA Criteria by Characteristics, Indonesia 2013

Characteristics	IFG (%)
Sexes	
Male	40,4
Female	34,4
Residence	
Urban	34,9
Rural	38,2

Table 18.7 shows the proportion of population ≥ 15 years with Impaired Glucose Tolerance (IGT), i.e. a condition that will very likely develop into DM. The criteria of this condition are detected from fasting blood glucose test with cut-off points referring to ADA 2011. Criteria for IFG are met if the fasting blood glucose is within 140-199 mg/dl range.

The proportion of population with IGT reaches 29.9 percent, which is nearly equally distributed in urban areas and rural areas. However, by genders, female population is more vulnerable to IGT (32.7%) than males (25.0%).

Table 18.7 TGT Proportions to Population aged ≥ 15 years by Characteristics, Indonesia 2013

Characteristics	TGT (%)
Genders	
Male	25,0
Female	32,7
Residence	
Urban	29,9
Rural	29,8

Table 18.8 indicates that the majority of respondents undergoing blood glucose level test are not diagnosed for DM by healthcare professionals.

Table 18.8 DM Proportion to Population Aged ≥ 15 Years Diagnosed by Healthcare Professionals by Characteristics. Indonesia 2013

Characteristics	DM (%)
Genders	
Male	2,2
Female	2,5
Residence	
Urban	3,3
Rural	1,5

While the diagnosis scope is higher in urban areas (3.3%) than in rural areas (1.5%), in general, many population ≥ 15 years old not diagnosed DM actually suffer DM (only 2.4% are diagnosed).

3. Haemoglobin (Hb) Test

Anemia is condition where hemoglobin in the blood less than the normal level. In Riskesdas, iron deficiency anemia has been tested. Iron in red blood cells plays roles of carrying oxygen throughout body. Iron deficiency in long period can hamper the production of red blood cells that will be insufficient to meet the physiological demands of body. This condition is associated with anemia. According to WHO and Guidelines of the Ministry of Health 1999, the cut-off points for anemia vary at age groups, or individual groups. Certain age groups or individual groups are deemed to be more vulnerable to anemia than other groups.

Hb test is made in the field using Hemocue.

Cut-off point of anemia for children 12-59 years of age is > 11.0 g/dl. For children 5-12 years of age, they will be diagnosed for anemia if their Hb < 12.0 g/dl. On the other hand, pregnant women, because of their physiology, are more vulnerable for anemia. They will be diagnosed for anemia if their Hb less than 10.0 g/dl. Men aged ≥ 15 years will be diagnosed for anemia if their Hb < 13.0 g/dl and for women of childbearing age they will be considered suffering anemia when their Hb is < 12.0 g/dl.

Table 18.9 shows the proportion of population aged ≥ 1 year with anemia reaching 21.7 percent at nationwide. By age group, it is identified that anemia prevalence to children under five years of age is relatively high, i.e. 28.1 percent and will decrease at school-aged children, adolescents to young adults (34 years old) and will increase again at higher age group. By sexes, women are more vulnerable to anemia than men. By residence, anemia in rural areas is higher than urban areas.

Table 18.9 Anemia Prevalence by Characteristics, Indonesia 2013

Age	Male	Female	Urban	Rural
12 - 59 months	29,7	26,5	30,3	25,8
5 - 12 years	29,4	29,4	27,5	31,0
13 - 18 years	12,4	22,7	17,3	18,5
≥ 15 years	16,6	-	14,5	18,5
15 - 49 years	-	22,7	22,4	23,0
Pregnant women	-	37,1	36,4	37,8

Iron deficiency anemia remain big problem in public health issues with prevalence ≥ 20 percent at population aged < 12 years old both male and female, female adolescents, women of childbearing age and pregnant women. In particular, pregnant women are population groups with high risk of anemia due to body physiological changes during pregnancies. Anemia in pregnant women according to anemia criteria set by WHO and Guidelines of the Ministry of Health 1999 reached 37.1 percent with prevalence nearly equivalent in urban areas (36.4%) and rural areas (37.8%). Such prevalence is close to severe public health problems in which the anemia prevalence is set at ≥ 40 percent.

4. Rapid Diagnostic Test (RDT) Malaria

Malaria is infection caused by *Plasmodium sp* and may develop into a chronic disease since the parasites can hide in the host body and ignite clinical manifestation at any time when the host body is to weaken. The dominant parasite species causing Malaria in Indonesia is *Plasmodium falciparum* dan *Plasmodium vivax* that may lead to severe malaria. This severe malaria is mainly due to *Plasmodium falciparum* infection attacking brain and igniting other complications.

Malaria prevalence is acquired from blood checks using RDT equipment. Table 18.10 indicates the proportion of population with positive malaria by age group, sex and residence. The proportion of

population with positive malaria is to reach 1.3 percent or around two times of percentage obtained in Riskesdas 2010 (0.6%). Meanwhile, at vulnerable groups, such as children 1-9 years of age and pregnant women, relatively higher positive malaria prevalence is obtained (1.9%) than other age groups. Rural population diagnosed for positive malaria records nearly double prevalence (1.7%) than urban people (0.8%).

Table 18.10 Malaria Proportion Based on RDT by Characteristics, Indonesia 2013

Characteristics	Positive (%)
Age	
1-9 years	1,9
10-14 years	1,1
≥ 15 years	1,2
Pregnant women	1,9
Sexes	
Male	1,6
Female	1,1
Residence	
Urban	0,8
Rural	1,7

Table 18.11 shows the proportion of malaria by parasite species, i.e. *Plasmodium falciparum*, *Plasmodium vivax* or mixed infection (*P. falciparum* and *P. vivax*). While in general infection of *P. falciparum* is equal to *P. vivax*, by age group, sex and pregnant women it is detected that *P. falciparum* is more dominant with prevalence to children 1-9 years of age reaching 1.2 percent and pregnant women 1.3 percent. By residence, it is observed that *P. vivax* infection is more dominant in urban areas (0.5%) than *P. falciparum* infection (0.3%). In rural areas, *P. falciparum* infection has higher prevalence.

Table 18.11 Malaria Proportion based on RDT by Parasite Species and Characteristics Indonesia 2013

Characteristics	<i>P. falciparum</i> (%)	<i>P. vivax</i> (%)	Mix (%)
Age			
1-9 years	1,2	0,6	0,1
10-14 years	0,5	0,4	0,2
≥ 15 years	0,5	0,5	0,3
Pregnant women	1,3	0,4	0,2
Sexes			
Male	0,6	0,5	0,4
Female	0,5	0,4	0,1
Residence			
Urban	0,3	0,5	0,1
Rural	0,8	0,5	0,4

5. Chemical-Clinical Test

Parameters of chemical-clinical test include cholesterol, HDL, LDL, triglyceride and creatinine. The cut-off points for abnormal cholesterol, abnormal or below normal LDL, direct LDL above normal, direct LDL above optimum value and abnormal triglycerides refer to *National Cholesterol Education Program— Adult Treatment Panel III* (NCEP-ATP III). For abnormal serum creatinine, *International Federation of Clinical Chemistry* (IFCC) has been referred to.

Lipid abnormalities in the bloods are factors of cardiovascular and metabolic diseases, for example, atherosclerosis, coronary heart disease, stroke, metabolic syndrome, etc. According to NCEP-ATP III, lipoprotein profile tests (total cholesterol, HDL, LDL and triglycerides) should be conducted every 5 years to individuals aged ≥ 20 years. A series of research indicate that high LDL may be the major contributing factor for coronary heart disease. Thus, cholesterol control will be primarily taken by lowering LDL. On the other side, increase in triglycerides has been identified as an independent factor for coronary heart disease and frequently found in patients with metabolic syndromes. The latter is the secondary target for lipid profile control.

Abnormality classification of each lipid parameter has been made according to NCEP-ATP III for coronary heart disease assessment and treatment subject to the risk group concerned.

5.1. Total Cholesterol

Figure 18.6 illustrates that around one-third of population aged ≥ 15 years have total cholesterol higher than normal range by NCEP-ATP III. Normal total cholesterol for population of this age group is < 200 mg/dl. Abnormal total cholesterol covers borderline category (200-239 mg/dl) and high category (≥ 249 mg/dl). Abnormal range is the combination of borderline and high category. By sexes and residence it is identified that the proportion of population with cholesterol above normal range in females is higher than in males. Likewise, urban population has higher cholesterol range than rural population.

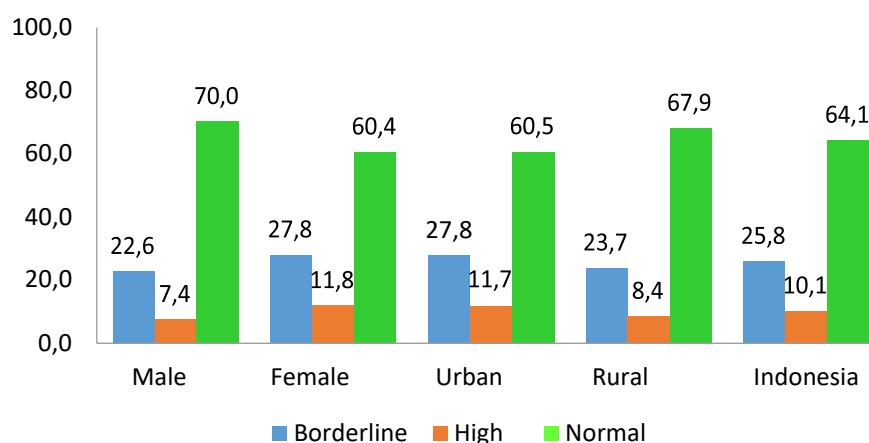


Figure 18.6 Proportion of Total Blood Cholesterol of Population ≥ 15 Years Old by Characteristics, Indonesia 2013

5.2. High-Density Lipoprotein (HDL) Test

Figure 18.7 shows the proportion of population aged ≥ 15 years with HDL below normal range by NCEP-ATP III. Normal HDL range for population of ≥ 15 years old is ≥ 40 mg/dl. The tests reveal that low HDL is more found in men than in women. By residence, it is identified that low HDL is more observed in rural population than in urban areas.

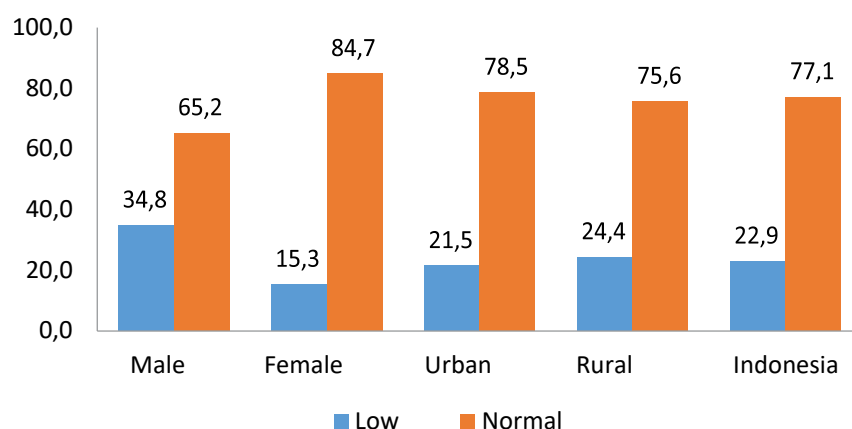


Figure 18.7 Proportion of Low HDL of Population ≥ 15 Years Old by Characteristics, Indonesia 2013

5.3. Low-Density Lipoprotein (LDL) Test

Figure 18.8 shows the proportion of population aged ≥ 15 years with direct LDL above optimum range. The cut-off points for direct LDL are set with reference to NCEP-ATP III. Optimum LDL for population of 15 years old and above is < 100 mg/dl. Based on such reference, LDL range can be differentiated into the following categories: near optimum/above optimum (LDL 100-129 mg/dl), borderline high (LDL 130-159 mg/dl), high (LDL 160-189 mg/dl) and very high (≥ 190 mg/dl).

Figure 18.8 presents the proportion of population with LDL falling in near optimum, borderline high, high and very high categories. In general, more than 60 percent of Indonesia people include in near optimum and borderline categories with the other proportions classified in high and very high categories. In general, the composite proportion of near optimum and borderline categories is nearly equal in all respondent characteristics.

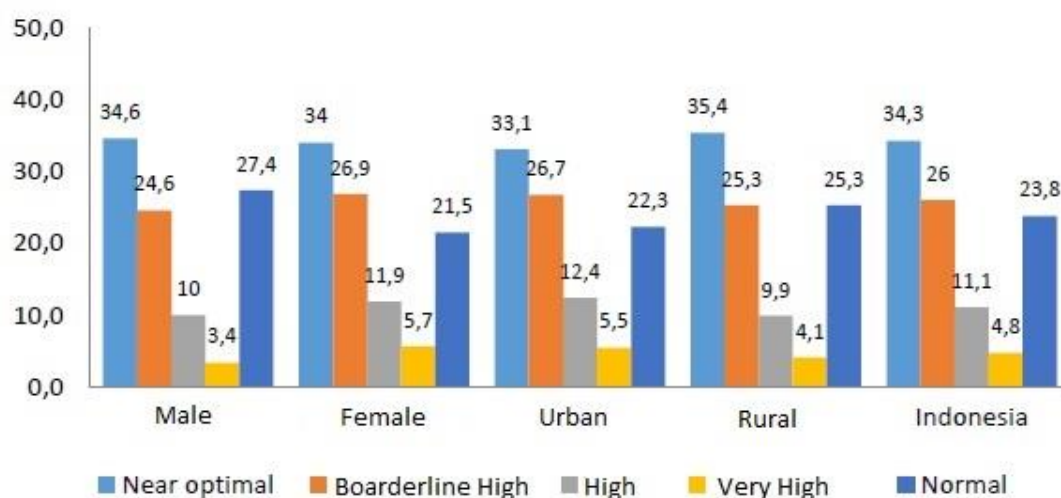


Figure 18.8 Proportion of Abnormal LDL of Population ≥ 15 Years Old by Characteristics, Indonesia 2013

5.4. Triglycerides Test

Figure 18.9 illustrates the proportion of population aged ≥ 15 years with triglyceride above normal range under NCEP-ATP III classification. Normal triglyceride range for population of 15 years old and above is < 150 mg/dl. With such reference, it is identified that borderline high category have triglyceride range of 150-199 mg/dl and 200-499 mg/dl for very high category. By genders, men have more triglyceride of borderline high category than women. This trend is also true for triglyceride of high and very high categories.

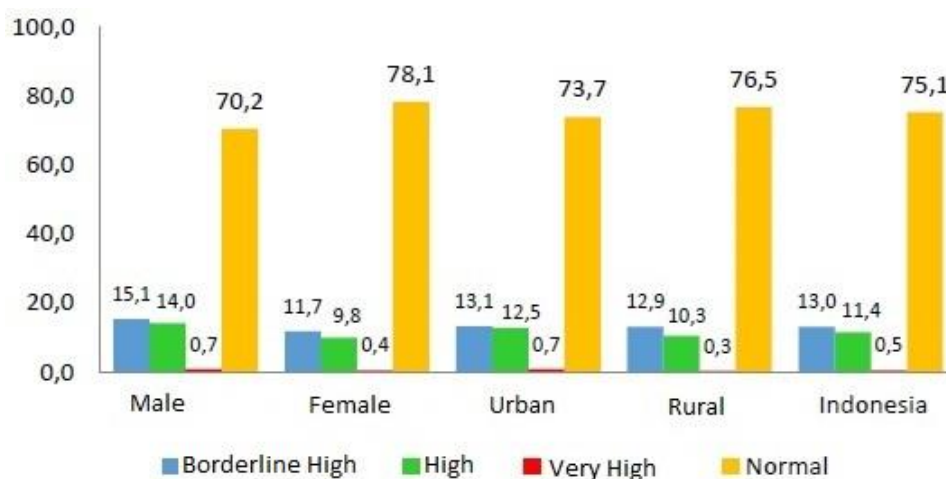


Figure 18.9 Proportion of Abnormal Triglyceride of Population ≥ 15 Years Old by Characteristics, Indonesia 2013

5.5. Serum Creatinine Level Test

To assess the kidney functionality, serum creatinine test must be taken. Serum creatinine is not the only factor in predicting the functions of kidneys. There are many other factors, such as: race, diet, age, sex, drug consumption, etc. However, serum creatinine test is still important to take. The test is relatively easy and affordable.

When a person is getting older, his/her creatinine clearance will decrease reflecting the lowering renal function. This declining performance is found both in normal individuals or persons with kidney diseases because of oxidant stress and infection in line with the increasing age.

Cut-off points for abnormal range according to IFCC vary according to sex, i.e. >1.19 mg/dl for men and >1.02 mg/dl for women.

Figure 18.10 shows the proportion of population aged ≥ 15 years with serum creatinine above the normal. By sex, proportion of male population with abnormal serum creatinine is three times higher than women, i.e. 10.4% to 3.1% respectively. In general, men have greater muscle masses than women. Meanwhile, the proportion of population with abnormal serum creatinine in urban and rural areas are relatively equivalent. Age increase factor to the declining renal function is also evident from higher proportion of abnormal serum creatinine level in older persons.

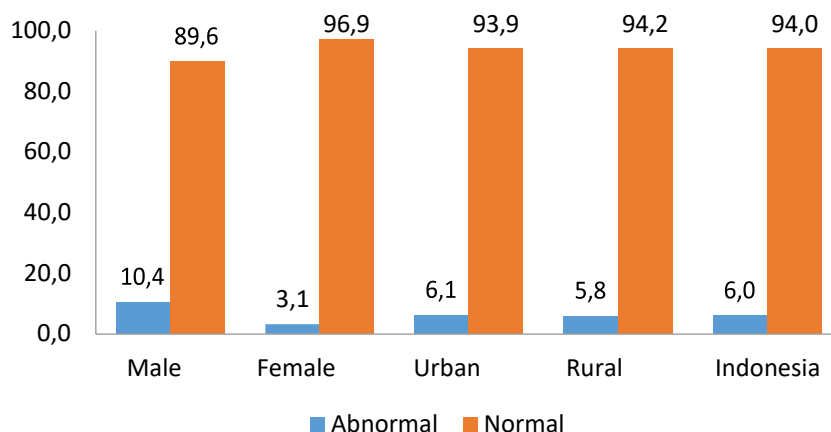


Figure 18.10 The Proportion of Population ≥ 15 Years Old with Abnormal Creatinine by Characteristics, Indonesia 2013

Bibilographies

American Diabetes Association. Diagnosis and classification of diabetes. Diabetes Care, vol.34, Suppl 1, 2011.

Backer H and J.Hollowell. 2000. Use of iodine for water disinfection: iodine toxicityMunicipality andmaximum recommended dose. Environ Health Perspect108:679-684.

Departemen Kesehatan dan BadanPusatStatistik. 2005. Integrasi IndikatorGiziDalamSUSENAS Tahun 2005. Program Perbaikan Gizi Masyarakat Tahun 2005. LaporanKegiatan.

[Ministry of Health and Central Bureau of Statistics,. 2005. Integration of Nutrition Indicators in SUSENAS 2005. Public Nutrition Improvement Program 2005. Activity Report]

Departemen Kesehatan. 2007. Laporan Riset Kesehatan Dasar (Riskesdas) 2007 Bidang Biomedis. Jakarta: Badan Litbangkes, Depkes RI, 2007.

[Ministry of Health. 2007. Basic Health Research Report (Riskesdas) 2007 Biomedics Section. Jakarta: Health R&D Body. Ministry of Health, 2007]

Departemen Kesehatan. 2007. Laporan Riset Kesehatan Dasar (Riskesdas) 2010 Bidang Biomedis. Jakarta: Badan Litbangkes, Depkes RI, 2010

[Ministry of Health. 2007. Basic Health Research Report (Riskesdas) 2007 Biomedics Section. Jakarta: Health R&D Body. Ministry of Health. 2010]

Djoko Kartono *et al.* 2012. Effect of excess iodine intakes on thyroid function among school children: multicentre study. Final Report. Joint work: Centre for Applied Health Technology and Clinical Epidemiology and UNICEF. Jakarta..

-----, 2005. World Health Assembly resolution calls for global strengthening of effort to eliminate IDD. IDD Newsletter. Vol.21, 21:1-3.

Dunn JT, HE.Crutchfield, R.Gutekunst and AD Dunn. 1993. Methods for measuring iodine in urine. ICCIDD/UNICEF/WHO. TheNetherland.

ICCIDD/UNICEF/WHO. 2010. Assessment of Iodine deficiency Disorders and Monitoring Their Elimination: A guide for programme managers. France.

MI/ICCIDD/UNICEF/WHO. 1995. Salt Iodization for the Elimination of iodine deficiency. Netherland.

NCEP-ATP III. Third Report of the National Cholesterol Education Program (NCEP) Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel III). Executive Summary. NIH Publication No. 01-3670, 2001.

Panteghini M (on behalf of IFCC Scientific Division). Enzymatic assays for creatinine: time for action. International Federation of Clinical Chemistry. Clin Chem Lab Med 46(4): 2008, p.567-72.

Pearce EN *et al.* 2002. Effect of chronic iodine excess in a cohort of long-term American workers in West Africa. J Clin Endocrinol Metab 87: 5499–5502.

Pedersen KM, P.Laurberg, S.Nohr, A.Jorgensen and S.Andersen. 1999. Iodine in drinking water varies by more than 100-fold in Denmark, importance for iodine content of infant formulas. European Journal of Endocrinology 140 400–403.

Proyek Intensifikasi Penanggulangan GAKY. 2003. Konsumsi Garam Beryodium di Rumah Tangga. Kerjasama Badan Pusat Statistik dan Direktorat Bina Gizi Masyarakat, DepKes.

[GAKY Prevention Intensification Program. 2003. Domestic Iodized Salt Consumption. Cooperation of Central Bureau of Statistics and Directorate of Public Nutrition Development. Ministry of Health]

Pusat Penelitian dan Pengembangan Gizi dan Makanan dan UNICEF. 2008. Survei Indikator Gangguan Akibat Kekurangan Iodium: Riset Kesehatan Dasar (Riskesdas). Desember.

[Nutrition and Food R&D Center and UNICEF. 2008. Iodine Deficiency Disturbance Indicator Survey. Basic Health Research (Riskesdas). December]

T.Weiping *et al.* 2006. Effect of iodine intake on thyroid diseases in China. The new england journal of medicine, 354;26:2783-279.

Tim Penanggulangan GAKY Pusat. 2011. Rencana Aksi Nasional: Akselerasi Konsumsi Garam Beriodium untuk Semua 2011-2015.Jakarta.

[GAKY Prevention Team. 2011. National Action Plan: Iodized Salt Consumption Acceleration for All, 2011-2015. Jakarta]

WHO and UNICEF. 2007. Reaching optimal iodine nutrition in pregnant and lactating women and young children. Joint Statement by the World Health Organization and the United Nations Children's Fund.Geneva.

WHO. Haemoglobin concentrations for the diagnosis of anaemia and assessment of severity. Vitamin and Mineral Nutrition Information System. Geneva, World Health Organization, 2011 (WHO/MNH/NHD/MNN/11.1)

ANNEXES

1. Decree of the Minister of Health on Riskesdas2013
2. Household Questionnaires (RKD13.RT)
3. Individual Questionnaires (RKD13.IND)
4. Ethic Approval
5. *Informed consent*
6. Research Recommendations
7. Estimated Random Sampling Error of Riskesdas2013



BASIC HEALTH RESEARCH

RISKESDAS 2013

**NATIONAL INSTITUTE OF HEALTH RESEARCH AND DEVELOPMENT
MINISTRY OF HEALTH OF REPUBLIC INDONESIA
YEAR 2013**



REPUBLIC OF INDONESIA
MINISTRY OF HEALTH
NATIONAL INSTITUTE OF HEALTH RESEARCH AND DEVELOPMENT
2013 BASIC HEALTH RESEARCH

QUESTIONNAIRE FOR HOUSEHOLDS AND INDIVIDUALS

CONFIDENTIAL

RKD13. RT

I. LOCATION IDENTIFICATION					
1	Province				
2	Regency/City ^{*)}				
3	District				
4	Village/Sub-District ^{*)}				
5	Village/Sub-District Classification	1. Urban 2. Rural			
6	Sample Code Number				
7	Census Building No & No. of Household Member (HM)				
8	Name of Household Head:		Household Sample Serial No.		
9	Does the household have salt?	1. Yes 2. No → P.11			
10	Immediately do iodine test on the entire household and record the iodine content based on color change	1. Sufficient (dark blue / dark purple) 2. Insufficient (light blue / light purple) 3. No iodine (No color)			
11	Selected as provincial sample	1. Yes 2. No			
12	Selected as national sample	1. Yes 2. No			
SALT SAMPLE FOR TITRATION IS COLLECTED FROM THE NATIONAL HOUSEHOLD SAMPLE					
13	Is salt sample taken?	1. Yes 2. No		PUT SALT STICKER HERE (RXXXXXX)	
14	Is water sample taken?	1. Yes 2. No		PUT WATER STICKER HERE (RXXXXXX)	
II. HOUSEHOLD DETAIL					
1	Address (in capital)				
2	Number of household members:				
3	Number of toddler (0-59 months)				
4	Number of household members interviewed:				
III. DATA COLLECTOR DETAIL					
1	Name of Data Collector:		4	Team Head Name:	
2	Data collection date: (DD-MM-YY)		5	Checking date: (DD-MM-YY)	
3	Data collector signature		6	Team head signature:	

*) Strikethrough as appropriate

IV. HOUSEHOLD MEMBER DETAIL													
HM Serial No.	Name of Household Member (HM)	Relation with the household head	Sex	Marital status	Date of birth	Age: If < month, fill the age in the "Day" box, if < 5 years fill in the "month" box, if ≥ 5 years fill in the "year" box and if ≥ 97 fill "97"	Specifically for ART aged ≥ 10 Years Highest Education completed [CODE]	Specifically for ART aged ≥ 10 Years Occupational Status [CODE]	Specifically for ART aged ≥ 10 Years If the Occupational Status = 2 Indicate the main occupations [CODE]	Specifically for female ART aged 10-54 years Is she pregnant?	Does the ART Sleep under mosquito net	If "Yes" does the net have insecticide?	Is the ART interviewed?
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1		☐ ☐	☐	☐	Dd: ☐ ☐ Mm: ☐ ☐ Yy: ☐ ☐ ☐ ☐	a. ☐ ☐ Dy b. ☐ ☐ Mn c. ☐ ☐ Yr	☐	☐	☐	☐	☐	☐	☐
2		☐ ☐	☐	☐	Dd: ☐ ☐ Mm: ☐ ☐ Yy: ☐ ☐ ☐ ☐	a. ☐ ☐ Dy b. ☐ ☐ Mn c. ☐ ☐ Yr	☐	☐	☐	☐	☐	☐	☐
3		☐ ☐	☐	☐	Dd: ☐ ☐ Mm: ☐ ☐ Yy: ☐ ☐ ☐ ☐	a. ☐ ☐ Dy b. ☐ ☐ Mn c. ☐ ☐ Yr	☐	☐	☐	☐	☐	☐	☐
4		☐ ☐	☐	☐	Dd: ☐ ☐ Mm: ☐ ☐ Yy: ☐ ☐ ☐ ☐	a. ☐ ☐ Dy b. ☐ ☐ Mn c. ☐ ☐ Yr	☐	☐	☐	☐	☐	☐	☐

USE PAGE 3 IF THE NUMBER OF ART IS > 4 PERSONS				
Column 3 Code : Relation with household head	Column 5 code: Marital status	Column 8 Code: Education attained	Column 9 Code	Column 10 code: Main occupations
01= Household head 04= Step/adopted child 05= Child in law 06= Grandchild 07= Parent/parent in law	1= Single 2= Married 3= Co-habiting 4= Divorced 5= Separated 6= Widowed	1= Does not go/has not gone to school 2= Does not finish SDMI 3= Finished SDMI 4= Finished SLTP/MTS university	1= Not working 2= Working 3= Seeking job 4= Still studying	1= PNS/ TNI/Polri/BUMN/BUMD 2= Private employee 3= Entrepreneur 4= Farmer 5= Fisherman 6= Laborer 7= Others
01= Household head				
02= Husband/wife				
03= Biological child				

IV. HOUSEHOLD MEMBER DETAIL													
Household Member Name (HM)	Relation with the household head	Sex	Marital status	Date of birth	Age: if < month, fill the age in the "Day" box, if < 5 years fill in the "month" box, if ≥ 5 fill in the "year" box and if ≥ 97 fill "97"	Specifically for ART aged ≥ 10 Years Occupation al Status [CODE]	Specifically for ART aged ≥ 10 Years Occupation al Status [CODE]	Specifically for female ART aged 10-54 years Is she pregnant?	Does the ART Sleep under mosquito net	If "Yes" does the net have insecticide?	Is the ART Interviewed?		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
5													
6													
7													
8													

USE ADDITIONAL SHEET IF THE NUMBER OF ART IS > 8 PERSONS			
Column 3 Code : Relation with household head	Column 5 code: Marital status	Column 8 Code: Education attained	Column 9 Code
01= Household head 04= Step/adopted child 05= Child in law 06= Grandchild 07= Parent/parent in	1= Single 2= Married 3= Co-habiting 4= Divorced 5= Separated 6= Widowed	1= Does not go/has not gone to school 2= Does not finish SD/MI 3= Finished SD/MI	1= Not working 2= Working 3= Seeking job 4= Still studying
08= Other relatives 09= Household assistant 10= Others		5= Finished SLTA/MA 6= Graduated from D1/D2/D3 program	Column 10 code: Main occupations 1= PNS/ TNI/Polri/BUMN/BUMD 2= Private employee 3= Entrepreneur 4= Farmer 5= Fisherman 6= Laborer 7= Others

V. ACCESS AND HEALTH SERVICE							
Please give us information about the nearest health facility including the transport means, travel time and estimated cost from your house to each of the nearest health service facility (Definition of nearest: within the same or different regency/city, district, sub district of the location of the household)							
Type of health service facility	Do you know the availability of the facility 1. Yes 2. No If the answer is No. 2, continue to the next type of health service facility	The transport means that can be used for one trip from the house to the health service facility			Travel time		Approximate cost from the house to the health service facility (Rp)
		1. Personal car 2. Public transport 4. On foot 8. Motorbike	16. Bicycle 32. Boat 64. Air transport 128. Others	If there are more than one answer, total the code of the transport means used	Hour	Minutes	
	(1)	(2)			(3)	(4)	(5)
1) Government hospital?	☐	☐	☐		☐	☐	☐
2) Private hospital?	☐	☐	☐		☐	☐	☐
3) Public health center/Auxiliary public health center?	☐	☐	☐		☐	☐	☐
4) Doctor's practice/clinic?	☐	☐	☐		☐	☐	☐
5) Midwife's practice/ Maternal clinic?	☐	☐	☐		☐	☐	☐
6) Integrated health post?	☐	☐	☐		☐	☐	☐
7) Village health post/Health post?	☐	☐	☐		☐	☐	☐
8) Village polyclinic?	☐	☐	☐		☐	☐	☐

VI. PHARMACY AND TRADITIONAL HEALTH SERVICE									
VI.A. DRUGS and TRADITIONAL DRUGS (OT) IN THE HOUSEHOLD									
1		Does the household keep drugs and/or traditional drugs for medication			1. Yes		2. No → PVI.B		☐
IF "YES", ASK THE PERMISSION OF THE RESPONDENT TO DO OBSERVATION OF THE DRUGS/OT AND ASK QUESTIONS ABOUT THE USE. TAKE A NOTE OF MAXIMALLY 18 DRUGS/OT KEPT									
Name of Drugs/OT (2)	Type [CODE] (3)	Drugs/OT used for illness/complaint: [CODE] (4)	Bought from? [CODE] (5)	Bought under prescription? 1. Yes 2. No (6)	"Status" of the Drugs/OT in the household [CODE] (7)	Normal duration of medication? [CODE] (8)	Assessment of the condition of the drugs/OT kept [CODE] (9)		
(1)									
1									
2									
3									
4									
5									
6									
7									
8									
9									

USE PAGE 6 IF THE DRUGS/OT KEPT ARE > 9 KINDS					
Column 3 Code	Column 4 Code	Column 5 Code	Column 7 Code	Column 8 Code	Column 9 Code
1 = Prescribed drugs (red logo with K mark) 2 = Non-prescribed/limited use drugs (green/blue logo) 3 = Antibiotics 4 = Non-labeled drugs 5 = Traditional drugs 8 = Unknown	01= influenza, cold 02= cough, sore throat 03= asthma, shortness of breath 04= pain, rheumatic, gout, Head ache, tooth ache 05= cold 06= tuberculosis 07= malaria 08= skin infection, wound 09= allergy, itches 10= high blood pressure 11= diabetes 12= heart & vein disease 13= family planning, to cure menstrual complaints,	14= diarrhea 15= constipation, hemorrhoid 16= ulcer, bloating 17= nausea, vomiting 18= sore eyes 19= earache 20= spruce, dry lips 21= vitamin, supplement, tonic, fitness health, 22= worming 23= virus infection (dengue fever, measles, hepatitis, etc) 24= thyroid disorder (hyper/hypothyroid) 25= dyslipidemia, to combat cholesterol 26= others 38= Unknown	1= pharmacy 2= drugstore/kiosk 3= given by other people 4= formal health care facility (public health center, hospital, clinic) 5= Health workers (doctor, pharmacist, midwife, paramedics, nurse) 6= traditional health service provider 7= mobile traditional drugs vendor	1 = 1 - 3 days 2 = 4 - 7 days 3 = More than 7 days 4 = More than a month/regular 5 = Only when necessary 8 = Unknown	1= Good (the container is clean, tightly closed, and intact, and the drugs are not wet/moist. If the drug is in the form of liquid, it does not clot. If the drug is cream or suspension, it does not crack or separated. If it is traditional herb, it is freshly made /recentus paratus, and the etikette/label is clear) 2= Not good (the container is not clean, not intact; the drug is wet, moist, not clear, there is suspension/separation, the etikette/label is not clear and the drugs have expired)

VI.A. DRUGS and TRADITIONAL DRUGS (OT) IN THE HOUSEHOLD {CONTD}								
	Name of Drugs/OT [CODE] (2)	Type [CODE] (3)	Drugs/OT used for illness/complaint: [CODE] (4)	Bought from? [CODE] (5)	Bought under prescription? 1. Yes 2. No (6)	"Status" of the Drugs/OT in the (7)	Normal duration of medication? [CODE] (8)	Assessment of the condition of the drugs/OT kept [CODE] (9)
(1)								
10								
11								
12								
13								
14								
15								
16								
17								
18								
	Column 3 Code 1 = Prescribed drugs (red logo with K mark) 2 = Non-prescribed/limited use drugs (green/blue logo) 3 = Antibiotics 4 = Non-labeled drugs 5 = Traditional drugs 8 = Unknown	Column 4 Code 01= influenza, cold throat 02= cough, sore throat 03= asthma, shortness of breath 04= pain, rheumatic, gout, Head ache, tooth ache 05= cold 06= tuberculosis 07= malaria 08= skin infection, wound 09= allergy, itches 10= high blood pressure 11= diabetes 14= diarrhea 15= constipation, hemorrhoid) 16= ulcer, bloating 17= nausea, vomiting 18= sore eyes 19= earache 20= spruce, dry lips 21= vitamin, supplement, tonic, fitness health, 22= worming 23= virus infection (dengue fever, measles, hepatitis, etc) 24= thyroid disorder (hyper/hypo-thyroid) 25= dyslipidemia, to combat cholesterol 26= others 88= Unknown	Column 5 Code 1= pharmacy 2= drugstore/kiosk 3= given by other people 4= formal health care facility (public health center, hospital, clinic) 5= Health workers (doctor, pharmacist, midwife, paramedics, nurse) 6= traditional health service provider 7= mobile traditional drugs vendor	Column 7 Code 1= used for current medication 2= drugs remaining from previous medication 3= stocked for future medication	Column 8 Code 1 = 1 – 3 days 2 = 4 – 7 days 3 = More than 7 days 4 = More than a month/regular necessary 5 = Only when necessary 8 = Unknown	Column 9 Code 1= Good (the container is clean, tightly closed, and intact, and the drugs are not wet/moist. If the drug is in the form of liquid, it does not clot. If the drug is cream or suspension, it does not crack or separated. If it is traditional herb, it is freshly made /recently paratus, and the etiquette/label is clear) 2= Not good (the container is not clean, not intact; the drug is wet, moist, not clear, there is suspension/separation, the etiquette/label is not clear and the drugs have expired)		

VI.B. KNOWLEDGE OF GENERIC DRUGS						
1	Do you know about generic drugs?				1. Yes 2. No→PVI.C	☐
2	What do you know about generic drugs (OG) (READ OUT POINTS a – g) FILL IN THE ANSWER CODE WITH 1=YES ATAU 2=NO OR 8=UNKNOWN					
	a. Free drugs	☐	c. Drugs for poor patients	☐	e. Drugs without trademarks	☐
	b. Cheap drugs	☐	d. Drugs available in kiosk	☐	f. Drugs with equal effect as branded drugs	☐
					g. Government program drugs	☐
3	Where do you get information on Generic Drugs? (DO NOT READ OUT OPTIONS a-f) FILL IN THE ANSWER CODE WITH 1=YES OR 2=NO					
	a. Print media (newspaper, leaflet, brochure)	☐	d. Cadre, Public figure			☐
	b. Electronic media (radio, tv, internet)	☐	e. Friend, relatives			☐
	c. health workers	☐	f. Education (school, course, etc.)			☐

VI.C. TRADITIONAL HEALTH SERVICE			
1	Has the household ever sought medication from traditional health service within the past one year?	1.Yes 2.No → Blok VII	☐
2	Type of traditional health service (READ OUT)	1. Yes 2. No → Continue to the next line	Main reason to use traditional health service (DO NOT READ OUT) [SEE COLUMN 4 CODE]
(1)	(2)	(3)	(4)
a.	Traditional health service using potion (herb, aromatherapy, <i>gurah</i> , homeopath, spa)	☐	☐
b.	Traditional health service using tools (Acupuncture, Chiropractic, Cupping, apitherapy, <i>Ceragem</i> , Acupressure)	☐	☐
c.	Traditional health service without tools (Massage, baby massage, fracture massage, reflexology)	☐	☐
d.	Traditional health service abilities using mind control (Hypnotherapy, Meditation, Prana, Inner power)	☐	☐
Column 4 Code: Reason to use Traditional Health Service 1. Tradition/belief 2. Desperation with modern medication 3. No other health service available 4. More potent 5. The disease is not severe 6. Safer 7. Cheaper 8. Trying 9. To keep health/fitness			

VII. SEVERE MENTAL DISORDER IN THE FAMILY			
1	Is there any household member suffering from mental disorder?	1. Yes 2. No → Block VIII	☐
2	Is there any household member suffering from severe mental disorder (Schizophrenia/Psychosis) ?	1. Yes 2. No → Block VIII	☐
3	Has there any household member been diagnosed with severe mental disorder (Schizophrenia/Psychosis) ?	1. Yes 2. No	☐
4	If the answer to No 2 and/or No 3 is Yes, how many member of the household?	----- person	
5	Has the household member sought treatment to mental hospital or health worker?	1. Yes 2. No	☐
6	Has the household member ever been chained/alienated/confined or the like?	1. Yes 2. No	☐

VIII. ENVIRONMENTAL HEALTH										
1	a. Main water source for all household needs: 1. Tap water/water from utility company 4. Shielded well 7. Unshielded spring 2. Tap water/buying from vendor 5. Unshielded well 8. Collecting rainwater 3. Artesian well/pump 6. Shielded spring 9. River/lake/irrigation water → P.2								☐	
	b. How much water is used for all household needs such as drinking, cooking, sanitary purpose and other needs (such as watering plants, washing etc) in a day?						 liter/day	☐	☐	☐
2	What is the main source of water for drinking? 1. Bottled water 5. Artesian well/pump 9. Unshielded spring 2. Drinking water vendor 6. Shielded well 10. Collecting rainwater 3. water from utility company 7. Unshielded well 11. River/lake/irrigation water 4. Buying from vendor 8. Shielded spring								☐	☐
3	a. Does the [HOUSEHOLD] treat the drinking water before drinking?						1. Yes 2. No → P.3c	☐		
	b. What is the water treatment before consumption by the household?						☐			
	1. By boiling the water 3. By adding chlorine 5. Only by filtering 2. By exposing it to sunlight 4. By filtering and adding chlorine solution						☐			
	c. What is the facility to keep the water before						☐			
	1. Dispenser 3. Clay teapot 5. Uncovered 2. Teapot/kettle/thermos/jerry can 4. Bucket/pan with cover bucket/pan						☐			
4	What is the drinking water physical quality? (READ OUT and OBSERVE POINTs a through e) FILL THE ANSWER WITH 1=YES OR 2=NO									
	a. Turbid	☐	b. Colored	☐	c. Tasted	☐	d. Foamy	☐	e. Smelly	☐
5	If the answer of P2 = 05 to 09 is (pump/well/spring), how far is it from the nearest septic tank?								☐	
	1. <10 meters 2. ≥10 meters 8. Unknown									
6	What is the distance and time needed to obtain water for drinking needs?									
	a. Distance : 1. Inside the house 2. <=100 meters 3. 101-1000 meters 4. >1000 meters								a. ☐	
	b. Time: 1. < 6 minutes 2. 6-30 minutes 3. 31-60 minutes 4. >60 minutes								b. ☐	
7	If the answer of P.6a = 2 to 4, who usually takes the drinking water from the source?								☐	
	1. Female adult 3. Girl (below 15 years old) 2. Male adult 4. Boy (below 15 years old)									
8	What is the type of container for collecting organic waste in the house? (READ OUT POINTS a and B)				a. Covered dustbin		1. Yes 2. No		a. ☐	
					b. Uncovered dustbin		1. Yes 2. No		b. ☐	
9	How does the household treat its waste?		1. Collected by garbage men 3. Made compost 5. Thrown to river/dike/sea 2. Buried 4. Incinerated 6. Thrown carelessly						☐	
10	Where is the location of the wastewater disposal from the bathroom/ sink /								☐	
	1. Covered storage at the yard/ SPAL 3. Storage outside the yard 2. Uncovered storage at the yard 4. No storage (dispose to soil) 5. Directly to sewer/ river → P.12									
11	What is the wastewater storage from the bathroom / kitchen/washing place?						1. Own facility 2. Shared facility		☐	
12	What is the main fuel /energy used for cooking?				1. Electricity 3. Kerosene 2. Gas/LPG 4. Charcoal/briquette/coconut shell 5. Firewood				☐	
13	Has the [HOUSEHOLD] used/kept pesticide/insecticide/chemical fertilizer inside the house in the past one month						1. Yes 2. No		☐	
14	What does the [HOUSEHOLD] normally do to prevent contagious disease due to mosquito bites? (DO NOT READ OUT THE OPTIONS, DO PROBING). FILL IN THE ANSWER CODE WITH 1=YES OR 2=NO									
	a. Using mosquito net				☐	d. Using mosquito repellent				☐
	b. Using mosquito coil/electric anti mosquito mats				☐	e. Spraying mosquito spray / insecticide				☐
	c. Covering ventilation with anti-mosquito nets				☐	f. Taking anti-malaria drugs when staying at malaria endemic area				☐
15	How many times the [HOUSEHOLD] dry bath tub in a week?				1. Once 3. Never 2. More than once 7. Non applicable (if it does not use bathtub)				☐	
16	Is the house located in a slum? (OBSERVE)						1. Yes 2. No		☐	

IX. SETTLEMENT AND ECONOMY										
1.	What is the status of the building occupied ?			1. Owned 2. Contracted 3. Leased 4. Free from lease (owned by other people) 5. Free from lease (owned by parents/relatives) 6. Official house 7. others			☐			
2.	a. Total area of house			m ²			☐ ☐ ☐ ☐			
	b. Number of people living in the house			 persons			☐ ☐			
3.	Condition of the house (OBSERVE)									
	Type of room	Use 1=Separated 2=Not separated	Cleanliness 1=Clean, 2=Not clean	Window availability 1=Yes, opened every day; 2=Yes, seldom opened; 3=No	Ventilati on 1=Yes, area>=10% of the building area; 2=Yes <10% of the building area	Natural lightning 1=Sufficient 2=Not sufficient				
	(1)	(2)	(3)	(4)	(5)	(6)				
	a. Bedroom	☐	☐	☐	☐	☐				
	b. Cooking / kitchen	☐	☐	☐	☐	☐				
	c. Living room	☐	☐	☐	☐	☐				
4.	Dominant type of floor:		1. Ceramic/ tile/ marble/ cement 2. Plastering cement		3. Board/ Bamboo/ bamboo webbing/ rattan 4. Soil		☐			
5.	Dominant type of wall:		1. Concrete 2. Wood/ board/		3. Bamboo Zinc		☐			
6.	Dominant type of ceiling:		1. Concrete 2. Gypsum 3. Asbestos/GRC		4. Wood/ plywood 5. Bamboo webbing 6. None		☐			
7.	What is the house's main lighting source?		1. PLN Electricity 2. Non PLN Electricity		3. Oil lamp 4. Torch		5. Others		☐	
8.	a. Use of sanitary facility of most of household members:			1. Own facility 2. Shared facility		3. Public facility 4. None → P.8c		☐		
	b. Type of water closet used:		1. U-shaped 2. With piping		3. Hole without floor 4. Hole with floor		☐			
	c. Sanitary final disposal:			1. Septic tank 2. SPAL		3. Pond/rice field 4. River/lake/sea		5. Hole in the ground 6. Shore/field/backyard		☐
9.	Does the [HOUSEHOLD] have the following objects:									
	a. Bicycle	1. Yes 2. No	☐	f. Water heater	1. Yes 2. No	☐				
	b. Motorbike	1. Yes 2. No	☐	g. 12 kg gas tube or more	1. Yes 2. No	☐				
	c. Boat	1. Yes 2. No	☐	h. Fridge	1. Yes 2. No	☐				
	d. TV/Cable TV	1. Yes 2. No	☐	i. Motorboat	1. Yes 2. No	☐				
	e. AC	1. Yes 2. No	☐	j. Car	1. Yes 2. No	☐				
10.	Does the [HOUSEHOLD] get free health service during the past one year without participant contribution card ?					1. Yes 2. No → P.12		☐		
11.	If Yes, the card/document used:			1. Nat/Reg. Health Insurance		3. Poor household card 4. Health Card		☐		
12.	Does the [HOUSEHOLD] ever bought/got rice for the poor during the past one year?						1. Yes 2. No		☐	

NOTES



THE REPUBLIC OF INDONESIA
THE MINISTRY OF HEALTH
HEALTH RESEARCH AND DEVELOPMENT AGENCY

BASIC HEALTH RESEARCH 2013
HOUSEHOLD AND INDIVIDUAL QUESTIONNAIRE

CONFIDENTIAL

RKD13. IND

LOCATION IDENTIFICATION															
Province	Regency/City	District	Village/Sub District	D/K	Sample Code No.						Census Building No.	Household Serial No.			

Copy from Blok I LOCATION IDENTIFICATION RKD13.RT

X. DESCRIPTION OF INDIVIDUAL INTERVIEW			
1	Date of first visit: DD-MM-YY	- -	3 Name of data collector
2	Date of last visit: DD-MM-YY	- -	4 Signature of data collector

XI. DESCRIPTION OF INDIVIDUAL IDENTIFICATION OF RESPONDENTS			
1	Write down the name and serial number of household members (HMs)	HH Name	HM Serial Number:
HM SERIAL No. FOR QUESTIONS XI.2, XI.3, XI.4 IF NOT HM IN THIS QUESTIONNAIRE FILL „00“			
2	Write down the name and serial number of the biological father	HH Name	HM Serial Number:
3	Write down the name and serial number of the biological mother	HH Name	HM Serial Number:
4	For HM aged < 15 years/ sick members / old HMs that need assistance, write down the name and serial number of the assisting HM	HH Name	HM Serial Number:

A. CONTAGIOUS DISEASE			
The [NAME] in the following question refers to the NAME in question XI.1 QUESTIONS OF SECTION A01 – A23 SHALL BE ASKED TO ALL CLASSIFICATIONS OF AGE			
ACUTE RESPIRATORY TRACT INFECTION (ISPA)			
A01	Within the past one month , has [NAME] been diagnosed with ISPA (fever, cough and influenza, sore throat) by a health worker (doctor / nurse / midwife)?	1. Yes → A03 2. No 8. Unknown	
A02	Within the past one month , has [NAME] ever suffered from fever with productive / dry cough or fever?	1. Yes 2. No 8. Unknown	
DIARRHEA / LOOSE STOOLS			
A03	Has [NAME] been diagnosed with diarrhea by a health worker (doctor / nurse / midwife)?	1. Yes, within the past ≤ 2 weeks → A05 2. Yes, > 2 weeks – 1 month → A05 3. No 8. Unknown	
A04	Has [NAME] ever suffered from defecating for more than 3 times a day with soft or liquid feces?	1. Yes, within the past ≤ 2 weeks 2. Yes, > 2 weeks – 1 month 3. No → A06 8. Unknown → A06	
A05	Has [NAME] taken medicine to cure the diarrhea disease / complaint? (READ OUT THE QUESTION POINTS) FILL IN THE ANSWER CODE 1=YES OR 2=NO		
	a. ORS	c. Anti-diarrea non-prescription drugs	e. Zinc (for toddlers)
	b. Prescription drugs	d. Traditional drugs	f. Other anti-diarrhea drugs

PNEUMONIA					
A06	Has [NAME] been diagnosed with pneumonia with or without rontgent by a health worker (doctor / nurse / midwife)?		1. Yes, within the past ≤ 1 month →A09 2. Yes, > 1 month – 12 months →A09	3. No 8. Unknown	☐
A07	Has [NAME] had symptoms of fever, cough, shortness of breath with or without chest pain?		1. Yes, within the past ≤ 1 month 2. Yes, > 1 month – 12 months	3. No→A09 8. Unknown→A09	☐
A08	If Yes, what is the breath difficulty experienced ?(READ OUT THE QUESTION POINTS AND SHOW THE FIGURE) FILL IN THE ANSWER CODE 1=YES OR 2=NO				
	a. rapid breathing	☐	c. Inward movement of the lower chest		☐
	b. nasal flaring	☐			
MALARIA					
A09	Hass [NAME] been diagnosed with Malaria confirmed by blood tests by a health worker (doctor / nurse / midwife)?		1. Yes, within the past ≤ 1 month 2. Yes, > 1 month – 12 month	3. No→A14 8. Unknown →A14	☐
A10	What type of malaria is found in the blood tests? (CAN BE > 1 ANSWERS, IF > 1, SUM UP THE ANSWER CODE)		1. Tropics Malaria (P. falciparum) 2. Tertian Malaria (P. vivax)	4. Other type 8. Unknown	☐
A11	Has [NAME] received artemisinin combination drug treatment program (ACT, see the instruments)?		1. Yes 2. No→A16	8. Unknown→A16	☐
A12	When did [NAME] receive the artemisinin combination drug treatment program (ACT)		1. Within the first 24 hours after the fever 2. More than the first 24 hours after the fever		☐
A13	Has [NAME] been given artemisinin combination therapy (ACT) for 3 days?		1. Yes, consumed until finished within 3 days 2. Yes, not consumed until finished within 3 days	3. No	☐
CONTINUE TO A16					
A14	Has [NAME] had chills or fever on a regular basis accompanied by headache, sweating, nausea, vomiting?		1. Yes, within the past ≤ 1 month 2. Yes, > 1 month – 12 month	3. No 8. Unknown	☐
A15	Within the past one month, has [NAME] taken anti-malarial drugs with or without the symptoms of fever?		1. Yes 2. No	8. Unknown	☐
PULMONARY TUBERCULOSIS					
A16	Does [NAME] cough lately?		1. Yes, for < 2 weeks 3. No→A18	2. Yes, for ≥ 2 weeks	☐
A17	If yes if the cough is accompanied by the symptoms of FILL IN THE ANSWER CODE 1=YES OR 2=NO				
	a. phlegm	☐	c. Fever	☐	f. Sweating at night without physical activity
	b. Blood / phlegm mixed with blood	☐	d. Chest pain	☐	g. Decreased appetite
			e. Shortness of breath	☐	h. Weight loss / difficult to increase weight
A18	Has [NAME] ever been diagnosed with pulmonary TB by a health worker?		1. Yes, within the past ≤ 1 year 2. Yes, > 1 year	3. No→A21	☐
A19	What is the result of check used for diagnosis FILL IN THE ANSWER CODE 1=YES 2=NO 3= NOT CHECKED 4. PENDING RESULT 8. UNKNOWN				
	a. Pghelm check indicating TB	☐	b. Rontgen indicating TB		☐
A20	Has [NAME] been given anti TB drugs (OAT) SEE THE INSTRUMENT			1. Yes 2. No	☐

HEPATITIS			
A21	In the past 12 months, has [NAME] been diagnosed with hepatitis through blood tests by a health worker (doctor / nurse / midwife)?	1. Yes 2. No → A23 8. Unknown → A23	☐
A22	The type of hepatitis suffered by [NAME] according to the health worker (doctor / nurse / midwife) is/are? 1. Hepatitis A → B01 2. Hepatitis B → B01 3. Hepatitis C → B01 4. Other type → B01	8. Unknown → B01	☐
A23	In the past 12 months, has [NAME] ever suffered from fever, weakness, yellow eyes or skin, gastrointestinal disorders (nausea, vomiting, no appetite), pain in the right upper abdomen, accompanied by urine colored like thick tea?	1. Yes 2. No 8. Unknown	☐

B. NON CONTAGIOUS DISEASE									
ASTHMA and CHRONIC OBSTRUCTIVE PULMONARY DISEASE (PPOK) ---- (QUESTIONS B01 – B05 ARE FOLL ALL RANGES OF AGE)									
B01	Has [NAME] ever experienced symptoms of shortness of breath						1. Yes 2. No → B07		☐
B02	Do the symptoms of shortness of breath occur in the following conditions: FILL IN THE ANSWER CODE 1=YES OR 2=NO								
	a. exposure to cold air	☐	c. cigarette smoke	☐	e. flu or infection	☐	g. drugs allergy	☐	
	b. dust	☐	d. stress	☐	f. fatigue	☐	h. food allergy	☐	
B03	Are the symptoms of shortness of breath followed by the following conditions : FILL IN THE ANSWER CODE 1=YES OR 2=NO								
	a. Asthma	☐	c. shortness of breath relieves or disappears without treatment					☐	
	b. shortness of breath relieves or disappears with treatment	☐	d. shortness of breath is more severe at night or dawn					☐	
B04	The age when experiencing shortness of breath for the first time?						years		☐ ☐
B05	Does the shortness of breath of [NAME] ever recur within the past 12 months?						1. Yes 2. No		☐
QUESTION B06 IS ASKED IF THE HM IS AGED ≥ 30 years									
B06	Has [NAME] experienced the following symptoms in the past one month? FILL IN THE ANSWER CODE 1 = YES OR 2=NO								
	a. Cough with phlegm	☐	b. Shortness of breath gets more severe when doing activities	☐	c. Shortness of breath gets more severe in line with the increased age			☐	
CANCER (FOR ALL RANGES OF AGE)									
B07	Has [NAME] ever been diagnosed with cancer by a doctor?						1.Yes 2.No → B11		☐
B08	When was [NAME] first diagnosed with cancer?						Year		☐ ☐ ☐ ☐
B09	What kind of cancer is suffered by [NAME]? FILL IN THE ANSWER CODE 1=YES OR 2=NO OR 7=NOT APPLICABLE								
	a. Cervix cancer	☐	d. Colorectal / colon cancer	☐	g. Lymphatic cancer			☐	
	b. Breast cancer	☐	e. Lung and bronchus cancer	☐	h. Blood cancer / leukemia			☐	
	c. Prostate cancer	☐	f. nasopharyngeal cancer	☐	i. Other cancers, mention			☐	
B10	Has [NAME] undergone the cancer treatment below: FILL IN THE ANSWER CODE 1=YES OR 2=NO								
	a. surgery / operation	☐	b. Radiation	☐	c. Chemotherapy	☐	d. Others, Mention		☐
B11	IF THE HM IS AGED ≥ 15 YEARS, GO TO QUESTION B12 IF THE HM IS AGED <15, GO TO BLOCK C								
DIABETES MELITUS FOR HM AGED ≥ 15 YEARS									
B12	Has [NAME] been diagnosed with diabetes by a physician?						1. Yes 2.No → B14		☐
B13	Does [NAME] is now doing the things below to treat diabetes FILL IN THE ANSWER CODE 1=YES OR 2=NO								
	a. Diet	☐	b. Sport	☐	c. Taking anti-diabetic drugs	☐	d. Insulin injection	☐	
B14	Has [NAME] in the past one month experienced the following symptoms: (READ OUT POINTS a - d) FILL IN THE ANSWER CODE 1=YES OR 2 =NO								
	a. often hungry	☐	b. often thirsty	☐	c. frequent urination with large quantity	☐	d. Decreased weight	☐	
HYPERTHYROIDISM (HM MEMBER AGED ≥ 15 YEARS)									
B15	Has [NAME] been diagnosed with hyperthyroidism by a doctor?						1. Yes 2. No		☐

B16	Has [NAME] experienced an enlarged thyroid gland in the neck? (Based on the respondent's reports and / or observation)		1. Yes 2. No	☐
B17	Has [NAME] experienced the symptoms as follows in the past one month:	a. Heart palpitations	1. Yes 2. No	☐
		b. swelter	1. Yes 2. No	☐

HYPERTENSION / HIGH BLOOD PRESSURE (HM MEMBER AGED ≥ 15 YEARS)								
B18	Has [NAME] been diagnosed with hypertension / high blood pressure by a health worker (doctor / nurse / midwife)?		1. Yes	2. No → B20	☐			
B19	When was it first diagnosed		Year	☐ ☐ ☐ ☐				
B20	Is [NAME] now taking medical drugs for high blood pressure		1. Yes	2. No	☐			
CORONARY HEART DISEASE (HM MEMBER AGED ≥ 15 YEARS)								
B21	Has [NAME] ever been diagnosed with coronary heart disease (angina pectoris and / or myocardial infarction) by a doctor?		1. Yes	2. No → B23	☐			
B22	When was it first diagnosed?		Year	☐ ☐ ☐ ☐				
B23	Has [NAME] experienced the symptoms / history of:							
	a. Pain in the chest / distress severe / uncomfortable feeling in chest	1. Yes	2. No → B24	☐				
	b. Pain / uncomfortable feeling in the center of the chest / front left thorax / to the left arm	1. Yes	2. No	☐				
	c. Pain / uncomfortable feeling in the chest when climbing / taking stairs / walking fast	1. Yes	2. No	☐				
	d. The Pain / uncomfortable feeling in the chest disappear when no longer doing the activities?	1. Yes	2. No	☐				
HEART FAILURE DISEASE (HM MEMBER AGED ≥ 15 YEARS)								
B24	Has [NAME] been diagnosed with Decompensatio Cordis by doctor ?		1. Yes	2. No → B26	☐			
B25	When was it first diagnosed?		Year	☐ ☐ ☐ ☐				
B26	Has [NAME] experienced the symptoms / history of:							
	a. Shortness of breath when doing activity	1. Yes	2. No	☐				
	b. Shortness of breath when lying flat without a pillow	1. Yes	2. No	☐				
	c. Physical activity capacity decrease / fatigue	1. Yes	2. No	☐				
	d. Swelling lower extremity	1. Yes	2. No	☐				
KIDNEY DISEASE (HM MEMBER AGED ≥ 15 YEARS)								
B27	Has [NAME] been diagnosed with chronic kidney disease (at least suffering for three months in a row) by a doctor?		1. Yes	2. No	☐			
B28	Has [NAME] been diagnosed with kidney stone disease by a doctor?		1. Yes	2. No	☐			
JOINT DISEASES / RHEUMATISM / GOUT (HM MEMBER AGED ≥ 15 YEARS)								
B29	Has [NAME] ever been diagnosed with joint disease / arthritis / rheumatism by a health worker (doctor / nurse / midwife)?		1. Yes	2. No	☐			
B30	Does [NAME] when waking up in the morning feel pain (read out options a-d) in the joints not caused by accident FILL IN THE ANSWER CODE 1=YES OR 2=NO							
	a. Pain	☐	b. Reddish	☐	c. Stiff	☐	d. Swollen	☐
STROKE (HM MEMBER AGED ≥ 15 YEARS)								
B31	Has [NAME] ever been diagnosed with stroke by a health worker (doctor / nurse / midwife)?		1. Yes	2. No → B33	☐			
B32	When was it first diagnosed?		Year	☐ ☐ ☐ ☐				
B33	Has [NAME] ever had sudden complaints below: FILL IN THE ANSWER CODE 1=YES OR 2=NO							
	a. paralysis on one side of the body	☐	d. loss of speech	☐				

	b. tingling or numbness on one side of the body	☐	e. Difficulty to speak / communicate and understand speech	☐
	c. the mouth becomes wry without the paralysis of the eye muscle muscles	☐		

C. INJURY (FOR ALL RANGES OF AGE)				
C02	In the past 12 months, how many times has [NAME] been injured?			 times
C03	is [NAME] treated?			1. Yes
	2. No → next point			Duration of outpatient (days) Duration of inpatient (days)
	a. Health worker	☐		
	b. Traditional treatment	☐		
	c. Self treatment	☐		
IF THE ACCIDENT OCCURS FOR MORE THAN ONCE, ASK THE MOST SEVERE INJURY ACCORDING TO THE RESPONDENT'S STATEMENT				
C04	Injured body part: (READ OUT POINTS a to f) FILL IN THE ANSWER CODE 1=YES OR 2=NO			
	a. Head	☐	c. Back	☐ e. Upper limbs
	b. Chest	☐	d. Stomach / internal organ	☐ f. Lower limbs
C05	Types of injuries suffered: (READ OUT POINTS a to h) FILL IN THE ANSWER CODE 1=YES OR 2=NO			
	a. Abrasion/bruises	☐	c. Fracture	☐ e. Mutilated body parts
	b. Cut / torn	☐	d. Sprains, kink	☐ f. Eye injury
	Do injuries result in permanent physical disability on the following body parts? (READ OUT POINTS a to c) FILL IN THE ANSWER CODE 1=YES OR 2=NO			g. Concussion
	a. Senses disability (blind, deaf, mute, etc.)	☐	b. Losing of some limbs (broken finger / hand / foot, etc.)	☐
				c. Itchy permanent scar
C07	Location of injury:			☐
	1. House and Surrounding	4. Highway	7. Agricultural Area	
	2. school	5. Business place / service / office / public places	8. Others, write down.....	
	3. Sports Area	6. Industry and Construction		
Area C08	Cause of injury:			☐
	1. Motorbike accident → C09			6. Bitten / stung / attacked by animal → C10
	2. Other land transport accident → C10			7. Falling / hit by objects → C10
	3. Falling (slipped, falling from a height) → C10			8. Poisoned → C10
	4. Hit by sharp or blunt objects, machinery, etc → C10			9. Others, write down..... → C10
	5. Burned / exposure to hot water / chemicals → C10			
C09	If caused by motorcycle accident, did [NAME] wear helmet?			☐
	USE THE INSTRUMENT OF HELMET FIGURE			
	1. Wore tightened standard helmet			4. Not wearing helmet
	2. Wore standard helmet but not tightened			7. Not applicable (not a motorcyclist, eg: a pedestrian hit by a motorcyclist)
	3. Wearing non standard helmet (helmet for cycling, construction/military helmet)			
C10	The injury is caused by:			☐
	1. Violence			3. Disaster
	2. Attempted suicide			4. Omission / Accident
				5. Others
D. DENTAL AND ORAL PROBLEMS (FOR ALL RANGES OF AGE)				
D01	In the past 12 months, does [NAME] have any dental and / or oral problems?			1. Yes 2.No → D07 ☐
D02	Does [NAME] get annoyed with the dental and / or oral problems experienced?			1. Yes 2.No → D04 ☐
D03	On average, how long the daily activities of [NAME] are disrupted by the dental and / or oral problems?			 days
D04	In the past 12 months, has [NAME] received dental and / or oral care?			1. Yes 2.No → D07 ☐

D05	Where did [NAME] seek treatment? FILL IN THE ANSWER CODE 1=YES ATAU 2=NO					
	a. Specialist Dentist	☐	c. Dental worker	☐	e. <i>Tukang Gigi</i>	☐
	b. Dentist	☐	d. Other paramedics	☐	f. Others, write down.....	☐
D06	What types of actions are acceptable [NAME] for oral and dental problems? (READ OUT POINTS a to l) FILL IN THE ANSWER CODE 1=YES ATAU 2=NO					
	a. Filing	☐	e. Scaling	☐	i. Laying off of implant denture	☐
	b. Treatment	☐	f. Laying off of partial dentures (protesa)	☐	j. Counseling on oral hygiene care	☐
	c. Pulling	☐	g. Laying off of full dentures	☐	k. Orthodontic treatment	☐
	d. Oral surgery	☐	h. Laying off of permanent =dentures	☐	l. Periodontal treatment	☐
QUESTION D07 IS SPECIFIC TO HM AGED ≥ 12 YEARS						
D07	Has (NAME) lost all the original tooth?				1. Yes	2. No ☐
IF THE HM IS AGED ≤ 9 YEARS CONTINUE TO BLOCK H. HEALTH FUNDING IF THE HM IS AGED 10–14 YEARS CONTINUE TO BLOCK G. ATTITUDE AND CONDUCT IF THE HM IS AGED ≥ 15 YEARS CONTINUE TO BLOCK E. DISABILITY						
E. DISABILITY (HM AGED ≥ 15 YEARS)						
Now I will ask the state of health according to your [NAME] judgment Health condition here refers to the physical and mental state of [NAME]						
E01	During the past one month, in general, what is the health condition of [NAME]?				1. Good	2. Fair
					3. Bad	☐
READ OUT: To better understand the health condition of [NAME], we will ask 15 questions. IF [NAME] does not understand a question, we will read it out one more time but we will not explain/discuss it. IF [NAME] has question, we shall discuss it after you answer the 15 th question.						
FOR QUESTIONS E02 – E13, READ OUT THE QUESTIONS & OPTIONS. FILL IN THE ANSWER CODE: 1. NONE 2. MILD 3. MEDIUM 4. SEVERE 5. VERY SEVERE						
E02	In the past 1 month how difficult it is for [NAME] to stand for long periods such as 30 minutes		☐	E08	In the past 1 month how difficult it is for [NAME] to walk far, eg for 1 km?	
E03	In the past 1 month how difficult it is for [NAME] to carry out or do household activities under your responsibility?		☐	E09	In the past 1 month how difficult it is for [NAME] to clean his body/take a bath?	
E04	In the past 1 month how difficult it is for [NAME] to <u>learn/ do new things</u> , such as to find a new place/address?		☐	E10	In the past 1 month how difficult it is for [NAME] to wear clothes=?	
E05	In the past 1 month how difficult it is for [NAME] to <u>take part in public activity</u> (eg in the activities of gathering, recitals, religious, or other activities) like everyone else?		☐	E11	In the past 1 month how difficult it is for [NAME] to interact with strangers?	
E06	In the past 1 month how much the health problems experienced by [NAME] influence your emotional state?		☐	E12	In the past 1 month how difficult it is for [NAME] to <u>maintain friendship</u> ?	
E07	In the past 1 month how difficult it is for [NAME] to <u>concentrate on doing something for 10 minutes</u> ?		☐	E13	In the past 1 month how difficult it is for [NAME] to do daily works?	
IF ALL ANSWERS TO QUESTIONS E02-E13 HAVE THE CODE "1" → GO TO BLOCK F. MENTAL HEALTH IF THE ANSWERS TO QUESTIONS E02-E13 HAVE THE CODES "2", "3", "4", "5" → GO TO E14						
FOR QUESTIONS E14-E16 READ OUT AND FILL OUT THE NUMBER OF DAYS OF EXPERIENCING DIFFICULTY						
E14	In the past 1 month, how many days did [NAME] experience the difficulty?				Days	
E15	In the past 1 month, how many days was [NAME] totally unable to do daily activities due to the health conditions?				 Days	

E16	In the past 1 month, excluding the number of days [NAME] experienced disability, how many days did [NAME] reduce the daily activities due to the health conditions?	... Days	
-----	---	----------	---

F. MENTAL HEALTH (ALL HMs AGED ≥ 15 YEARS)						
ASKED FOR THE CONDITION OF THE PAST 1 MONTH						
To better understand the health condition of [NAME], we will ask 20 questions that need "Yes" or "No" answers. IF [NAME] does not understand a question, we will read it out one more time but we will not explain/discuss it. IF [NAME] has question, we shall discuss it after you answer the 20 th question.						
FOR QUESTIONS F01-F20, FILL WITH THE CODE 1=YES OR 2=NO						
				daily?	☐	
F02	Does [NAME] have no appetite?	☐	F12	Does [NAME] feel difficult to make decision?	☐	
F03	Does [NAME] have trouble sleeping?	☐	F13	Are the daily works of [NAME] hampered?	☐	
				Useful in life?	☐	
F05	Does [NAME] feel worried, anxious or concerned?	☐	F15	Does [NAME] loss interest in various things?	☐	
F06	Do the hands of [NAME] shake?	☐	F16	Does [NAME] feel invaluable?	☐	
				hidup?	☐	
F08	Does [NAME] have trouble to think clearly?	☐	F18	Does [NAME] feel tired at all times?	☐	
F09	Does [NAME] feel unhappy?	☐	F19	Does [NAME] feel uncomfortable in the stomach?	☐	
F10	Does [NAME] cry often?	☐	F20	Does [NAME] get tired easily?	☐	
IF ONE OF THE ANSWERS TO QUESTIONS F01-F20 HAS THE CODE „1=YES“ → GO TO F21 IF ALL ANSWERS TO QUESTIONS F01-F20 HAVE THE CODE „2=NO“ →GO TO BLOCK G. KNOWLEDGE, ATTITUDE, BEHAVIOR						
F21	For all the complaints mentioned above (F1 to 20), has [NAME] ever sought medication from health facilities / health workers?			1. Yes 2.No →G	☐	
F22	For all the complaints mentioned above (F1 to 20), has [NAME] ever sought medication from health facilities / health personnel in the pas 2 weeks?			1. Yes 2.No	☐	
G. KNOWLEDGE, ATTITUDE, BEHAVIOR (ALL HMs AGED ≥ 10 YEARS)						
HYGIENE BEHAVIORS						
G01	Does [NAME] Always wash hands with soap? (READ OUT POINTS a to f) FILL IN THE ANSWER CODE 1=YES ATAU 2=NO OR 7= NOT APPLICABLE					
	a. Before preparing food	☐	d. After cleaning baby	☐		
	b. Whenever the hands are dirty (after holding money or pets, gardening)	☐	e. After using pesticides / insecticides	☐		
	c. After defecation	☐	f. Before feeding baby	☐		
G02	Where does [NAME] normally defecate? (DO NOT READ OUT THE OPTIONS) 1. Toilet 3. River/lake/see 5. Beach/vacant land/ garden/ yard 2. Pond/rice field/sewer 4. Hole in the ground				☐	
G03	Apakah [NAME] biasa menyikat gigi setiap hari?			1. Yes 2. No →G05	☐	
G04	When does [NAME] brush teeth? (DO NOT READ OUT POINTS a to f) FILL WITH THE CODE 1=YES OR 2=NO					
	a. At morning bath	☐	c. After breakfast	☐	e. Before bedtime	☐
	b. At evening bath	☐	d. After reveille	☐	f. After lunch	☐
USE OF TOBACCO						
G05	Has [NAME] smoked during the past one month? (READ OUT THE OPTIONS)					

	1. Yes, everyday →G06 2. Yes, sometimes →G07 3. No, but [NAME] used to smoke everyday →G06	4. No, but [NAME] used to smoke sometimes →G07 5. Never →G13	
-------------	---	--	-------------

G06	At what age did [NAME] start smoking everyday? FILL WITH "98" IF THE RESPONDENT ANSWERS [NAME] DOES NOT REMEMBER		 year	
G07	At what age did [NAME] start smoking? FILL WITH "98" IF THE RESPONDENT ANSWERS [NAME] DOES NOT REMEMBER		 year	
QUESTION G08 COLUMN (1) IS FILLED WHEN G05 HAS THE CODES 1 OR 3 QUESTION G08 COLUMN (2) IS FILLED WHEN G05 HAS THE CODES 2 OR 4				
G08	On average how many cigarettes / cigars / pipes taken by [NAME] per day or per weeks?		Pcs/day (1)	Pcs/week (2)
	a. Cigarettes (kretek, white, and rolled)			
	b. Cigar / pipe			
G09	Name the type of cigarettes regularly smoked by [NAME]: (READ OUT POINTS a to d) FILL WITH CODE 1=YES OR 2=NO			
	a. Rokok kretek		b. White cigarette	
	c. Rolled cigarettes.		d. Pipe / cigar	
IF G05 HAS THE CODES 1 OR 2 CONTINUE TO QUESTION G10 IF G05 HAS THE CODES 3 OR 4 CONTINUE TO QUESTION G12				
G10	Where does [NAME] usually smoke?			
	a. Indoor	1. Yes	2. No	
	b. Outdoor	1. Yes	2. No	
G11	Does [NAME] smoke in the house when other HMs are present?	1. Yes → G14	2. No → G14	
G12	At what age does [NAME] stop smoking? FILL WITH "98" IF THE RESPONDENT ANSWERS [NAME] DOES NOT REMEMBER		 years	
G13	How often people smoke close to [NAME] in enclosed spaces (including at home, workplace, and means of transport)		1. Yes, everyday 2. Yes, sometimes 3. Never	
G14	Has [NAME] chewed tobacco (<i>nginang, nyirih, susur</i>) in the past one month? (READ OUT THE OPTIONS) 1. Yes, everyday 2. Yes, sometimes 3. No, but [NAME] used to chew tobacco everyday 4. No, but [NAME] sometimes used to chew tobacco 5. Never			
G15	Does [NAME] agree with the No-Smoking Area (KTR) policy?	1. Yes	2. No	
PHYSICAL ACTIVITY (USE INSTRUMENT)				
Below are the questions on physical activities associated with work and leisure time				
G16	Does [NAME] do heavy physical activity continuously for at least 10 minutes at a time?	1. Yes	2. No → G19	
G17	How many days in a week does [NAME] normally do the heavy physical activity?	days		
G18	In a day, how long does [NAME] normally do the heavy physical activity?	hours minutes		
G19	Does [NAME] do moderate physical activity continuously for at least 10 minutes at a time?	1. Yes	2. No → G22	
G20	How many days in a week does [NAME] normally do the moderate physical activity?	days		
G21	In a day, how long does [NAME] normally do the moderate physical activity?	hours minutes		
G22	How long does [NAME] sit or lie down a day? (At work, at home, when on travel, including the time for talking, transportation by car, bus, train, reading, playing games or watching television but excluding bedtime [IF ≥ 10 HOURS FILL "9" IN THE HOURS BOX AND "60" IN THE MINUTES BOX])		hours minutes	

BASIC HEALTH RESEARCH 2013 3

Hb03	In the past one month has [NAME] used health facilities for outpatient due to health problems						1. Yes 2.No → P.Hc01		☐
	Types of health facilities used			Frequency during one month	Cost for one month (incl. medical and drugs expenses)			Source of fund	
	1			2	3			4	
	a. Govt. Hospital	1. Yes 2.No →Hb03b	☐	☐ ☐ ☐	☐ ☐ ☐ . ☐ ☐ ☐ ☐ . ☐ ☐ ☐ ☐			☐ ☐ ☐	
	b. Private hospital	1. Yes 2.No →Hb03c	☐	☐ ☐ ☐	☐ ☐ ☐ . ☐ ☐ ☐ ☐ . ☐ ☐ ☐ ☐			☐ ☐ ☐	
	c. Maternal hospital	1. Yes 2.No →Hb03d	☐	☐ ☐ ☐	☐ ☐ ☐ . ☐ ☐ ☐ ☐ . ☐ ☐ ☐ ☐			☐ ☐ ☐	
	d. PHC/Sub PHC	1. Yes 2.No →Hb03e	☐	☐ ☐ ☐	☐ ☐ ☐ . ☐ ☐ ☐ ☐ . ☐ ☐ ☐ ☐			☐ ☐ ☐	
	e. Doctor's practice	1. Yes 2.No →Hb03f	☐	☐ ☐ ☐	☐ ☐ ☐ . ☐ ☐ ☐ ☐ . ☐ ☐ ☐ ☐			☐ ☐ ☐	
	f. Nurse's practice	1. Yes 2.No →Hb03g	☐	☐ ☐ ☐	☐ ☐ ☐ . ☐ ☐ ☐ ☐ . ☐ ☐ ☐ ☐			☐ ☐ ☐	
	g. Village polyclinics/health	1. Yes 2.No →Hb03h	☐	☐ ☐ ☐	☐ ☐ ☐ . ☐ ☐ ☐ ☐ . ☐ ☐ ☐ ☐			☐ ☐ ☐	
h. other health worker's practice	1. Yes 2.No →Hb03i	☐	☐ ☐ ☐	☐ ☐ ☐ . ☐ ☐ ☐ ☐ . ☐ ☐ ☐ ☐			☐ ☐ ☐		
i. Overseas health facility	1. Yes 2.No →Hc01	☐	☐ ☐ ☐	☐ ☐ ☐ . ☐ ☐ ☐ ☐ . ☐ ☐ ☐ ☐			☐ ☐ ☐		
Code of Source of Fund for column 4									
1 = Own fund 2 = PT ASKES (employee)		4 = PT ASTEK/ Jamsostek 8 = ASABRI		16 = P. health ins. 32 = Jamkesmas		64= Reg. Hlth. Ins. 128= Corporate benefit		256= others	
Hc. INPATIENT									
Hc01	Has [NAME] in the past 12 months (1 year) used health facilities for inpatient Because of health problems?						1. Yes 2.No → Hc02		☐
	Types of health facilities used			No. of inpatient days	Total costs for one year (including medical and drugs expenses)			Source of fund	
	1			2	3			4	
	a. Govt. Hospital	1. Yes 2.No →Hc01b	☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ . ☐ ☐ ☐ ☐ . ☐ ☐ ☐ ☐			☐ ☐ ☐	
	b. Private hospital	1. Yes 2.No →Hc01c	☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ . ☐ ☐ ☐ ☐ . ☐ ☐ ☐ ☐			☐ ☐ ☐	
	c. Maternal hospital	1. Yes 2.No →Hc01d	☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ . ☐ ☐ ☐ ☐ . ☐ ☐ ☐ ☐			☐ ☐ ☐	
	d. PHC/Sub PHC	1. Yes 2.No →Hc01e	☐	☐ ☐ ☐ ☐	☐ ☐ . ☐ ☐ ☐ ☐ . ☐ ☐ ☐ ☐			☐ ☐ ☐	
	e. Doctor's practice	1. Yes 2.No →Hc01f	☐	☐ ☐ ☐ ☐	☐ ☐ . ☐ ☐ ☐ ☐ . ☐ ☐ ☐ ☐			☐ ☐ ☐	
	f. Nurse's practice	1. Yes 2.No →Hc01g	☐	☐ ☐ ☐ ☐	☐ ☐ . ☐ ☐ ☐ ☐ . ☐ ☐ ☐ ☐			☐ ☐ ☐	
	g. Village polyclinics/health	1. Yes 2.No →Hc01h	☐	☐ ☐ ☐ ☐	☐ ☐ . ☐ ☐ ☐ ☐ . ☐ ☐ ☐ ☐			☐ ☐ ☐	
h. other health worker's	1. Yes 2.No →Hc01i	☐	☐ ☐ ☐ ☐	☐ ☐ . ☐ ☐ ☐ ☐ . ☐ ☐ ☐ ☐			☐ ☐ ☐		
i. Overseas health facility	1. Yes 2.No →Hc02	☐	☐ ☐ ☐ ☐	☐ ☐ ☐ . ☐ ☐ ☐ ☐ . ☐ ☐ ☐ ☐			☐ ☐ ☐		
Code of Source of Fund for									
1 = Own fund 2 = PT ASKES (employee)		4 = PT ASTEK/ Jamsostek 8 = ASABRI		16 = P. health ins. 32 = Jamkesmas		64= Reg. Hlth. Ins. 128= Corporate benefit		256= others	
Hc02. CHECK THE AGES OF HOUSEHOLD MEMBERS									
HMs aged 0 – 59 MONTHS → BLOCK J				FEMALE aged 10 – 54 YEARS → BLOCK I					
FEMALE aged 5 – 9 YEARS → BLOCK Jc				OTHER HMs → BLOCK K (MEASUREMENT AND CHECK)					

I. REPRODUCTIVE HEALTH (SPECIFICALLY FOR FOR FEMALE RESPONDENT AGED 10-54 YEARS)								
Ia. FAMILY PLANNING								
We will take note on the use of family planning instruments/methods to women aged 10-54 years. Excuse us if [NAME] has never used family planning tools but please answer the questions according to the fact								
Ia01	Is [NAME] or her spouse, now using to prevent or delay pregnancy?			1. Yes, now using 2. Yes, used to use it but now is not using → Ia06 3. Has never used → Ia07		☐		
Ia02	What are the family planning instruments used by [NAME] or her spouse? READ OUT points a to j FILL IN THE CODE 1=YES OR 2 = NO							
	a. Condom	☐	d. IUD/AKDR/Spiral	☐	g. Woman's condom/ Inravag	☐	i. Implant	☐
	b. Male sterilization	☐	e. Injection	☐	h. Diaphragm	☐	j. Herbs	☐
	c. Pills	☐	f. Female sterilization	☐				
IF ALL ANSWERS TO POINTS a TO j HAVE CODE 2 → Ia05								
Ia03	Where do you usually obtain the family planning instrument/method? NOTE: IF THERE ARE TWO FAMILY PLANNING INSTRUMENTS/METHODS USED, SELECT THE FOLLOWING ANSWER CODE WITH THE INSTRUMENTS/METHODS USED BY THE WOMAN						☐	☐
	01. Govt Hospital	05. Sub PHC	09. Midwife's	12. Integrated				
	02. Private Hospital	06. Clinic / Medical Station	10. Nurse's practice	13. Pharmacy / Drugstore → Ia05				
	3. Maternal hospital	7. Mobile FP/Health workers	11. Village polyclinic/PHC	14. Others → Ia05				
	4. PHC	8. Doctor's practice						
Ia04	Who normally gives the family planning instrument/method?			1. Obstetrician 2. GP		3. Midwife 4. Nurse		☐
Ia05	Does [NAME] or her spouse use natural family planning method? READ OUT POINTS a to c. FILL IN THE CODE 1=YES OR 2 = NO							
	a. Natural breastfeeding method	☐	b. Avoiding intercourse based on calendar dates	☐	c. Interrupted intercourse		☐	
CONTINUE TO BLOCK Ib								
Ia06	When did [NAME] lastly use family planning instrument/method?			MM/YY:/.....		☐ ☐ /.....		
Ia07	Main reason for not using family planning instrument/method? DO NOT READ OUT THE OPTIONS JAWABAN						☐	☐
	Status 1. Single/divorced 2. Has not had period 3. Expecting 4. Breastfeeding Lack of knowledge: 5. Not knowing the method 6. Not knowing where to obtain FP	Fertility 7. Abstinence 8. Menopause/ hysterectomy 9. Infertile 10. Has not been pregranant after last delivery 11. Has not had child 12. Want to have more child 13. Belief	Against FP 14. refuses / against FP 15. prohibited by spouse 16. prohibited by other people 17. prohibited by religion	FP instrument/method: 18. Becoming fat/thin 19. Difficult to obtain 20. Expensive 21. The desired FP instrument/method is unavailable 22. Inconvenient 23. Health/fear of other side effect samping lain				
Ib. HISTORY OF PREGNANCY OF THE RESPONDENT'S LIFE								
Ib01	How old was [NAME] when getting married or living together for the first time? IF SHE HAS NEVER GOT MARRIED/LIVED TOGETHER, FILL IN THE CODE "77"			age years		☐ ☐		
Ib02	How old was [NAME] when having sex for the first time IF SHE HAS NEVER HAVING SEX, FILL IN THE CODE "77"			age years		☐ ☐		
Ib03	Is [NAME] now living at the same house with the husband or living separately?			1. Living together 2. living separately		7. Not applicable ☐		
Ib04	Is [NAME] now pregnant / has ever been pregnant?			1. Yes 2. Never → Ic41 3. Cannot get pregnant → Ic41		☐		
Ib05	In total, how many times has [NAME] got pregnant (including current), total miscarriage, total living children, and total children died after delivery?							
	a. Total number of pregnancy.....			☐ ☐	c. total living children.....		☐ ☐	
	b. Total number of miscarriage.....			☐ ☐	d. children died after delivery.....		☐ ☐	
Ib06	Age of [NAME] at the first pregnancy?			 years		☐ ☐		

Ic. HISTORY OF PREGNANCY, DELIVERY AND MATERNAL PERIOD						
SPECIFICALLY FOR WOMEN AGED 10-54 YEARS THAT HAVE BEEN PREGNANT WITHIN THE PAST 3 YEARS BEFORE THE SURVEY						
Ic01	Has [NAME] been pregnant <u>between</u> 1 January 2010 until the present (including the present pregnancy)?				1. Yes 2. No → Ic41	☐
Ic02	IF YES, total pregnancy from 1 January 2010 until the present? IF TWINS, THE PREGNANCY NUMBER IS BASED ON THE NUMBER OF TWINS				 times	☐
I will now ask about pregnancy, delivery and maternal period from 1 January 2010 until the present						
ASK THE HISTORY OF PREGNANCY FROM THE LAST PREGNANCY. FOR QUESTIONS Ic03 – Ic40. IF > 1 PREGNANCY REPEAT QUESTIONS Ic03-Ic40 FOR THE PRIOR PREGNANCY (NEXT COLUMN). IF > 3 PREGNANCY → USE ADDITIONAL PAPER					Kehamilan Terakhir	Kehamilan Sebelumnya
					(1)	(2)
					(3)	
Ic03	Serial number of pregnancy from the total pregnancy		PREGNANCY NUMBER		☐ ☐	☐ ☐
Ic04	NAME OF CHILD		IF THE CHILD HAS NOT BEEN NAMED, WRITE “NN”			
Ic05	Child serial no. in the family (REFERS TO BLOCK IV)		IF NOT HM / NOT INCLUDED IN BLOCK IV WRITE “00”		☐ ☐	☐ ☐
Ic06	Result of pregnancy		1. Alive 2. Die after delivery	3. Miscarriage 4. Is now pregnant → Ic08	☐	☐
Ic07	Is it a single or twin pregnancy?		1. Single	2. Twins	☐	☐
Ic08	Total weeks lapsed when the pregnancy ends? IF THE RESPONDENT IS PREGNANT, FILL IN THE TOTAL WEEKS LAPSED		 WEEKS		☐ ☐	☐ ☐
Ic09	During the pregnancy, has [NAME] checked the pregnancy to a health worker (obstetrician, GP, midwife or nurse)?		1. Yes 2. No → Ic14		☐	☐
Ic10	How old is the gestation of [NAME] when checking pregnancy for the first time?		 MONTH FILL “88” IF UNKNOWN		☐ ☐	☐ ☐
Ic11	During this pregnancy, how many times has [NAME] checked the pregnancy: IF THE PREGNANCY ENDS WITH MISCARRIAGE/ PREMATURE DELIVERY/HAS NOT BEEN DELIVERED FILL IN THE CODE “77” IN THE PREGNANCY AGE		a. Aged 0 – 3 months times		a. ☐ ☐	a. ☐ ☐
			b. Aged 4 – 6 months times		b. ☐ ☐	b. ☐ ☐
			c. Aged 7 months-delivery..... times		c. ☐ ☐	c. ☐ ☐
Ic12	Who normally checks the pregnancy?		1. Obstetricians 2. GP	3. Midwife 4. nurse	☐	☐
Ic13	Where does [NAME] normally checks the pregnancy?		1. Govt Hospital 2. Pvt Hospital 3. Maternal clinics 4. PHC/Sub PHC 5. GP Practice/ Clinic	6. Midwife nurse 7. Village PHC/Polyclinics 8. Int. Health Service Post 9. Other	☐	☐
Ic14	During pregnancy does [NAME] take iron pill (Fe) / iron tablet? SHOW THE INSTRUMENT		1. Yes 2. No → Ic16		☐	☐
Ic15	During this pregnancy, how many days does [NAME] take the iron pill (Fe) / iron tablet? IF UNKNOWN FILL IN THE CODE “998”		 HARI		☐ ☐ ☐	☐ ☐ ☐
Ic16	Do you have KIA book? IF YES: can I see it?		1. Yes, the book is shown 2. Yes, the book is not shown → Ic18 3. Does not have → Ic18		☐	☐
Ic17	IF THE KIA BOOK IS SHOWN, OBSERVE PAGE 13. 1. Filled 2. Not filled		a. birth attendant		☐	☐
			b. delivery fund		☐	☐
			c. Village ambulance/vehicle		☐	☐
			d. FP after pregnancy		☐	☐
			e. Blood donor		☐	☐

Ic18	PAST PREGNANCY (Ic06 = 1-3) → Ic19 IF CURRENTLY PREGNANT (Ic06 = 4) → TO Ic31						
ASK THE HISTORY OF PREGNANCY ONE BY ONE FROM THE LAST PREGNANCY. FOR QUESTIONS Ic03 – Ic40. IF > 3 PREGNANCIES → USE ADDITIONAL PAPER					Last pregnancy (1)	Prior pregnancy (2)	Prior pregnancy (3)
Ic19	Month and year the pregnancy ends?	MM/YY..... /	MM	MM	MM	YY	YY
Ic20	Type of delivery? 1. Normal 3. Forceps 5. Spontaneous Abortion 7. others 2. Vacuum 4. Caesarean section 6. curettage		☐	☐	☐		
Ic21	Attendant of [NAME] at the time of delivery / miscarriage / abortion? (IF MORE THAN ONE, WRITE DOWN THE CODE OF THE ATTENDANT) A. Obstetrician B. Gen. Practitioner C. Midwife E. Traditional midwife D. Nurse/other health workers F. Helped by family members/others Z. No attendant						
Ic22	Where does [NAME] deliver / experience miscarriage? PICK ONE OF THE PLACE OF DELIVERY / MISCARRIAGE	1. Govt. Hospital 6. PHC 2. Pvt. Hospital 7. Sub PHC 08. Village 3. Maternal Clinic PHC/polyclinic 4. Clinic 9. At home → Ic24 5. H.W. Practice 10. Others → Ic24	☐ ☐	☐ ☐	☐ ☐		
Ic23	How long is [NAME] treated at the health facility since the delivery / miscarriage until the patient goes home?	 DAY IF < 1 DAY FILL „00”	☐ ☐	☐ ☐	☐ ☐		
Ic24	After the delivery/miscarriage, does [NAME] visit the health facility or is she visited by health workers during the following period ?						
	a. 6 hours-3 days after delivery	1. Yes 2. No → Ic24c	a. ☐	a. ☐	a. ☐		
	b. If yes, Where was the service of health worker obtained	See the code below	b. ☐ ☐	b. ☐ ☐	b. ☐ ☐		
	c. 4 days-6 days after delivery	1. Yes 2. No → Ic24e 7. Not applicable → Ic25	c. ☐	c. ☐	c. ☐		
	d. If yes, Where was the service of health worker obtained	See the code below	d. ☐ ☐	d. ☐ ☐	d. ☐ ☐		
	e. 7 days -28 days after delivery	1. Yes 2. No → Ic24g 7. Not applicable → Ic25	e. ☐	e. ☐	e. ☐		
	f. If yes, Where was the service of health worker obtained	See the code below	f. ☐ ☐	f. ☐ ☐	f. ☐ ☐		
	g. 29 days – 42 days after delivery	1. Yes 2. No → Ic25 7. Not applicable → Ic25	g. ☐	g. ☐	g. ☐		
	h. If yes, Where was the service of health worker obtained	See the code below	h. ☐ ☐	h. ☐ ☐	h. ☐ ☐		
	Code Ic24b, Ic24d, Ic24f, Ic24h	1. Govt. Hospital 03. Maternal clinic 5. GP practice 07. PHC 08. Village 2. Pvt. Hospital 04. Clinic 6. Midwife practice polyclinic / PHC 9. At home 10. Others					
Ic25	Does at the period of 2 months after delivery/ miscarriage [NAME] is given the service of putting on FP instrument/method?	1. Yes 2. No	☐	☐	☐		
IF THE BABY IS ALIVE (Ic06 WITH THE CODE 1) → CONTINUE TO QUESTION Ic26 IF THE RESPONDENT IS PREGNANT/ EXPERIENCING MISCARRIAGE/ THE BABY IS DEAD (Ic06 CODES 2, 3 OR 4) → Ic30							
			Last pregnancy (4)	Prior pregnancy (5)	Prior pregnancy (6)		
Ic26	IS [CHILD NAME] still alive?	1. Yes 2. No	☐	☐	☐		
Ic27	How old is [CHILD NAME]? (IF DEMISED, how old is [NAME] when passing away?)	CODE: 1. Day 2. Month	CODE	CODE	CODE		
		AGE:	AGE	AGE	AGE		

ASK THE PREGNANCY ONE BY ONE FROM THE LAST PREGNANCY. FOR QUESTIONS Ic03 – Ic40. IF > 3 PREGNANCY → USE ADDITIONAL PAPER		Last pregnancy	Prior pregnancy	Prior pregnancy
		(1)	(2)	(3)
Ic28	Does [CHILD NAME] have birth weight documents	1. Yes		
	lahir?	2. No → Ic30		
Ic29	What is the weight of [CHILD NAME] at birth?	 gram		
Ic30	Did during the pregnancy, delivery and maternal perid [NAME] experience :	a. Pregnancy	a.	a.
	A. Shortness of breath B. convulsions C. Fever D. Anemia E. Severe headache F. Severe stomach pain	G. Bleeding (>2 bandage) H. Problems with fetus I. Swollen feet/limbs J. Premature rupture of amniotic K. Delivery > 24 hours L. Hypertension	X. Others Z. No complication	b. Delivery
	THE ANSWER CAN BE MORE THAN ONE. WRITE DOWN THE CODE OF COMPLICATION OR LETTER "Z" IF THERE IS NO COMPLICATION		c. Childbed	c.
Ic31	During pregnancy, does [NAME] have delivery insurance (Jampersal) from the government?	1. Yes 2. No → Ic33		
Ic32	Does [NAME] use Jampersal at the time of:			
	a. Pregnancy check/pregnancy	1. Yes 2. No		
	Complication check	1. Yes 7. Not applicable		
	b. Labor / management of complications	2. No		
	c. Mother health check after delivery (0-42 days)	1. Yes 7. Not applicable		
	d. Neonatal health check (0-28 days)	2. No		
	e. FP after delivery (Post delivery FP)	1. Yes 7. Not applicable		
		2. No		
Ic33	At this pregnancy does [NAME] expect the pregnancy/ expect to suspend/ does not expect the pregnancy?	1. Expecting pregnancy → Ic35 2. Expecting to suspend → Ic34 3. Not expecting at all → Ic35		
Ic34	If she wishes to suspend, how long is the expected gap with this pregnancy?			
Ic35	Any effort to realize/terminate the pregnancy?	 MONTH		
	mengakhiri kehamilan tersebut?	1. Yes 2. No → Ic38		
Ic36	IF YES, what is the main reason to terminate the pregnancy? (DO NOT READ OUT THE OPTION)			
	1. Just getting pregnant/experiencing miscarriage 2. Still young 3. The number of children has been enough	4. Professional reason 5. Economic reason 6. Old Age	7. Others, mention....	
Ic37	What is the method to terminate the pregnancy? THE ANSWER MAY BE MORE THAN ONE. WRITE DOWN THE CODE	A. Herbs B. Pills C. Massage D. Injection	E. Suction F. Curettage X. Others, mention.....	
Ic38	After the last pregnancy, when did [NAME] get her period ?	KODE: 1. HARI 2. MONTH	KODE	
Ic39	IF CURRENTLY PREGNANT FILL IN THE CODE "2" AND "00"	LAST PERIOD : AGO		
	After the last pregnancy, does [NAME] still wish to have another child?	1. Yes 2. No → Ic41 3. Has not made plan → Ic41		
Ic40	If yes, how long is the expected gap for The next child?	 month		
IF THERE IS MORE THAN ONE HISTORY OF PREGNANCY GO BACK TO QUESTION Ic03 FOR THE HISTORY OF PREVIOUS PREGNANCY				

FEMALE HM AGED 10 – 11 YEARS → BLOCK Jc (PC) FEMALE HM AGED 12-34



THE REPUBLIC OF INDONESIA
THE MINISTRY OF HEALTH
HEALTH RESEARCH AND DEVELOPMENT AGENCY
BASIC HEALTH RESEARCH 2013
HOUSEHOLD AND INDIVIDUAL QUESTIONNAIRE

CONFIDENTIAL

RKD13. IND

LOCATION IDENTIFICATION															
Province	Regency/City	District	Village/Sub District	D/K	Sample Code No.						Census Building No.	Household Serial No.			

Copy from Blok I LOCATION IDENTIFICATION RKD13.RT

X. DESCRIPTION OF INDIVIDUAL INTERVIEW			
1	Date of first visit: DD-MM-YY	- -	3 Name of data collector
2	Date of last visit: DD-MM-YY	- -	4 Signature of data collector

XI. DESCRIPTION OF INDIVIDUAL IDENTIFICATION OF RESPONDENTS			
1	Write down the name and serial number of household members (HMs)	HH Name	HM Serial Number:
HM SERIAL No. FOR QUESTIONS XI.2, XI.3, XI.4 IF NOT HM IN THIS QUESTIONNAIRE FILL „00”			
2	Write down the name and serial number of the biological father	HH Name	HM Serial Number:
3	Write down the name and serial number of the biological mother	HH Name	HM Serial Number:
4	For HM aged < 15 years/ sick members / old HMs that need assistance, write down the name and serial number of the assisting HM	HH Name	HM Serial Number:

A. CONTAGIOUS DISEASE			
The [NAME] in the following question refers to the NAME in question XI.1 QUESTIONS OF SECTION A01 – A23 SHALL BE ASKED TO ALL CLASSIFICATIONS OF AGE			
ACUTE RESPIRATORY TRACT INFECTION (ISPA)			
A01	Within the past one month , has [NAME] been diagnosed with ISPA (fever, cough and influenza, sore throat) by a health worker (doctor / nurse / midwife)?	1. Yes → A03 2. No 8. Unknown	☐
A02	Within the past one month , has [NAME] ever suffered from fever with productive / dry cough or fever?	1. Yes 2. No 8. Unknown	☐
DIARRHEA / LOOSE STOOLS			
A03	Has [NAME] been diagnosed with diarrhea by a health worker (doctor / nurse / midwife)?	1. Yes, within the past ≤ 2 weeks → A05 2. Yes, > 2 weeks – 1 month → A05 3. No 8. Unknown	☐
A04	Has [NAME] ever suffered from defecating for more than 3 times a day with soft or liquid feces?	1. Yes, within the past ≤ 2 weeks 2. Yes, > 2 weeks – 1 month 3. No → A06 8. Unknown → A06	☐
A05	Has [NAME] taken medicine to cure the diarrhea disease / complaint? (READ OUT THE QUESTION POINTS) FILL IN THE ANSWER CODE 1=YES OR 2=NO		
	a. ORS	☐	c. Anti-diarrea non-prescription drugs
	b. Prescription drugs	☐	d. Traditional drugs
	e. Zinc (for toddlers)	☐	f. Other anti-diarrhea drugs

PNEUMONIA				
A06	Has [NAME] been diagnosed with pneumonia with or without rontgen by a health worker (doctor / nurse / midwife)?		1. Yes, within the past ≤ 1 month →A09 2. Yes, > 1 month – 12 months →A09 3. No 8. Unknown	☐
A07	Has [NAME] had symptoms of fever, cough, shortness of breath with or without chest pain?		1. Yes, within the past ≤ 1 month 2. Yes, > 1 month – 12 months 3. No →A09 8. Unknown →A09	☐
A08	If Yes, what is the breath difficulty experienced ?(READ OUT THE QUESTION POINTS AND SHOW THE FIGURE) FILL IN THE ANSWER CODE 1=YES OR 2=NO			
	a. rapid breathing	☐	c. Inward movement of the lower chest	☐
	b. nasal flaring	☐		
MALARIA				
A09	Has [NAME] been diagnosed with Malaria confirmed by blood tests by a health worker (doctor / nurse / midwife)?		1. Yes, within the past ≤ 1 month 2. Yes, > 1 month – 12 month 3. No →A14 8. Unknown →A14	☐
A10	What type of malaria is found in the blood tests? (CAN BE > 1 ANSWERS, IF > 1, SUM UP THE ANSWER CODE)		1. Tropics Malaria (P. falciparum) 2. Tertian Malaria (P. vivax) 4. Other type 8. Unknown	☐
A11	Has [NAME] received artemisinin combination drug treatment program (ACT, see the instruments)?		1. Yes 2. No →A16 8. Unknown →A16	☐
A12	When did [NAME] receive the artemisinin combination drug treatment program (ACT)		1. Within the first 24 hours after the fever 2. More than the first 24 hours after the fever	☐
A13	Has [NAME] been given artemisinin combination therapy (ACT) for 3 days?		1. Yes, consumed until finished within 3 days 2. Yes, not consumed until finished within 3 days 3. No	☐
CONTINUE TO A16				
A14	Has [NAME] had chills or fever on a regular basis accompanied by headache, sweating, nausea, vomiting?		1. Yes, within the past ≤ 1 month 2. Yes, > 1 month – 12 month 3. No 8. Unknown	☐
A15	Within the past one month, has [NAME] taken anti-malarial drugs with or without the symptoms of fever?		1. Yes 2. No 8. Unknown	☐
PULMONARY TUBERCULOSIS				
A16	Does [NAME] cough lately?		1. Yes, for < 2 weeks 2. Yes, for ≥ 2 weeks 3. No →A18	☐
A17	If yes if the cough is accompanied by the symptoms of FILL IN THE ANSWER CODE 1=YES OR 2=NO			
	a. phlegm	☐	c. Fever	☐
	b. Blood / phlegm mixed with blood	☐	d. Chest pain	☐
			e. Shortness of breath	☐
			f. Sweating at night without physical activity	☐
			g. Decreased appetite	☐
			h. Weight loss / difficult to increase weight	☐
A18	Has [NAME] ever been diagnosed with pulmonary TB by a health worker?		1. Yes, within the past ≤ 1 year 2. Yes, > 1 year 3. No →A21	☐
A19	What is the result of check used for diagnosis FILL IN THE ANSWER CODE 1=YES 2=NO 3= NOT CHECKED 4. PENDING RESULT 8. UNKNOWN			
	a. Pghelm check indicating TB	☐	b. Rontgen indicating TB	☐
A20	Has [NAME] been given anti TB drugs (OAT) SEE THE INSTRUMENT		1. Yes 2. No	☐
HEPATITIS				
A21	In the past 12 months, has [NAME] been diagnosed with hepatitis through blood tests by a health worker (doctor / nurse / midwife)?		1. Yes 2. No →A23 8. Unknown →A23	☐
A22	The type of hepatitis suffered by [NAME] according to the health worker (doctor / nurse / midwife) adalah?			
	1. Hepatitis A →B01 2. Hepatitis B →B01		3. Hepatitis C →B01 4. Other type →B01 8. Unknown →B01	
A23	In the past 12 months, has [NAME] ever suffered from fever, weakness, yellow eyes or skin, gastrointestinal disorders (nausea, vomiting, no appetite), pain in the right upper abdomen, accompanied by urine colored like thick tea?		1. Yes 2. No 8. Unknown	☐

B. NON CONTAGIOUS DISEASE									
ASTHMA and CHRONIC OBSTRUCTIVE PULMONARY DISEASE (PPOK) ---- (QUESTIONS B01 – B05 ARE FOLL ALL RANGES OF AGE)									
B01	Has [NAME] ever experienced symptoms of shortness of breath					1. Yes 2. No → B07		☐	
B02	Do the symptoms of shortness of breath occur in the following conditions: FILL IN THE ANSWER CODE 1=YES OR 2=NO								
	a. exposure to cold air	☐	c. cigarette smoke	☐	e. flu or infection	☐	g. drugs allergy	☐	
	b. dust	☐	d. stress	☐	f. fatigue	☐	h. food allergy	☐	
B03	Are the symptoms of shortness of breath followed by the following conditions : FILL IN THE ANSWER CODE 1=YES OR 2=NO								
	a. Asthma			☐	c. shortness of breath relieves or disappears without treatment			☐	
	b. shortness of breath relieves or disappears with treatment			☐	d. shortness of breath is more severe at night or dawn			☐	
B04	The age when experiencing shortness of breath for the first time?					years		☐ ☐	
B05	Does the shortness of breath of [NAME] ever recur within the past 12 months?					1. Yes 2. No		☐	
QUESTION B06 IS ASKED IF THE HM IS AGED ≥ 30 years									
B06	Has [NAME] experienced the following symptoms in the past one month?								
	FILL IN THE ANSWER CODE 1 = YES OR 2=NO								
	a. Cough with phlegm	☐	b. Shortness of breath gets more severe when doing activities	☐	c. Shortness of breath gets more severe in line with the increased age			☐	
CANCER (FOR ALL RANGES OF AGE)									
B07	Has [NAME] ever been diagnosed with cancer by a doctor?					1.Yes 2.No → B11		☐	
B08	When was [NAME] first diagnosed with cancer?					Year		☐ ☐ ☐ ☐	
B09	What kind of cancer is suffered by [NAME]? FILL IN THE ANSWER CODE 1=YES OR 2=NO OR 7=NOT APPLICABLE								
	a. Cervix cancer	☐	d. Colorectal / colon cancer	☐	g. Lymphatic cancer			☐	
	b. Breast cancer	☐	e. Lung and bronchus cancer	☐	h. Blood cancer / leukemia			☐	
	c. Prostate cancer	☐	f. nasopharyngeal cancer	☐	i. Other cancers, mention			☐	
B10	Has [NAME] undergone the cancer treatment below: FILL IN THE ANSWER CODE 1=YES OR 2=NO								
	a. surgery / operation	☐	b. Radiation	☐	c. Chemotherapy	☐	d. Others, Mention	☐	
B11	IF THE HM IS AGED ≥ 15 YEARS, GO TO QUESTION B12 IF THE HM IS AGED <15, GO TO BLOCK C								
DIABETES MELITUS FOR HM AGED ≥ 15 YEARS									
B12	Has [NAME] been diagnosed with diabetes by a physician?					1. Yes 2.No → B14		☐	
B13	Does [NAME] is now doing the things below to treat diabetes FILL IN THE ANSWER CODE 1=YES OR 2=NO								
	a. Diet	☐	b. Sport	☐	c. Taking anti-diabetic drugs		☐	d. Insulin injection	☐
B14	Has [NAME] in the past one month experienced the following symptoms: (READ OUT POINTS a - d) FILL IN THE ANSWER CODE 1=YES OR 2 =NO								
	a. often hungry	☐	b. often thirsty	☐	c. frequent urination with large quantity		☐	d. Decreased weight	☐
HYPERTHYROIDISM (HM MEMBER AGED ≥ 15 YEARS)									
B15	Has [NAME] been diagnosed with hyperthyroidism by a doctor?					1. Yes 2. No		☐	
B16	Has [NAME] experienced an enlarged thyroid gland in the neck? (Based on the respondent's reports and / or observation)					1. Yes 2. No		☐	
B17	Has [NAME] experienced the symptoms as follows in the past one month:				a. Heart palpitations		1. Yes 2. No		☐
					b. swelter		1. Yes 2. No		☐

HYPERTENSION / HIGH BLOOD PRESSURE (HM MEMBER AGED ≥ 15 YEARS)				
B18	Has [NAME] been diagnosed with hypertension / high blood pressure by a health worker (doctor / nurse / midwife)?	1. Yes	2. No → B20	☐
B19	When was it first diagnosed	Year		
B20	Is [NAME] now taking medical drugs for high blood pressure	1. Yes	2. No	☐
CORONARY HEART DISEASE (HM MEMBER AGED ≥ 15 YEARS)				
B21	Has [NAME] ever been diagnosed with coronary heart disease (angina pectoris and / or myocardial infarction) by a doctor?	1. Yes	2. No → B23	☐
B22	When was it first diagnosed?	Year		
B23	Has [NAME] experienced the symptoms / history of:			
	a. Pain in the chest / distress severe / uncomfortable feeling in chest	1. Yes	2. No → B24	☐
	b. Pain / uncomfortable feeling in the center of the chest / front left thorax / to the left arm	1. Yes	2. No	☐
	c. Pain / uncomfortable feeling in the chest when climbing / taking stairs / walking fast	1. Yes	2. No	☐
	d. The Pain / uncomfortable feeling in the chest disappear when no longer doing the activities?	1. Yes	2. No	☐
HEART FAILURE DISEASE (HM MEMBER AGED ≥ 15 YEARS)				
B24	Has [NAME] been diagnosed with Decompensatio Cordis by doctor ?	1. Yes	2. No → B26	☐
B25	When was it first diagnosed?	Year		
B26	Has [NAME] experienced the symptoms / history of:			
	a. Shortness of breath when doing activity	1. Yes	2. No	☐
	b. Shortness of breath when lying flat without a pillow	1. Yes	2. No	☐
	c. Physical activity capacity decrease / fatigue	1. Yes	2. No	☐
	d. Swelling lower extremity	1. Yes	2. No	☐
KIDNEY DISEASE (HM MEMBER AGED ≥ 15 YEARS)				
B27	Has [NAME] been diagnosed with chronic kidney disease (at least suffering for three months in a row) by a doctor?	1. Yes	2. No	☐
B28	Has [NAME] been diagnosed with kidney stone disease by a doctor?	1. Yes	2. No	☐
JOINT DISEASES / RHEUMATISM / GOUT (HM MEMBER AGED ≥ 15 YEARS)				
B29	Has [NAME] ever been diagnosed with joint disease / arthritis / rheumatism by a health worker (doctor / nurse / midwife)?	1. Yes	2. No	☐
B30	Does [NAME] when waking up in the morning feel pain (read out options a-d) in the joints not caused by accident FILL IN THE ANSWER CODE 1=YES OR 2=NO			
	a. Pain	☐	b. Reddish	☐
	c. Stiff	☐	d. Swollen	☐
STROKE (HM MEMBER AGED ≥ 15 YEARS)				
B31	Has [NAME] ever been diagnosed with stroke by a health worker (doctor / nurse / midwife)?	1. Yes	2. No → B33	☐
B32	When was it first diagnosed?	Year		
B33	Has [NAME] ever had sudden complaints below: FILL IN THE ANSWER CODE 1=YES OR 2=NO			
	a. paralysis on one side of the body	☐	d. loss of speech	☐
	b. tingling or numbness on one side of the body	☐	e. Difficulty to speak / communicate and understand speech	☐
	c. the mouth becomes wry without the paralysis of the eye	☐		

C. INJURY (FOR ALL RANGES OF AGE)				
C01	In the past 12 months, has [NAME] experienced events (such as accident, violence, falling) resulting in injury HAMPERING DAILY ACTIVITIES?		1. Yes	☐
			2. No → D01	☐
C02	In the past 12 months, how many times has [NAME] been injured?		 times	☐ ☐
C03	is [NAME] treated?	1. Yes	Duration of outpatient (days)	Duration of inpatient (days)
		2. No → next point		
	a. Health worker	☐	☐ ☐ ☐	☐ ☐ ☐
	b. Traditional treatment	☐	☐ ☐ ☐	☐ ☐ ☐
	c. Self treatment	☐	☐ ☐ ☐	☐ ☐ ☐
IF THE ACCIDENT OCCURS FOR MORE THAN ONCE, ASK THE MOST SEVERE INJURY ACCORDING TO THE RESPONDENT'S STATEMENT				
C04	Injured body part: (READ OUT POINTS a to f) FILL IN THE ANSWER CODE 1=YES OR 2=NO			
	a. Head	☐	c. Back	☐
	b. Chest	☐	d. Stomach / internal organ	☐
			e. Upper limbs	☐
			f. Lower limbs	☐
C05	Types of injuries suffered: (READ OUT POINTS a to h) FILL IN THE ANSWER CODE 1=YES OR 2=NO			
	a. Abrasion/bruises	☐	c. Fracture	☐
	b. Cut / torn	☐	d. Sprains, kink	☐
			e. Mutilated body parts	☐
			f. Eye injury	☐
			g. Concussion	☐
			h. Others, write C06.....	☐
	Do injuries result in permanent physical disability on the following body parts? (READ OUT POINTS a to c) FILL IN THE ANSWER CODE 1=YES OR 2=NO			
	a. Senses disability (blind, deaf, mute, etc.)	☐	b. Losing of some limbs (broken finger / hand / foot, etc.)	☐
			c. Itchy permanent scar	☐
C07	Location of injury: 1. House and Surrounding 2. school 3. Sports Area 4. Highway 5. Business place / service / office / public places 6. Industry and Construction 7. Agricultural Area 8. Others, write down.....			☐
Area C08	Cause of injury: 1. Motorbike accident → C09 2. Other land transport accident → C10 3. Falling (slipped, falling from a height) → C10 4. Hit by sharp or blunt objects, machinery, etc → C10 5. Burned / exposure to hot water / chemicals → C10 6. Bitten / stung / attacked by animal → C10 7. Falling / hit by objects → C10 8. Poisoned → C10 9. Others, write down..... → C10			☐
C09	If caused by motorcycle accident, did [NAME] wear helmet? USE THE INSTRUMENT OF HELMET FIGURE 1. Wore tightened standard helmet 2. Wore standard helmet but not tightened 3. Wearing non standard helmet (helmet for cycling, construction/military helmet) 4. Not wearing helmet 7. Not applicable (not a motorcyclist, eg: a pedestrian hit by a motorcyclist)			☐
C10	The injury is caused by: 1. Violence 2. Attempted suicide 3. Disaster 4. Omission / Accident 5. Others			☐

D. DENTAL AND ORAL PROBLEMS (FOR ALL RANGES OF AGE)			
D01	In the past 12 months, does [NAME] have any dental and / or oral problems?	1. Yes	2.No → D07
D02	Does [NAME] get annoyed with the dental and / or oral problems experienced?	1. Yes	2.No → D04
D03	On average, how long the daily activities of [NAME] are disrupted by the dental and / or oral problems?	 days	☐ ☐
D04	In the past 12 months, has [NAME] received dental and / or oral care?	1. Yes	2.No → D07

D05	Where did [NAME] seek treatment? FILL IN THE ANSWER CODE 1=YES ATAU 2=NO						
	a. Specialist Dentist	☐	c. Dental worker	☐	e. <i>Tukang Gigi</i>	☐	
	b. Dentist	☐	d. Other paramedics	☐	f. Others, write down.....	☐	
D06	What types of actions are acceptable [NAME] for oral and dental problems? (READ OUT POINTS a to l) FILL IN THE ANSWER CODE 1=YES ATAU 2=NO						
	a. Filing	☐	e. Scaling	☐	i. Laying off of implant denture	☐	
	b. Treatment	☐	f. Laying off of partial dentures (protesa)	☐	j. Counseling on oral hygiene care	☐	
	c. Pulling	☐	g. Laying off of full dentures	☐	k. Orthodontic treatment	☐	
	d. Oral surgery	☐	h. Laying off of permanent =dentures	☐	l. Periodontal treatment	☐	
QUESTION D07 IS SPECIFIC TO HM AGED ≥ 12 YEARS							
D07	Has (NAME) lost all the original tooth?				1. Yes 2. No	☐	
IF THE HM IS AGED < 9 YEARS CONTINUE TO BLOCK H. HEALTH FUNDING IF THE HM IS AGED 10–14 YEARS CONTINUE TO BLOCK G. ATTITUDE AND CONDUCT IF THE HM IS AGED ≥ 15 YEARS CONTINUE TO BLOCK E. DISABILITY							
E. DISABILITY (HM AGED ≥ 15 YEARS)							
Now I will ask the state of health according to your [NAME] judgment Health condition here refers to the physical and mental state of [NAME]							
E01	During the past one month, in general, what is the health condition of [NAME]?				1. Good 2. Fair 3. Bad	☐	
READ OUT: To better understand the health condition of [NAME], we will ask 15 questions. IF [NAME] does not understand a question, we will read it out one more time but we will not explain/discuss it. IF [NAME] has question, we shall discuss it after you answer the 15th question.							
FOR QUESTIONS E02 – E13, READ OUT THE QUESTIONS & OPTIONS. FILL IN THE ANSWER CODE:							
1. NONE 2. MILD 3. MEDIUM 4. SEVERE 5. VERY SEVERE							
E02	In the past 1 month how difficult it is for [NAME] to stand for long periods such as 30 minutes			☐	E08	In the past 1 month how difficult it is for [NAME] to walk far, eg for 1 km?	☐
E03	In the past 1 month how difficult it is for [NAME] to carry out or do household activities under your responsibility?			☐	E09	In the past 1 month how difficult it is for [NAME] to clean his body/take a bath?	☐
E04	In the past 1 month how difficult it is for [NAME] to <u>learn/ do new things</u> , such as to find a new place/address?			☐	E10	In the past 1 month how difficult it is for [NAME] to wear clothes=?	☐
E05	In the past 1 month how difficult it is for [NAME] to <u>take part in public activity</u> (eg in the activities of gathering, recitals, religious, or other activities) like everyone else?			☐	E11	In the past 1 month how difficult it is for [NAME] to interact with strangers?	☐
E06	In the past 1 month how much the health problems experienced by [NAME] influence your emotional state?			☐	E12	In the past 1 month how difficult it is for [NAME] to <u>maintain friendship</u> ?	☐
E07	In the past 1 month how difficult it is for [NAME] to <u>concentrate on doing something for 10 minutes</u> ?			☐	E13	In the past 1 month how difficult it is for [NAME] to do daily works?	☐
IF ALL ANSWERS TO QUESTIONS E02-E13 HAVE THE CODE "1" → GO TO BLOCK F. MENTAL HEALTH IF THE ANSWERS TO QUESTIONS E02-E13 HAVE THE CODES "2", "3", "4", "5" → GO TO E14							
FOR QUESTIONS E14-E16 READ OUT AND FILL OUT THE NUMBER OF DAYS OF EXPERIENCING DIFFICULTY							
E14	In the past 1 month, how many days did [NAME] experience the difficulty?					Days	
E15	In the past 1 month, how many days was [NAME] totally unable to do daily activities due to the health conditions?					 Days	
E16	In the past 1 month, excluding the number of days [NAME] experienced disability, how many days did [NAME] reduce the daily activities due to the health conditions?					... Days	

F. MENTAL HEALTH (ALL HMs AGED ≥ 15 YEARS)					
ASKED FOR THE CONDITION OF THE PAST 1 MONTH					
To better understand the health condition of [NAME], we will ask 20 questions that need "Yes" or "No" answers.					
IF [NAME] does not understand a question, we will read it out one more time but we will not explain/discuss it. IF [NAME] has question, we shall discuss it after you answer the 20 th question.					
FOR QUESTIONS F01-F20, FILL WITH THE CODE 1=YES OR 2=NO					
				daily?	☐
F02	Does [NAME] have no appetite?	☐	F12	Does [NAME] feel difficult to make decision?	☐
F03	Does [NAME] have trouble sleeping?	☐	F13	Are the daily works of [NAME] hampered?	☐
				Useful in life?	☐
F05	Does [NAME] feel worried, anxious or concerned?	☐	F15	Does [NAME] loss interest in various things?	☐
F06	Do the hands of [NAME] shake?	☐	F16	Does [NAME] feel invaluable?	☐
				hidup?	☐
F08	Does [NAME] have trouble to think clearly?	☐	F18	Does [NAME] feel tired at all times?	☐
F09	Does [NAME] feel unhappy?	☐	F19	Does [NAME] feel uncomfortable in the stomach?	☐
F10	Does [NAME] cry often?	☐	F20	Does [NAME] get tired easily?	☐
IF ONE OF THE ANSWERS TO QUESTIONS F01-F20 HAS THE CODE „1=YES“ → GO TO F21 IF ALL ANSWERS TO QUESTIONS F01-F20 HAVE THE CODE „2=NO“ →GO TO BLOCK G. KNOWLEDGE, ATTITUDE, BEHAVIOR					
F21	For all the complaints mentioned above (F1 to 20), has [NAME] ever sought medication from health facilities / health workers?	1. Yes 2.No →G		☐	
F22	For all the complaints mentioned above (F1 to 20), has [NAME] ever sought medication from health facilities / health personnel in the pas 2 weeks?	1. Yes 2.No		☐	
G. KNOWLEDGE, ATTITUDE, BEHAVIOR (ALL HMs AGED ≥ 10 YEARS)					
HYGIENE BEHAVIORS					
G01	Does [NAME] Always wash hands with soap? (READ OUT POINTS a to f) FILL IN THE ANSWER CODE 1=YES ATAU 2=NO OR 7= NOT APPLICABLE				
	a. Before preparing food	☐	d. After cleaning baby	☐	
	b. Whenever the hands are dirty (after holding money or pets, gardening)	☐	e. After using pesticides / insecticides	☐	
	c. After defecation	☐	f. Before feeding baby	☐	
G02	Where does [NAME] normally defecate? (DO NOT READ OUT THE OPTIONS)				☐
	1. Toilet	3. River/lake/see	5. Beach/vacant land/ garden/ yard		
	2. Pond/rice field/sewer	4. Hole in the ground			
G03	Apakah [NAME] biasa menyikat gigi setiap hari?	1. Yes 2. No →G05		☐	
G04	When does [NAME] brush teeth? (DO NOT READ OUT POINTS a to f) FILL WITH THE CODE 1=YES OR 2=NO				
	a. At morning bath	☐	c. After breakfast	☐	e. Before bedtime
	b. At evening bath	☐	d. After reveille	☐	f. After lunch
USE OF TOBACCO					
G05	Has [NAME] smoked during the past one month? (READ OUT THE OPTIONS)				
	1. Yes, everyday →G06		4. No, but [NAME] used to smoke sometimes →G07		
	2. Yes, sometimes →G07		5. Never →G13		
	3. No, but [NAME] used to smoke everyday →G06				

G06	At what age did [NAME] start smoking everyday? FILL WITH "98" IF THE RESPONDENT ANSWERS [NAME] DOES NOT REMEMBER	 year	
G07	At what age did [NAME] start smoking? FILL WITH "98" IF THE RESPONDENT ANSWERS [NAME] DOES NOT REMEMBER	 year	
QUESTION G08 COLUMN (1) IS FILLED WHEN G05 HAS THE CODES 1 OR 3 QUESTION G08 COLUMN (2) IS FILLED WHEN G05 HAS THE CODES 2 OR 4			
G08	On average how many cigarettes / cigars / pipes taken by [NAME] per day or per weeks?	Pcs/day (1)	Pcs/week (2)
	a. Cigarettes (kretek, white, and rolled)		
	b. Cigar / pipe		
G09	Name the type of cigarettes regularly smoked by [NAME]: (READ OUT POINTS a to d) FILL WITH CODE 1=YES OR 2=NO		
	a. Rokok kretek		b. White cigarette
		c. Rolled cigarettes.	
	d. Pipe / cigar		
IF G05 HAS THE CODES 1 OR 2 CONTINUE TO QUESTION G10 IF G05 HAS THE CODES 3 OR 4 CONTINUE TO QUESTION G12			
G10	Where does [NAME] usually smoke?		
	a. Indoor	1. Yes 2. No	
	b. Outdoor	1. Yes 2. No	
G11	Does [NAME] smoke in the house when other HMs are present?	1. Yes → G14 2. No → G14	
G12	At what age does [NAME] stop smoking? FILL WITH "98" IF THE RESPONDENT ANSWERS [NAME] DOES NOT REMEMBER	 years	
G13	How often people smoke close to [NAME] in enclosed spaces (including at home, workplace, and means of transport)	1. Yes, everyday 2. Yes, sometimes 3. Never	
G14	Has [NAME] chewed tobacco (<i>nginang, nyirih, susur</i>) in the past one month? (READ OUT THE OPTIONS)		
	1. Yes, everyday 2. Yes, sometimes 3. No, but [NAME] used to chew tobacco everyday 4. No, but [NAME] sometimes used to chew tobacco 5. Never		
G15	Does [NAME] agree with the No-Smoking Area (KTR) policy?	1. Yes 2.No	
PHYSICAL ACTIVITY (USE INSTRUMENT)			
Below are the questions on physical activities associated with work and leisure time			
G16	Does [NAME] do heavy physical activity continuously for at least 10 minutes at a time?	1. Yes 2. No → G19	
G17	How many days in a week does [NAME] normally do the heavy physical activity?	days	
G18	In a day, how long does [NAME] normally do the heavy physical activity?	hours minutes	
G19	Does [NAME] do moderate physical activity continuously for at least 10 minutes at a time?	1. Yes 2. No → G22	
G20	How many days in a week does [NAME] normally do the moderate physical activity?	days	
G21	In a day, how long does [NAME] normally do the moderate physical activity?	hours minutes	
G22	How long does [NAME] sit or lie down a day? (At work, at home, when on travel, including the time for talking, transportation by car, bus, train, reading, playing games or watching television but excluding bedtime [IF ≥ 10 HOURS FILL "9" IN THE HOURS BOX AND "60" IN THE MINUTES BOX])	hours minutes	

DIETARY BEHAVIOR				
FRUIT AND VEGETABLES				
G23	In one week, how many days does [NAME] have fresh fruits? (USE INSTRUMENTS) IF NEVER PERNAH FILL ISIKAN 0 → CONTINUE TO G25			 days ☐
G24	What is the average portion of consumption of fresh fruits of [NAME] in one day and the days? (USE INSTRUMENTS)			 Portion ☐
G25	In one week, how many days does [NAME] have vegetables fruits? (USE INSTRUMENTS) IF NEVER PERNAH FILL ISIKAN 0 → CONTINUE TO G27			 days ☐
G26	What is the average portion of consumption of vegetables of [NAME] in one day and the days? (USE INSTRUMENTS)			portion ☐
RISKY FOOD				
ASK QUESTION G27 WITHOUT INSTRUMENT AND FILL IN THE ANSWER CODE:				
1. > 1 time per day 3. 3 – 6 times per weeks 5. < 3 times per month 2. 1 times per day 4. 1 – 2 times per weeks 6. Never				
G27	How many times does [NAME] normally have the following meals: (READ OUT POINTS a - h)			
	a. Sweet food/drink	☐	e. Meat / chicken / fish processed with preservatives	☐
	b. Salty food	☐	f. Seasoning	☐
	c. Fatty food / food containing cholesterol / fritters	☐	g. Coffee	☐
	d. Grilled food	☐	h. Non coffee caffeinated drinks	☐
CONSUMPTION OF PROCESSED FOOD MADE OF WHEAT FLOUR (Instant Noodles / Bakery / Confectionery)				
G28	How many times does [NAME] normally have instant noodles, noodles, Biscuits, Bread FILL IN THE OPTION CODE:			
	1. > 1 time per day 3. 3 – 6 times per weeks 5. < 3 times per month 2. 1 time per day 4. 1 – 2 times per weeks 6. Never			
	a. Instant noodle	☐	c. Bread	☐
	b. Noodle	☐	d. Biscuits	☐
H. HEALTH FUNDING (FOR ALL RANGES OF AGE)				
Ha.HEALTH INSURANCE				
Ha01	Does [NAME] have the following health funding for the purposes of outpatient / inpatient? FILL WITH 1=YES OR 2=NO			
	Type of health funding		ownership	use
	a. Askes/JPK PNS/Veteran/Pensiun	1. Yes 2. No	☐	☐
	b. JPK Jamsostek	1. Yes 2. No	☐	☐
	c. Private health insurance	1. Yes 2. No	☐	☐
	d. Corporate health benefit	1. Yes 2. No	☐	☐
	e. Jamkesmas	1. Yes 2. No	☐	☐
	f. Jamkesda	1. Yes 2. No	☐	☐
Hb. OUTPATIENT				
Hb01	In the past one month, has [NAME] ever taken own medication (by buying drugs at a pharmacy / drugstore)?		1. Yes 2. No → P.Hb03	☐
Hb02	How much was spent to buy the drugs?	Rp.	. .	

BASIC HEALTH RESEARCH 2013

I. REPRODUCTIVE HEALTH (SPECIFICALLY FOR FOR FEMALE RESPONDENT AGED 10-54 YEARS)										
Ia. FAMILY										
We will take note on the use of family planning instruments/methods to women aged 10-54 years. Excuse us if [NAME] has never used family planning tools but please answer the questions according to the fact										
Ia01	Is [NAME] or her spouse, now using to prevent or delay pregnancy?				1. Yes, now using 2. Yes, used to use it but now is not using → Ia06 3. Has never used → Ia07				☐	
Ia02	What are the family planning instruments used by [NAME] or her spouse? READ OUT points a to j FILL IN THE CODE 1=YES OR 2 = NO									
	a. Condom	☐	d. IUD/AKDR/Spiral	☐	g. Woman's condom/ Intragav	☐	i. Implant	☐		
	b. Male sterilization	☐	e. Injection	☐	h. Diaphragm	☐	j. Herbs	☐		
	c. Pills	☐	f. Female sterilization	☐						
IF ALL ANSWERS TO POINTS a TO j HAVE CODE 2 → Ia05										
Ia03	Where do you usually obtain the family planning instrument/method? NOTE: IF THERE ARE TWO FAMILY PLANNING INSTRUMENTS/METHODS USED, SELECT THE FOLLOWING ANSWER CODE WITH THE INSTRUMENTS/METHODS USED BY THE WOMAN								☐	
	01. Govt Hospital 05. Sub PHC 09. Midwife's 12. Integrated 02. Private Hospital 06. Clinic / Medical Station 10. Nurse's practice 13. Pharmacy / Drugstore → Ia05 3. Maternal hospital 7. Mobile FP/Health workers 11. Village polyclinic/PHC 14. Others → Ia05 4. PHC 8. Doctor's practice									
Ia04	Who normally gives the family planning instrument/method?				1. Obstetrician 3. Midwife 2. GP 4. Nurse				☐	
Ia05	Does [NAME] or her spouse use natural family planning method? READ OUT POINTS a to c. FILL IN THE CODE 1=YES OR 2 = NO									
	a. Natural breastfeeding method	☐	b. Avoiding intercourse based on calendar dates	☐	c. Interrupted intercourse				☐	
CONTINUE TO BLOCK Ib										
Ia06	When did [NAME] lastly use family planning instrument/method?				MM/YY:/.....				☐ ☐ /.....	
Ia07	Main reason for not using family planning instrument/method? DO NOT READ OUT THE OPTIONS JAWABAN								☐	
	Status		Fertility		Against FP		FP instrument/method:			
	1. Single/divorced		7. Abstinence		14. refuses / agaist FP		18. Becoming fat/thin			
	2. Has not had period		8. Menopause/ hysterectomy		15. prohibited by spouse		19. Difficult to obtain			
	3. Expecting		9. Infertile		16. prohibited by other people		20. Expensive			
	4. Breastfeeding		10. Has not been pregranant after last delivery		17. prohibited by religion		21. The desired FP instrument/method is unavailable			
	Lack of knowledge:		11. Has not had child				22. Inconvenient			
	5. Not knowing the method		12. Want to have more child				23. Health/fear of other side effect coming late			
	6. Not knowing where to obtain FP		13. Belief							
Ib. HISTORY OF PREGNANCY OF THE RESPONDENT'S LIFE										
Ib01	How old was [NAME] when getting married or living together for the first time? IF SHE HAS NEVER GOT MARRIED/LIVED TOGETHER, FILL IN THE CODE "77"				age years				☐ ☐	
Ib02	How old was [NAME] when having sex for the first time IF SHE HAS NEVER HAVING SEX, FILL IN THE CODE "77"				age years				☐ ☐	
Ib03	Is [NAME] now living at the same house with the husband or living separately?				1. Living together 7. Not applicable 2. living separately				☐	
Ib04	Is [NAME] now pregnant / has ever been pregnant?				1. Yes 2. Never → Ic41 3. Cannot get pregnant → Ic41				☐	
Ib05	In total, how many times has [NAME] got pregnant (including current), total miscarriage, total living children, and total children died after delivery?									
	a. Total number of pregnancy.....				☐ ☐	c. total living children.....				☐ ☐
	b. Total number of miscarriage.....				☐ ☐	d. children died after delivery.....				☐ ☐
Ib06	Age of [NAME] at the first pregnancy?				 years				☐ ☐	

Ic. HISTORY OF PREGNANCY, DELIVERY AND MATERNAL PERIOD						
SPECIFICALLY FOR WOMEN AGED 10-54 YEARS THAT HAVE BEEN PREGNANT WITHIN THE PAST 3 YEARS BEFORE THE SURVEY						
Ic01	Has [NAME] been pregnant <u>between</u> 1 January 2010 until the present (including the present pregnancy)?				1. Yes 2. No → Ic41	☐
Ic02	IF YES, total pregnancy from 1 January 2010 until the present? IF TWINS, THE PREGNANCY NUMBER IS BASED ON THE NUMBER OF TWINS				 times	☐
I will now ask about pregnancy, delivery and maternal period from 1 January 2010 until the present						
ASK THE HISTORY OF PREGNANCY FROM THE LAST PREGNANCY. FOR QUESTIONS Ic03 – Ic40. IF > 1 PREGNANCY REPEAT QUESTIONS Ic03-Ic40 FOR THE PRIOR PREGNANCY (NEXT COLUMN). IF > 3 PREGNANCY → USE ADDITIONAL PAPER					Kehamilan Terakhir	Kehamilan Sebelumnya
					(1)	(2)
					(3)	
Ic03	Serial number of pregnancy from the total pregnancy		PREGNANCY NUMBER		☐ ☐	☐ ☐
Ic04	NAME OF CHILD		IF THE CHILD HAS NOT BEEN NAMED, WRITE "NN"			
Ic05	Child serial no. in the family (REFERS TO BLOCK IV)		IF NOT HM / NOT INCLUDED IN BLOCK IV WRITE "00"		☐ ☐	☐ ☐
Ic06	Result of pregnancy		1. Alive 2. Die after delivery 3. Miscarriage 4. Is now pregnant → Ic08		☐	☐
Ic07	Is it a single or twin pregnancy?		1. Single 2. Twins		☐	☐
Ic08	Total weeks lapsed when the pregnancy ends?		 WEEKS		☐ ☐	☐ ☐
IF THE RESPONDENT IS PREGNANT, FILL IN THE TOTAL WEEKS LAPSED						
Ic09	During the pregnancy, has [NAME] checked the pregnancy to a health worker (obstetrician, GP, midwife or nurse)?		1. Yes 2. No → Ic14		☐	☐
Ic10	How old is the gestation of [NAME] when checking pregnancy for the first time?		 MONTH FILL "88" IF UNKNOWN		☐ ☐	☐ ☐
Ic11	During this pregnancy, how many times has [NAME] checked the pregnancy: IF THE PREGNANCY ENDS WITH MISCARRIAGE/ PREMATURE DELIVERY/HAS NOT BEEN DELIVERED FILL IN THE CODE "77" IN THE PREGNANCY AGE		a. Aged 0 – 3 months times		a. ☐ ☐	a. ☐ ☐
b. Aged 4 – 6 months times			b. ☐ ☐	b. ☐ ☐		
c. Aged 7 months-delivery times			c. ☐ ☐	c. ☐ ☐		
Ic12	Who normally checks the pregnancy?		1. Obstetricians 2. GP 3. Midwife 4. nurse		☐	☐
Ic13	Where does [NAME] normally checks the pregnancy?		1. Govt Hospital 2. Pvt Hospital 3. Maternal clinics 4. PHC/Sub PHC 5. GP Practice/ Clinic 6. Midwife nurse 7. Village PHC/Polyclinics 8. Int. Health Service Post 9. Other		☐	☐
Ic14	During pregnancy does [NAME] take iron pill (Fe) / iron tablet? SHOW THE INSTRUMENT		1. Yes 2. No → Ic16		☐	☐
Ic15	During this pregnancy, how many days does [NAME] take the iron pill (Fe) / iron tablet? IF UNKNOWN FILL IN THE CODE "998"		 HARI		☐ ☐ ☐	☐ ☐ ☐
Ic16	Do you have KIA book? IF YES: can I see it?		1. Yes, the book is shown 2. Yes, the book is not shown → Ic18 3. Does not have → Ic18		☐	☐
Ic17	IF THE KIA BOOK IS SHOWN, OBSERVE PAGE 13. 1. Filled 2. Not filled		a. birth attendant		☐	☐
b. delivery fund			☐	☐		
c. Village ambulance/vehicle			☐	☐		
d. FP after pregnancy			☐	☐		
e. Blood donor			☐	☐		

Ic18		PAST PREGNANCY (Ic06 = 1-3) → Ic19 IF CURRENTLY PREGNANT (Ic06 = 4) → TO Ic31			
ASK THE HISTORY OF PREGNANCY ONE BY ONE FROM THE LAST PREGNANCY. FOR QUESTIONS Ic03 – Ic40. IF > 3 PREGNANCIES → USE ADDITIONAL PAPER		Last pregnancy (1)	Prior pregnancy (2)	Prior pregnancy (3)	
Ic19	Month and year the pregnancy ends? MM/YY..... /	MM YY	MM YY	MM YY	
Ic20	Type of delivery? 1. Normal 3. Forceps 5. Spontaneous Abortion 7. others 2. Vacuum 4. Caesarean section 6. curettage	☐	☐	☐	
Ic21	Attendant of [NAME] at the time of delivery / miscarriage / abortion? (IF MORE THAN ONE, WRITE DOWN THE CODE OF THE ATTENDANT) A. Obstetrician B. Gen. Practitioner C. Midwife D. Nurse/other health workers E. Traditional midwife F. Helped by family members/others Z. No attendant	-----	-----	-----	
Ic22	Where does [NAME] deliver / experience miscarriage? PICK ONE OF THE PLACE OF DELIVERY / MISCARRIAGE 1. Govt. Hospital 6. PHC 2. Pvt. Hospital 7. Sub PHC 08. Village 3. Maternal Clinic PHC/polyclinic 4. Clinic 9. At home → Ic24 5. H.W. Practice 10. Others → Ic24				
Ic23	How long is [NAME] treated at the health facility since the delivery / miscarriage until the patient goes home? DAY IF < 1 DAY FILL „00”				
Ic24	After the delivery/miscarriage, does [NAME] visit the health facility or is she visited by health workers during the following period ?				
	a. 6 hours-3 days after delivery 1. Yes 2. No → Ic24c	a. ☐	a. ☐	a. ☐	
	b. If yes, Where was the service of health worker obtained See the code below	b.	b.	b.	
	c. 4 days-6 days after delivery 1. Yes 2. No → Ic24e 7. Not applicable → Ic25	c. ☐	c. ☐	c. ☐	
	d. If yes, Where was the service of health worker obtained See the code below	d.	d.	d.	
	e. 7 days -28 days after delivery 1. Yes 2. No → Ic24g 7. Not applicable → Ic25	e. ☐	e. ☐	e. ☐	
	f. If yes, Where was the service of health worker obtained See the code below	f.	f.	f.	
	g. 29 days – 42 days after delivery 1. Yes 2. No → Ic25 7. Not applicable → Ic25	g. ☐	g. ☐	g. ☐	
	h. If yes, Where was the service of health worker obtained See the code below	h.	h.	h.	
	Code Ic24b, Ic24d, Ic24f, Ic24h 1. Govt. Hospital 03. Maternal clinic 5. GP practice 07. PHC 08. Village 2. Pvt. Hospital 04. Clinic 6. Midwife practice polyclinic / PHC 9. At home 10. Others				
Ic25	Does at the period of 2 months after delivery/ miscarriage [NAME] is given the service of putting on FP instrument/method? 1. Yes 2. No	☐	☐	☐	
IF THE BABY IS ALIVE (Ic06 WITH THE CODE 1) → CONTINUE TO QUESTION Ic26 IF THE RESPONDENT IS PREGNANT/ EXPERIENCING MISCARRIAGE/ THE BABY IS DEAD (Ic06 CODES 2, 3 OR 4) → Ic30					
		Last pregnancy (1)	Prior pregnancy (2)	Prior pregnancy (3)	
Ic26	IS [CHILD NAME] still alive? 1. Yes 2. No	☐	☐	☐	
Ic27	How old is [CHILD NAME]? (IF DEMISED, how old is [NAME] when passing away?) CODE: 1. Day 2. Month AGE:	CODE AGE	CODE AGE	CODE AGE	

ASK THE PREGNANCY ONE BY ONE FROM THE LAST PREGNANCY. FOR QUESTIONS Ic03 – Ic40. IF > 3 PREGNANCY → USE ADDITIONAL PAPER		Last pregnancy	Prior pregnancy	Prior pregnancy
		(1)	(2)	(3)
Ic28	Does [CHILD NAME] have birth weight documents	1. Yes		
	lahir?	2. No → Ic30		
Ic29	What is the weight of [CHILD NAME] at birth?	 gram		
Ic30	Did during the pregnancy, delivery and maternal period [NAME] experience : A. Shortness of breath G. Bleeding (>2 bandage) B. convulsions H. Problems with fetus X. Others C. Fever I. Swollen feet/limbs Z. No complication D. Anemia J. Premature rupture of E. Severe headache amniotic K. Delivery > 24 F. Severe stomach hours L. Hypertension THE ANSWER CAN BE MORE THAN ONE. WRITE DOWN THE CODE OF COMPLICATION OR LETTER "Z" IF THERE IS NO COMPLICATION	a. Pregnancy b. Delivery c. Childbed	a. b. c.	a. b. c.
Ic31	During pregnancy, does [NAME] have delivery insurance (Jampersal) from the government?	1. Yes 2. No → Ic33		
Ic32	Does [NAME] use Jampersal at the time of: a. Pregnancy check/pregnancy	1. Yes 2. No		
	Complication check	1. Yes 7. Not applicable		
	b. Labor / management of complications	2. No		
	c. Mother health check after delivery (0-42 days)	1. Yes 7. Not applicable		
	d. Neonatal health check (0-28 days)	2. No		
	e. FP after delivery (Post delivery FP)	1. Yes 7. Not applicable		
		2. No		
Ic33	At this pregnancy does [NAME] expect the pregnancy/ expect to suspend/ does not expect the pregnancy?	1. Expecting pregnancy → Ic35 2. Expecting to suspend → Ic34 3. Not expecting at all → Ic35		
Ic34	If she wishes to suspend, how long is the expected gap with this pregnancy?			
Ic35	Any effort to realize/terminate the pregnancy? mengakhiri kehamilan tersebut?	 MONTH 1. Yes 2. No → Ic38		
Ic36	IF YES, what is the main reason to terminate the pregnancy? (DO NOT READ OUT THE OPTION)			
	1. Just getting pregnant/experiencing miscarriage 2. Still young 3. The number of children has been enough 4. Professional reason 5. Economic reason 6. Old Age 7. Others, mention....			
Ic37	What is the method to terminate the pregnancy? THE ANSWER MAY BE MORE THAN ONE. WRITE DOWN THE CODE	A. Herbs E. Suction B. Pills F. Curettage C. Massage X. Others, mention..... D. Injection		
Ic38	After the last pregnancy, when did [NAME] get her period ? IF CURRENTLY PREGNANT FILL IN THE CODE "2" AND "00"	KODE: 1. HARI 2. MONTH		
Ic39	After the last pregnancy, does [NAME] still wish to have another child?	LAST PERIOD : AGO 1. Yes 2. No → Ic41 3. Has not made plan → Ic41		
Ic40	If yes, how long is the expected gap for The next child?	 month		
IF THERE IS MORE THAN ONE HISTORY OF PREGNANCY GO BACK TO QUESTION Ic03 FOR THE HISTORY OF PREVIOUS PREGNANCY				

Ic41

FEMALE HM AGED 10 – 11 YEARS → BLOCK Jc (PC) FEMALE HM AGED 12-34 YEARS → BLOCK K (MEASUREMENT AND CHECK)

J. CHILD HEALTH AND IMMUNIZATION			
Ja. BABY AND TODDLER HEALTH (SPECIFICALLY FOR HMS AGED 0 – 59 MONTH)			
Ja01	Does [NAME] have birthweight record / document? (<i>Birthweight is the weight within 24 hours after birth</i>)	1. Yes 2. No → Ja03	☐
Ja02	Copy of birthweight record / document of [NAME]	 gram	☐ ☐ ☐ ☐
Ja03	Does [NAME] have birth length record / document? (<i>Birthlength Is the length within 24 hours after birth</i>)	1. Yes 2. No → Ja05	☐
Ja04	Copy of birth length record / document of [NAME]	 cm	☐ ☐ ☐
Ja05	Type of drugs/potion used to treat the umbilical cord of [NAME] after birth	1. Nothing 3. powder 8. Unknown 2. Betadine/ alcohol 4. Traditional potion/drugs	☐
Ja06	Has [NAME] received neonatal treatment by a health worker at the age of 0-28 days?	1. Yes → Ja08 8. Unknown → Ja10 2. No	☐
Ja07	Why didn't [NAME] receive neonatal treatment by a health worker at the age of 0-28 days? THE ANSWER CAN BE MORE THAN ONE. IF SO, SUM UP THE ANSWER CODE	1. The baby is fine 04. The treatment location is far 2. The baby cannot travel far 08. Cannot afford the treatment	☐ ☐
CONTINUE TO QUESTION Ja10			
Ja08	Has [NAME] received neonatal treatment by a health worker at the conditions as follows?	Ja09. Where did [NAME] receive the treatment? (FILL WITH THE ANSWER CODE)	
	a. 6-48 hours after birth 1. Yes → Ja09 7. Not applicable 2. No	a. ☐ a. ☐ 1. Govt Hospital 6. Pvt. Polyclinic 2. Pvt. Hospital 7. Health worker practice 3. Maternal clinic 8. At home	
	b. 3-7 days after birth 1. Yes → Ja09 7. Not applicable 2. No 8. Unknown	b. ☐ b. ☐ 4. PHC / Sub PHC / Mobile PHC 5. Int. Serv. Post/ Village PHC / Polyclinic	
	c. 8-28 days after birth 1. Yes → Ja09 7. Not applicable 2. No 8. Unknown	c. ☐ c. ☐	
Ja10	Has [NAME] suffered from disease after birth until the age of 28 days?	1. Yes 8. Unknown → Ja13 2. No → Ja13	☐
Ja11	What is the complaint/disease suffered when aged 0-28 days THE ANSWER CAN BE MORE THAN ONE. IF SO, SUM UP THE ANSWER CODE	1. Yellow skin 4. Hard to breath 16. Umbilical cord is flushed 64. Others, mention..... 2. Seizures 8. Blue skin 32. Umbilical cord is festering	☐ ☐ ☐
Ja12	When aged 0-28 days, did [NAME] seek treatment from a health worker?	1. Yes 2. No 8. Unknown	☐ Ja13
	have birth certificate	1. Yes → CHECK the DOB at Block IV 2. No 8. Unknown	☐
Ja14	Has [NAME] received immunization	1. Yes → Ja16 2. Never 8. Unknown → Ja16	☐
Ja15	What is the reason [NAME] "HAS NEVER" received immunization? THE ANSWER CAN BE MORE THAN ONE. IF SO, SUM UP THE ANSWER CODE	1. Not allowed by the family 04. The child often gets sick 16. The immunization place is far 2. Fear of fever 08. Not knowing the immunization place 32. Busy	☐ ☐
Ja16	Does [NAME] have KMS (<i>Towards Health Card</i>)?	1. Yes, can be shown 3. Used to have, but now lost 2. Yes, cannot show (kept by the cadre/midwife/at the integrated health post) 4. Never have	☐
Ja17	Does [NAME] has KIA (<i>Mother and baby health</i>) book?	1. Yes, can be shown 3. Used to have, but now lost 2. Yes, cannot show (kept by the cadre/midwife/at the integrated health post) 4. Never have	☐
Ja18	Does [NAME] have other Child Health Record Book than KMS and KIA?	1. Yes, can be shown 3. Used to have, but now lost 2. Yes, cannot show (kept at other place) 4. Never have	☐

IF THE ANSWER CODE OF QUESTION Ja14 IS CODE 2 = NEVER → Ja24
 IF THE ANSWER CODES OF QUESTION Ja16 TO Ja18 ARE 2 OR 3 OR 4 → Ja21 IF ONE OF THE
 ANSWER TO QUESTION Ja16 TO Ja18 HAS THE CODE 1 → Ja19

Ja19	Does the KMS/ KIA/ Child health record of [NAME] has immunization record					1. Yes 2. No → Ja21	☐
Ja20	Copy from the KMS/ KIA/ Child health record, the date, month, year for every type of immunization. COLUMN CODE (2): 1. Given immunization 2. Not given immunization → To the next immunization type 7. The time has not come for immunization due to age → To the next immunization type 8. Stated given immunization but has no date, month, year → To the next immunization type						
	TYPE OF	RE.	date, month, year of immunization	TYPE OF	RE.	date, month, year of immunization	
	(1)	(2)	(3)	(1)	(2)	(3)	
	a. Hepatitis B 0	☐	/ /	f. Polio 1	☐	/ /	
	b. BCG	☐	/ /	g. Polio 2	☐	/ /	
	c. DPT-HB Combo 1	☐	/ /	h. Polio 3	☐	/ /	
	d. DPT-HB Combo 2	☐	/ /	i. Polio 4	☐	/ /	
	e. DPT-HB Combo 3	☐	/ /	j. measles	☐	/ /	

IF THE IMMUNIZATION RECORD OF THE HM IS COMPLETE, CONTINUE TO Ja23
 IF THE IMMUNIZATION RECORD OF THE HM IS INCOMPLETE (COLUMN CODE 2 = 2,7,8) CONTINUE TO Ja21

Ja21	Has [NAME] received the following immunization: (INFORMATION BASED ON THE RESPONDENT'S KNOWLEDGE)		
a. Hepatitis B-0 Immunization, usually given shortly after birth until the baby is 7 days old injected in the baby's thigh?	1. Yes 2. No → Ja21c 8. Unknown → Ja21c	☐	
b. At what age did [NAME] receive Hepatitis B 0 immunization?	1. 0 - 24 hours 2. >24 hours - 7 days 8. Unknown	☐	
c. BCG immunization usually given at the age of 1 month and injected in the (right) top arm which can leave scars (scar) under the skin?	1. Yes 2. No → Ja21e 8. Unknown → Ja21e	☐	
d. At what age did [NAME] receive BCG immunization?	1. 0 - 29 hours 2. ≥ 1 month 8. Unknown	☐	
e. Polio immunization, pink or white fluid normally given at the age of 1 month and dripped into the mouth?	1. Yes 2. No → Ja21 h 7. The time has not come (age ≤ 1 month) → Ja21h 8. Unknown → Ja21h	☐	
f. At what age did [NAME] receive polio immunization for the first time? IF UNKNOWN FILL IN THE CODE "88" FOR MONTH	 month		
g. How many time did [NAME] receive polio immunization?	 Kali	☐	
h. DPT-HB combo (Difteri Pertusis Tetanus-Hepatitis B combo) immunization which is usually injected in the thigh and given at the age of 2 months along with Polio 2?	1. Yes 2. No → Ja21k 7. The time has not come (age ≤ 2 month) → Ja21k 8. Unknown → Ja21k	☐	
i. At what age did [NAME] receive DPT-HB Combo for the first time. IF UNKNOWN FILL IN THE CODE "88"	 month		
j. How many time did [NAME] receive DPT-HB Combo immunization?	 times	☐	
k. Immunization against measles usually given at the age of 9 months and injected in the thigh or the upper left arm and given once?	1. Yes 2. No 7. The time has not come (age ≤ 9 months)	☐	

**CHECK IMMUNIZATION COMPLETENESS FROM Ja20 AND Ja21 (BCG 1x and POLIO 4x and DPT-HB 3x and MEASLES 1x) IF COMPLETE, CONTINUE TO Ja23
 IF INCOMPLETE, CONTINUE TO Ja22**

Ja22	Main reason [NAME] "DID NOT RECEIVE COMPLETE IMMUNIZATION"?			☐
	1. Fear of fever 2. The child often falls sick	3. Vaccine unavailable 4. Attendant unavailable	5. Too far 6. Busy	7. The time has not come (age < 9 months)
Ja23	Does after immunization [NAME] suffer from the following post-immunization events as follows (KIP): (CODE : 1 = Yes OR 2 = No)			
	a. Mild fever	☐	c. Swollen	☐
	b. High fever	☐	d. redness	☐
			e. Festering	☐
			f. Others, mention	☐
Ja24	Has [NAME] been weighed in the past 6 months			1. Yes 2. No → Ja26
Ja25	in the past 6 months, How many times has [NAME] been weighed JIKA "UNKNOWN", ISI KODE "88"			 times ☐ ☐

CONTINUE TO Ja27

Ja26	Why hasn't [NAME] BEEN WEIGHED IN THE PAST SIX MONTHS (Answer to Ja24 = 2) mention the main reason:			☐
	1. The child has been ≥ 1 year	4. Boring if only weighed	7. Too far	
	2. The child has received	5. Forgets the schedule	3. Busy	
	3. The child refuses to be	6. No weighing location	9. Too lazy	
Ja27	in the past 6 months has [NAME] received vitamin A capsule? (USE INSTRUMENT CARD)			☐
	1. Yes 2. No	7. The time has not come (age ≤ 6 months)	8. Unknown	

FOR QUESTION Ja28 DO OBSERVATION OR USE INSTRUMENT CARD

Ja28	Does [NAME] have disability from birth or due to injury/accident? (WRITE DOWN THE CODE: 1 = Yes OR 2 = No)			
	a. Blind (vision)	☐	c. Mute (verbal)	☐
	b. Deaf (hearing)	☐	d. Crippled (limbs)	☐
			e. Harelip	☐
			f. Down Syndrome	☐

IF THE HM IS FEMALE AGED 24 – 59 MONTHS → SUB BLOCK Jc (FC) IF THE HM IS MALE AGED 24 – 59 MONTHS → BLOCK K (MEASUREMENT AND CHECK)
IF THE HM IS AGED 0 – 23 MONTH → BLOCK Jb

Jb. Breastmilk and Breastmilk Substitute Food (SPECIFICALLY FOR HM AGED 0 – 23 MONTHS)

Jb01	Has [NAME] been breastfed or given breastmilk by the biological mother?		1. Yes 2. No → Jb10	☐
Jb02	a. After birth, was [NAME] given Early Breastfeeding Initiative (IMD)		1. Yes 2. No → Jb03	☐
	b. How long do the mother and the baby do Early Breastfeeding Initiative (IMD)		1. < 1 hour 2. ≥ 1 hour	☐
Jb03	When did the mother start breastfeeding for the first time, after [NAME] was born? IF LESS THAN 1 HOUR, WRITE DOWN 00; IF LESS THAN 24 HOURS, FILL IN THE HOURS; IF 24 HOURS OR MORE FILL IN THE DAYS		a. hours	☐ ☐
			b. days	☐
Jb04	What did the MOTHER do against colostrum?	1. Fed to the baby 2. Partially disposed	3. Totally disposed 8. Unknown	☐
Jb05	Was been given other drink (liquid) or food than breastmilk before being breastfed for the first time?	1. Yes 2. No → Jb07	8. Unknown → Jb07	☐
Jb06	What was the food / drink fed to [NAME] before being breastfed or before the breastmilk could come out? (WRITE DOWN THE CODE: 1 = Yes OR 2 = No)			
	a. Formula milk	☐	e. Air Tajin	☐
	b. Non Formula milk	☐	f. Coconut water	☐
	c. Honey/ Honey + water	☐	g. Coffee	☐
	d. Sugar water	☐	h. Sweet tea	☐
			i. Fresh water	☐
			j. Porridge	☐
			k. Mashed banana	☐
			l. Mashed rice	☐

Jb07	Is currently [NAME] still breastfed?	1. Yes → Jb09	2. No	☐
Jb08	At what age was [NAME] weaned/no longer breastfed? IF UNKNOWN WRITE DOWN 88	 month → Jb10		☐
Jb09	In the past 24 hours, is [NAME] only fed with breastmilk and is not given other drink (liquid) and or food than breastmilk?	1. Yes → Jb12	2. No	☐
Jb10	How old is [NAME] when the mother gave drink (liquid) or food other than breastmilk? 1.0 – 7 days 3.29 days – < 2 months 5.3 – < 4 months 7. ≥ 6 months 2.8 – 28 days 4.2 – < 3 months 6.4 – < 6 months 8. Unknown			☐
Jb11	What was the drink or food other than breastmilk, given for the first time to [NAME] at that age? (WRITE DOWN THE CODE : 1 = Yes OR 2 = No)			
	a. Formula milk	☐	d. Biscuits	☐
	b. Non-formula milk	☐	e. Powder / refined porridge	☐
	c. Formula porridge	☐	f. Air tajin	☐
	g. Mashed banana			☐
	h. Porridge / steamed rice / mashed rice			☐
Jb12	Has [NAME] consumed bottled milk/pacifier before the age of 6 months?	1. Yes	2. No	☐

IF THE HM IS FEMALE AGED 0 – 23 MONTH → SUB BLOCK Jc (FC) IF THE HM IS MALE AGED 0 – 23 MONTH → BLOCK K (MEASUREMENT AND CHECK)

Jc. FEMALE CIRCUMSISION (SPECIFICALLY FOR FEMALE HM AGED 0-11 YEARS)

Jc01	Has [NAME] been circumcised?	1. Yes	2. No → BLOCK K	8. Unknown → BLOCK K	☐
Jc02	How old was [NAME] when circumcised?	☐	Age:	1. Month	2. Years
Jc03	Who suggested [NAME] to be circumcised? (WRITE DOWN THE CODE 1 = Yes OR 2 = No)				
	1. Parents	☐	2. Relatives	☐	3. Religious figure
				☐	4. Traditional figure
Jc04	Who did the circumcision	1. <i>Tukang sunat</i>	2. <i>Dukun bayi</i>	3. Midwife	4. Other health workers

K. MEASUREMENT AND CHECK

WEIGHT AND HEIGHT/ LENGTH (FOR ALL RANGES OF AGE)			
K01	a. Is the HM weighed ?	1. Yes	2. No → K02
	b. Weight (kg)	 kg	☐
K02	a. Was the height/length of the HM measured?	1. Yes	2. No → K03
	b. Height / length (Cm)	 cm	☐
	c. SPECIFICALLY FOR TODDLER, (Position when measured)	1. Standing	2. Lying down

UPPER ARM CIRCUMFERENCE (LILA), SPECIFICALLY FOR WOMEN AT PRODUCTIVE AGED (15-49 YEARS) AND / OR PREGNANT WOMAN			
K03	a. Is the Upper Arm Circumference (LILA) of the HM measured	1. Yes	2. No → K04
	b. Upper Arm Circumference (LILA) cm	 cm	☐

ABDOMINAL CIRCUMFERENCE (SPECIFICALLY FOR HM AGED ≥ 15 YEARS) EXCEPT PREGNANT WOMEN			
K04	a. Is the Abdominal Circumference (LILA) of the HM measured	1. Yes	2. No → K05
	b. Abdominal Circumference (Cm)	 cm	☐

BLOOD PRESSURE MEASURED AT THE LEFT ARM (FOR HM AGED ≥ 15 YEARS)							
K05	a. Is the blood pressure measured for the first time:		1. Yes 2. No → L		☐		
	b. Systolic blood pressure (mmHg)		c. Diastolic blood pressure (mmHg)				
K06	a. Is the blood pressure measured for the second time:		1. Yes 2. No → L		☐		
	b. Systolic blood pressure (mmHg)		c. Diastolic blood pressure (mmHg)				
K07	a. Is the blood pressure measured for the third time:		1. Yes 2. No → L		☐		
	b. Systolic blood pressure (mmHg)		c. Diastolic blood pressure (mmHg)				
L. EYE CHECK							
VISION CHECK (FOR HM AGED ≥ 6 YEARS)							
L01	What kind of aid used by [NAME] to see during the vision check?			1. Without glasses/contact lens 2. Glasses 3. Contact lens		☐	
L02	Vision Check 1. Can see small letter E (from the distance of 6m) 2. Cannot see small letter E, but can see medium letter E (from the distance of 6m) 3. Cannot see medium letter E, but can see large letter E (from the distance of 6m) 4. Cannot see large letter E (from the distance of 6m), but can see large letter E (from the distance of 3m) 5. Cannot see large letter E from the distance of 3m			Right eye		Left eye	
				Without pinhole	With pinhole	Without pinhole	With pinhole
				☐	☐	☐	☐
L03-L05 (FOR ALL RANGES OF AGE)							
L03	Eye Surface Disorders (SEE THE EXAMPLE ON THE INSTRUMENT CARD)						
	a. Pterygium	1. Yes, Right eye 2. Yes, Left eye		3. Yes, both eyes 4. No pterygium		☐	
	b. Corneal opacities	1. Yes, Right eye 2. Yes, Left eye		3. Yes, both eyes 4. No corneal opacities		☐	
L04	Eye lense:	1. Normal lense 2. Cataract 3. NOT CHECKED → IF BOTH EYES ARE NOT CHECKED GO TO L06			Right eye	Left eye	
					☐	☐	
L05	If one answer or both answers of L04 has the code 2 , ask the reason why [NAME] has not undergone cataract surgery						
	a. Main reason		b. Other reasons		c. Other reasons		
	☐ ☐ See the code	1. Yes 2. No → L06 ☐	☐ ☐ See the code	1. Yes 2. No → L06 ☐	☐ ☐ See the code		
	CODES OF ANSWERS L05: 01. Not knowing it is cataract /Not knowing it can be cured by surgery 09. Not allowed by family 02. The surgery facility is too far away 10. Fear off surgery 03. It is God's destiny that must be accepted 11. Less important compared to other life priorities 04. Unnecessary as [NAME] can see with one eye 12. Fear off being blind 05. Has been told that the cataract has not ready for 13. Unable to pay the surgery 06. Unnecessary due to old age 14. Surgery contra-indication (other/associated disease) 07. Not knowing the location of facility for surgery 15. No companion 08. No need because [NAME] can still work 16. Others						
L06 (FOR HM AGED < 5 YEARS) SEE THE INSTRUMENT CARD							
L06	Xerofthalmia Check: FILL IN THE CHECK RESULT ACCORDING TO THE MOST SEVERE ABNORMALITY				Mata Kanan	Mata Kiri	
	1. No Corneal abnormality		5. The black eye part partially softens as mush		☐	☐	
	2. The white part of the eye is dry, dull, not shining		6. The entire black eye part softens as mush				
3. There are spots like soapsuds		7. The eye ball shrinks/deflates					
	4. The black part of the eye is dry, dull, not shining		8. NOT CHECKED				

M. EAR, NOSE, THROAT CHECK					
M01 – M02 (FOR HM AGED ≥ 2 YEARS)					
M01	OBSERVATION			Right Ear	Left Ear
	a. Ear hole anatomy	1. Wide 2. Narrow 3. No ear hole → M02		☐	☐
	b. Abnormality inside the ear hole IF THERE IS MORE THAN ONE ABNORMALITIES, SUM UP ALL THE MATCHING ANSWER CODE	0. No Abnormality 1. clear watery secretion 2. turbid viscous secretions 04. Secretion and blood 08. Granulation tissue 16. Cerumen 32. Cholesteatoma 88. NOT CHECKED		☐ ☐	☐ ☐
	c. Ear drums	1. Intact 2. Perforated 3. Cannot be evaluated 4. NOT CHECKED		☐	☐
	d. Retroauricular	1. Normal 2. Fistulas 3. Abscess 4. Scar 5. NOT CHECKED		☐	☐
M02	Does [NAME] have hearing disorder?		1. Yes, on one ear 2. Yes, on both ear 3. Yes, intermittent hearing disorder 4. No hearing disorder 8. Unknown	☐	
M03 (FOR HM AGED ≥ 5 YEARS)					
M03	Conversation Check (in a closed room) 1. Can hear and follow the words whispered 2. Can hear and follow the words spoken with normal volume 3. Can hear and follow the words spoken with hard volume 4. Can hear and follow the words spoken by shouting by the examiner on the ear with better hearing ability 5. Cannot hear the examiner's scream 7. Not applicable (The respondent is mute)				☐
N. PERMANENT TEETH STATUS CHECK AGED ≥ 12 YEARS					
N01	Is teeth check done?			1. Yes	2. No → 0.01
N02	Give the code in each dentogram box below: D = decayed tooth M = missing tooth F = filled tooth			DF = the tooth is filled and the tooth is perforated BT = the tooth is yet visible/ grow S = the tooth is not perforated and there is no filling (healthy tooth)	
				D-T: ☐ ☐ M-T: ☐ ☐ F-T: ☐ ☐ DF-T: ☐ ☐	
N03	Check the condition of the teeth and oral health				
	a. Crowding teeth	1. Yes	2. No	☐	d. Sprue
	b. Wobbly teeth	1. Yes	2. No	☐	e. Discolored due to smoke stain
	c. Tartar	1. Yes	2. No	☐	f. Gum disease

O. BLOOD SPECIMENS AND URINE SAMPLE COLLECTION			
O.01	Is blood specimen taken	1. Yes 2. No → O.03	☐
O.02	BLOOD DONOR STICKER	PUT STICKER HERE (XXXXXX)	
O.03	Is urine sample taken (HM aged 6 – 12 years & and female HM aged 15-49 years)	1. Yes 2. No	☐
O.04	URINE NUMBER STICKER	PUT STICKER HERE (XXXXXX)	

SURVEYOR'S NOTE	

