

**GLOBAL SCHOOL - BASED STUDENT HEALTH SURVEY**

**( GSHS )**

**INDONESIA**

**2007**

**COUNTRY REPORT**

A Collaboration Project of  
Indonesia Ministry of Health; Ministry of Education;  
The World Health Organization and the U.S. Centers for Disease Control and Prevention

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## Executive Summary

In 2001, WHO, in collaboration with UNAIDS, UNESCO, and UNICEF, and with technical assistance from the US Centers for Disease Control and Prevention (CDC), initiated development of the Global School-based Student Health Survey (GSHS).

To date, more than 50 countries have completed a GSHS. This report describes results from the first GSHS conducted in *INDONESIA* by the World Health Organization in collaboration with Ministry of Health, Ministry of Education, with technical assistance from US Centres for Disease Control and Prevention (CDC) conducting *GSHS* during October to December of 2007.

The purpose of the GSHS is to provide accurate data on health behaviours *and protective factors* among students to:

- Help countries develop priorities, establish programmes, and advocate for resources for school health and youth health programmes and policies;
- Establish trends in the prevalence of health behaviours *and protective factors* by country for use in evaluation of school health and youth health promotion; and
- Allow countries, international agencies, and others to make comparisons across countries and within countries regarding the prevalence of health behaviours *and protective factors*.

*The 2007 INDONESIA* GSHS employed a two-stage cluster sample design to produce a representative sample of students in *KELAS* (class) 7 -9. The first-stage sampling frame consisted of all schools containing any of *KELAS* (class) 7 -9. Schools were selected with probability proportional to school enrolment size. Fifty (50) schools were selected to participate in the *INDONESIA* GSHS.

The second stage of sampling consisted of randomly selecting intact classrooms (using a random start) from each school to participate. All classrooms in each selected school were included in the sampling frame. All students in the sampled classrooms were eligible to participate in the GSHS. The *INDONESIA* GSHS questionnaire contained 54 questions addressing the following topics:

- Alcohol and other drug use
- Dietary behaviors
- Hygiene
- Mental health
- Physical activity
- Protective factors
- Sexual behaviours that contribute to HIV infection, other STI, and unintended pregnancy
- Tobacco use
- Violence and unintentional injury

The questionnaire was developed by the Indonesia GSHS Team of Ministry of Health collaboration with Ministry of Education and WHO Jakarta had *developed Indonesia GSHS Questionnaire*. The Questionnaire then sent to CDC Atlanta, after that it was translated into *Bahasa* (Indonesian language). Then, the *Bahasa* version was translated back to English by different translator, and sent it to the CDC Atlanta to be reviewed. We made copy of the questionnaire after the CDC Atlanta

confirmed that there was no gap between the *Bahasa* and English version. The translation process takes 2 weeks time to complete.

For the 2007 *INDONESIA* GSHS, 3,116 questionnaires were completed in 49 schools. The school response rate was 98 %, the student response rate was 95 %, and the overall response rate was 93%. In this survey the prevalence of current alcohol use among students (i.e., drinking at least one drink containing alcohol on one or more of the past 30 days) is 2.6%. Male students (4.3%) are significantly *more* likely than female students (0.8%) to report current alcohol use.

Patterns of alcohol drinking vary considerably with cultural settings. Since the population of Indonesia is predominantly Moslem, alcohol drinking is not part of their cultural tradition. In fact, in some communities, alcohol drinking is regarded as not socially acceptable.

Recognizing that as well as being hazardous to health, the use of drugs is not socially acceptable, and is classified as a criminal act, it should be expected that drug use will be underreported. This survey reported that the prevalence of lifetime drug use (using drugs, such as *putaw* or *sabu-sabu*, one or more times during their life) is 0.5%. Male students (0.6%) and female students (0.3%) are equally likely to report lifetime drug use.

Information about smoking behaviour can be used to predict the prevalence of non-communicable diseases such as cardiovascular diseases, diabetes, chronic obstruction pulmonary diseases, and cancer. It is very sad that 10.9% of students and 21.6% of male students smoked cigarettes on one or more days during the past 30 days. Among students who smoked cigarettes during the past 30 days, 71.1% tried their first cigarette at age 13 or younger. Furthermore, 66.4% of students had a parent or guardian who uses any form of tobacco.

In this School Health Survey, 4.9% of students had sexual intercourse during the past 12 months. Male students (5.7%) and female students (4.2%) are also equally likely to have had sexual intercourse during the past 12 months. Based on this fact, the vulnerability of young people is compounded by their limited knowledge of how disease like HIV can be spread or how infection can be avoided. They often adopt risky behaviour since they are poorly informed about their bodies, sexuality and the consequences of unprotected sex.

At this important matter, school health programs can play an important role in helping students reduce their risk of pregnancy, STI, and HIV infection and AIDS.

Based on community norms and preferences, school health education can help students develop the knowledge and skills they need to avoid or reduce sexual risk behaviours, school health services can provide or refer to reproductive health services, and school health policies can protect students and staff infected with HIV and foster a safe and respectful environment for everyone.

Finally, to track the results change over time it will be important to repeat the GSHS in the future.

## Introduction

In 2001, WHO, in collaboration with UNAIDS, UNESCO, and UNICEF, and with technical assistance from the US Centers for Disease Control and Prevention (CDC), initiated development of the Global School-based Student Health Survey (GSHS).

Since 2003, Ministries of Health and Education around the world have been using the GSHS to periodically monitor the prevalence of important health risk behaviours and protective factors among students.

To date, more than 50 countries have completed a GSHS. This report describes results from the first GSHS conducted in *INDONESIA* by the World Health Organization in collaboration with Ministry of Health, Ministry of Education, with technical assistance from US Centres for Disease Control and Prevention (CDC) conducting *GSHS* during October to December of 2007.

The purpose of the GSHS is to provide accurate data on health behaviours *and protective factors* among students to:

- Help countries develop priorities, establish programmes, and advocate for resources for school health and youth health programmes and policies;
- Establish trends in the prevalence of health behaviours *and protective factors* by country for use in evaluation of school health and youth health promotion; and
- Allow countries, international agencies, and others to make comparisons across countries and within countries regarding the prevalence of health behaviours *and protective factors*.

The GSHS is a school-based survey conducted primarily among students aged 13-15 years. It measures behaviours *and protective factors* related to the leading causes of mortality and morbidity among youth and adults in *INDONESIA*:

- Alcohol and other drug use
- Dietary behaviours
- Hygiene
- Mental health
- Physical activity
- Protective factors
- Sexual behaviours that contribute to HIV infection, other STI, and unintended pregnancy
- Tobacco use
- Violence and unintentional injury

Adolescents health is one of the important health issues in human health life cycle. Health status in adult mostly as the outcome of health behavior of lifestyle in younger age, such as during adolescence. Healthy behaviour during younger age is one of the important aspects to create more qualified and productive human resources in the future. Several behaviour risk factors in adolescent include smoking, unhealthy diet, lack of physical activity, personal hygiene and sanitation, stress/depression, drug abuse, and alcohol consumption.

Smoking proportion in male adolescents is considerably high. Survey in high school students showed that 69.3% male high school students ever try smoking. The proportion of regular smoker in males adolescent age 15 to 19 increased from 36.8% in 1997 to 42.6% in 2000. (WHO, 2003).

Result from global youth tobacco survey 2004 showed that the prevalence of student who ever smoke was 33%, while the prevalence of current smokers was 22%. (MOH, 2004).

Numerous small-scale studies have been carried out in Indonesia to measure the knowledge, attitudes, and behaviour of young people with respect to basic hygiene, health, human reproductive system, and exposure to information on these subjects.

Programs are being developed to increase the knowledge of youth on infectious diseases.

Furthermore, programs are being developed to improve knowledge on mental health, neurosis, psychosis and the use of illicit and addictive drugs (Sahanaya, 2002).

Directorate of Public Health Ministry of Health stated that information of risk behaviour among school age adolescent is crucial for developing prevention program of risk behaviour among adolescent, particularly to build more healthy and qualified young generation for the future development. Current data that specifically describe the adolescent health in school based setting is not available yet in Indonesia. The WHO has developed school based survey to describe the risk behaviour and protective behaviour among school age adolescent (13 to 15 years). The Global School-based Student Health Survey (GSHS) has been conducted in 48 countries in Asia, Africa, Middle East, and Latin America. By using standardized instrument, the results can be comparable for international or country level.

## Methods

*The 2007 INDONESIA* GSHS employed a two-stage cluster sample design to produce a representative sample of students in *KELAS* (class) 7 -9. The first-stage sampling frame consisted of all schools containing any of *KELAS* (class) 7 -9. Schools were selected with probability proportional to school enrolment size. Fifty (50) schools were selected to participate in the *INDONESIA* GSHS.

The second stage of sampling consisted of randomly selecting intact classrooms (using a random start) from each school to participate. All classrooms in each selected school were included in the sampling frame. All students in the sampled classrooms were eligible to participate in the GSHS.

A weighting factor was applied to each student record to adjust for non-response and for the varying probabilities of selection.

For the *2007 INDONESIA* GSHS, 3,116 questionnaires were completed in 49 schools. The school response rate was 98 %, the student response rate was 95 %, and the overall response rate was 93%.

The data set was cleaned and edited for inconsistencies. Missing data were not statistically imputed. Software that takes into consideration the complex sample design was used to compute prevalence estimates and 95% confidence intervals. GSHS data are representative of all students attending *Class 7 -9 in INDONESIA*. Missing data were not statistically imputed. Software that takes into consideration the complex sample design was used to computed prevalence estimates and 95% confidence intervals. GSHS data are representative of all students attending *Class 7 -9 in INDONESIA* .

Survey administration occurred from October to December 2007. Survey procedures were designed to protect student privacy by allowing for anonymous and voluntary participation. Students completed the self-administered questionnaire during one classroom period and recorded their responses directly on a computer-scannable answer sheet. Approximately, 14 Survey Administrators were specially trained to conduct the GSHS. The survey administrators are from the National Institute of Health Research and Development, Directorate of Public Health, and Ministry of Education office. Some local health office in provincial and district level also involve in the data collection activities.

The INDONESIA GSHS questionnaire contained 54 questions addressing the following topics:

- Alcohol and other drug use
- Dietary behaviors
- Hygiene
- Mental health
- Physical activity
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## Results

### Demographics

The demographic characteristics of the sample are described in the following table.

In this survey, over half (50.1%) of respondents were females and 49.9% were males. Fifty-one per cent were attending Class 8 (2<sup>nd</sup> grade), 48.4% were in Class 9 and only 0.3% in Class 7. Over ninety per cent respondents age is 13 to 15 years old, 3.9% of respondents age is 12 years old or younger and 2.7% of respondents age is 16 years old and older.

**Table 1. Demographic characteristics of the sample INDONESIA, 2007.**

	Sex		Age			Kelas		
	Males	Females	12 or younger	13-15	16 or older	Kelas 7	Kelas 8	Kelas 9
<b>INDONESIA</b>	49.9%	50.1%	3.9%	93.5%	2.7%	0.3%	51.3%	48.4%



## Alcohol and Other Drug Use

Worldwide, alcohol use causes 3% of deaths (1.8 million) annually, which is equal to 4% of the global disease burden. Across sub-regions of the world, the proportion of disease burden attributable to alcohol use is greatest in the Americas and Europe ranging from 8% to 18% of total burden for males and 2% to 4% of total burden for females. Besides the direct effects of intoxication and addiction, alcohol use causes about 20% to 30% of each of oesophageal cancer, liver disease, homicide and other intentional injuries, epilepsy, and motor vehicle accidents worldwide (1), and heavy alcohol use places one at greater risk for cardiovascular disease (2).

In most countries, alcohol-related mortality is highest among 45- to 54-year-olds, but the relationship between the age of initiation of alcohol use and the pattern of its use and abuse in adulthood makes the study of alcohol consumption among adolescents important (3).

Intentional and unintentional injuries are far more common among youth and young adults. Unintentional injuries are the leading cause of death among 15- to 25-year-olds and many of these injuries are related to alcohol use (4).

Young people who drink are more likely to use tobacco and other drugs and engage in risky sexual behaviour, than those who do not drink (5,6). Problems with alcohol can impair adolescents' psychological development and influence both the school environment and leisure time negatively (7).

**Table 2. Alcohol use and other drug use among students, by sex, INDONESIA, 2007.**

Questions	Total % (CI)*	Sex	
		Male % (CI)	Female % (CI)
Drank at least one drink containing alcohol on one or more of the past 30 days	2.6 % (1.4 - 3.7)	4.3 % (2.3 - 6.3)	0.8 % (0.2 - 1.4)
Drank one or more drinks per day on the days they drank alcohol during the past 30 days	NA	NA	NA
Usually got the alcohol they drank by buying it in a store, shop, or from a street vendor during the past 30 days.	NA	NA	NA
Drank so much alcohol they were really drunk one or more times during their life	2.5 % (1.4 - 3.7)	4.6 % (2.2 - 7.0)	0.5 % (0.0 - 0.9)
Had a hang-over, felt sick, got into trouble, missed school, or got into fights one or more times as a result of drinking alcohol during their life	1.9 % (1.1 - 2.8)	2.6 % (1.1 - 4.1)	1.2 % (0.4 - 2.0)
Used drugs such as putaw or sabu-sabu one or more times during their life	0.5 % (0.1 - 0.8)	0.6 % (0.0 - 1.3)	0.3 % (0.0 - 0.7)

\*95% confidence interval.

In *INDONESIA*, the prevalence of current alcohol use among students (i.e., drinking at least one drink containing alcohol on one or more of the past 30 days) is 2.6%. Male students (4.3%) are significantly *more* likely than female students (0.8%) to report current alcohol use.

During their life, 2.5% of students drank so much alcohol they were really drunk one or more times. Male students (4.6%) are significantly *more* likely than female students (0.5%) to drink so much alcohol they are really drunk one or more times. Overall, 1.9% of students ever had a hang-over, felt sick, got into trouble, missed school, or got into fights one or more times as a result of drinking alcohol during their life. Male students (2.6%) are equally likely as female students (1.2%) to have a hang-over, feel sick, get into trouble, miss school or get into fights as a result of drinking alcohol.

In *INDONESIA*, the prevalence of lifetime drug use (using drugs, such as putaw or sabu-sabu, one or more times during their life) is 0.5%. Male students (0.6%) and female students (0.3%) are equally likely to report lifetime drug use.

## Dietary Behaviours

During adolescence, overweight is associated with hyperlipidemia, raised blood pressure (hypertension), abnormal glucose tolerance, and adverse psychological and social consequences.

Overweight acquired during childhood or adolescence may persist into adulthood and increase risk later in life for coronary heart disease, diabetes, gallbladder disease, some types of cancer, and osteoarthritis of the weight-bearing joints. Nutritional deficiencies as a result of food insecurity (protein-energy malnutrition, iron, Vitamin A, and iodine deficiency) affect school participation and learning (8).

Fruits and vegetables are good sources of complex carbohydrates, vitamins, minerals, and other substances important for good health. Dietary patterns that include higher intakes of fruits and vegetables are associated with several health benefits, including a decreased risk for some types of cancer (9).

**Table 3. BMI and dietary behaviours, by sex, INDONESIA, 2007.**

Question	Total % (CI)*	Sex	
		Male % (CI)	Female % (CI)
At risk for becoming overweight <sup>1</sup>	5.8 % ( 3.6 – 8.0)	7.8 % (4.6 – 11.1)	3.9 % (2.5 – 5.4)
Overweight <sup>2</sup>	1.3 % (0.8 – 1.8)	1.6 % ( 1.2 – 2.0)	1.0 % ( 0.3 – 1.7)
Went hungry most of the time or always because there was not enough food in their home during the past 30 days	5.9 % (3.9 – 7.8)	7.0 % ( 4.4 – 9.5)	4.8 % (2.6 – 7.0)
Usually ate fruit, such as <i>nanas</i> , papaya, <i>pisang</i> , or <i>semangka</i> one or more times per day during the past 30 days	69.6 % (65.6 – 73.7)	67.0 % ( 62.3 – 71.6)	72.3 % (67.5 – 77.0)
Usually ate vegetables, such as <i>wortel</i> , <i>kol</i> , <i>bayam</i> , or <i>kangkung</i> one or more times per day during the past 30 days	83.3 % (80.2 – 86.4)	80.4 % (75.7 – 85.2)	86.2 % (83.7 – 88.6)
Ate fruits and vegetables five or more times per day during the past 30 days	24.9 % (22.4 – 27.3)	25.6 % (22.7 – 28.5)	24.1 % (20.6 – 27.7)

\*95% confidence interval.

<sup>1</sup>Students who were at or above the 85<sup>th</sup> percentile, but below the 95<sup>th</sup> percentile for body mass index by age and sex based on reference data from Cole, Bellizzi, Flegal, and Dietz, *BMJ*, May 2000.

<sup>2</sup>Students who were at or above the 95<sup>th</sup> percentile for body mass index by age and sex based on reference data from Cole, Bellizzi, Flegal, and Dietz, *BMJ*, May 2000.

In *INDONESIA*, 5.8% students were at risk for becoming overweight (i.e., at or above the 85<sup>th</sup> percentile, but below the 95<sup>th</sup> percentile for body mass index by age and sex) and 1.3% were overweight (i.e., at or above the 95<sup>th</sup> percentile for body mass index by age and sex). Male students (7.8%) and female students are equally likely (3.9%) to be at risk for becoming overweight or overweight.

Overall, 5.9% of students went hungry most of the time or always because there was not enough food in their home during the past 30 days. Male students (7.0%) and female students (4.8%) are equally likely to go hungry most of the time or always because there is not enough food in their home.

Overall, 69.6% of students usually ate fruit, such as as *nanas* (Pineapple), *papaya* (papayas), *pisang* (banana), or *semangka* (watermelon), one or more times per day during the past 30 days. Male students (67.0%) and female students (72.3%) are equally likely to eat fruit one or more times per day. Overall, 83.3% of students usually ate vegetables, such as *wortel* (carrot), *kol* (cabbage), *bayam* (spinach), or *kangkung* (kangkong), one or more times per day during the past 30 days. Male students (80.4%) and female students (86.2%) are equally likely to eat vegetables one or more times per day. Overall, 24.9% of students usually ate fruits and vegetables five or more times per day during the past 30 days. Male students (25.6%) and female students (24.1%) are equally likely to eat fruits and vegetables five or more times per day.

## Hygiene

Dental caries affect between 60-90% of children in developing countries and is the most prevalent oral disease among children in several Asian and Latin American countries. In Africa, the incidence of dental caries is expected to rise drastically in the near future due to increased sugar consumption and inadequate fluoride exposure (10). In addition to causing pain and discomfort, poor oral health can affect children's ability to communicate and learn. More than 50 million school hours are lost annually because of oral health problems (11). In both developed and developing countries, many children do not have access to water fluoridation or professional dental care. Daily tooth cleaning or brushing can help prevent some dental disease (12).

Diarrhoeal diseases kill nearly 2 million children every year. Hygiene education and the promotion of hand-washing can reduce the number of diarrhoeal cases by 45% (13). About 400 million school-aged children are infected with worms worldwide. These parasites consume nutrients from children they infect, cause abdominal pain and malfunction, and can impair learning by slowing cognitive development (14).

**Table 4. Hygiene-related behaviours, by sex, INDONESIA, 2007.**

Question	Total % (CI)*	Sex	
		Male % (CI)	Female % (CI)
Did not clean or brush their teeth during the past 30 days	2.6 % ( 2.0 - 3.3 )	3.9 % ( 2.9- 4.8)	1.4% ( 0.6 - 2.2 )
Never or rarely washed their hands before eating during the past 30 days	4.3% ( 3.2 - 5.4 )	5.7 % ( 3.7- 7.7)	2.8 % ( 1.9 - 3.7 )
Never or rarely washed their hands after using the toilet or latrine	2.6 % ( 1.9 - 3.4 )	3.6% ( 2.3- 4.8)	1.7% ( 0.9 - 2.4 )
Never or rarely used soap when washing their hands	8.9% ( 7.1 - 10.8 )	11.4% ( 8.9- 13.9)	6.5 % ( 4.7 - 8.3 )

\*95% confidence interval.

In *INDONESIA*, the percentage of students who did not clean or brush their teeth during the past 30 days was 2.9%. Male students (3.9%) are significantly *more* likely than female students (1.4%) to not clean or brush their teeth. Overall, 4.3% of students never or rarely washed their hands before eating during the past 30 days. Male students (5.7%) and female students (2.8%) are equally likely to never or rarely wash their hands before eating. Overall, 2.6% of students never or rarely washed their hands after using the toilet or latrine during the past 30 days. Male students (3.6%) and female students (1.7%) are equally likely to never or rarely wash their hands after using the toilet or latrine. Overall, 8.9% of students never or rarely used soap when washing their hands during the past 30 days. Male students (11.4%) are significantly *more* likely than female students (6.5%) to never or rarely use soap when washing their hands.

## Mental Health

World-wide, approximately 20% of children and adolescents suffer from a disabling mental illness (15). Anxiety disorders, depression and other mood disorders, and behavioural and cognitive disorders are among the most common mental health problems among adolescents. Half of all lifetime cases of mental disorders start by age 14 (16).

Every country and culture has children and adolescents struggling with mental health problems. Most of these young people suffer needlessly, unable to access appropriate resources for recognition, support, and treatment. Ignored, these young people are at high risk for abuse and neglect, suicide, alcohol and other drug use, school failure, violent and criminal activities, mental illness in adulthood, and health-jeopardizing impulsive behaviours. Each year, about 4 million adolescents world-wide attempt suicide. Suicide is the third leading cause of death among adolescents (17,18).

**Table 5. Mental health issues among students, by sex, INDONESIA, 2007.**

Question	Total % (CI)*	Sex	
		Male % (CI)	Female % (CI)
Most of the time or always felt lonely during the past 12 months	8.6 % ( 7.6 - 9.6 )	7.0 % ( 5.6- 8.5)	10.3 % ( 9.1 - 11.6 )
Most of the time or always felt so worried about something that they could not sleep at night during the past 12 months	7.7% ( 6.3 - 9.1 )	7.5 % ( 5.8- 9.2)	8.0 % ( 6.0 - 9.9 )
Felt so sad or hopeless almost every day for two weeks or more in a row that they stopped doing their usual activities during the past 12 months	21.3 % ( 18.4 - 24.1 )	20.6 % ( 18.3- 23.0)	22.1% ( 18.4 - 25.8 )
Seriously considered attempting suicide during the past 12months	4.2 % ( 2.9 - 5.5 )	3.5 % ( 2.0- 5.0)	4.9% ( 3.6 - 6.3 )
Made a plan about how they would attempt suicide during the past 12 months	3.3 % ( 2.3 - 4.3 )	2.6 % ( 1.4- 3.7)	4.1% ( 2.9 - 5.3 )
Have no close friends	1.4% ( 0.9 - 1.9 )	1.9 % ( 1.1- 2.6)	0.9 % ( 0.5 - 1.4 )

\*95% confidence interval.

In *INDONESIA*, 8.6% of students most of the time or always felt lonely during the past 12 months. Male students (7.0%) are significantly *less* likely than female students (10.3%) to feel lonely most of the time or always. Overall, 7.7% of students most of the time or always felt so worried about something that they could not sleep at night during the past 12 months. Male students (7.5%) and female students (8.0%) are equally likely to most of the time or always feel so worried about something they can not sleep at night. Overall, 21.3% of students felt so sad or hopeless almost every day for two weeks or more in a row that they stopped doing their usual activities during the past 12 months. Male students (20.6%) and female students (22.1%) are equally likely to feel so sad or hopeless almost every day for two weeks or more in a row.

Overall, 4.2% of students seriously considered attempting suicide during the past 12 months. Male students (3.5%) and also female students (4.9%) are equally likely to seriously consider attempting suicide. Overall, 3.3% of students made a plan about they would attempt suicide during the past 12 months. Male students (2.6%) and female students (4.1%) are equally likely to seriously consider attempting suicide. Overall, 1.4% of students have no close friends. Male students (1.9%) and female students (0.9%) are equally likely to have no close friends.

## Physical Activity

Participating in adequate physical activity throughout the life span and maintaining normal weight are the most effective ways of preventing many chronic diseases, including cardiovascular disease and diabetes (19).

The prevalence of type 2 diabetes is increasing globally and now is occurring during adolescence and childhood (20). Participating in adequate physical activity also helps build and maintain healthy bones and muscles, control weight, reduce blood pressure, ensure a healthy blood profile, reduce fat, and promote psychological well-being (21).

Roughly 60% of the world's population is estimated to not get enough physical activity. Patterns of physical activity acquired during childhood and adolescence are more likely to be maintained throughout the life span, thus sedentary behaviour adopted at a young age is likely to persist (22).

**Table 6. Physical activity among students, by sex, INDONESIA, 2007.**

Question	Total % (CI)*	Sex	
		Male % (CI)	Female % (CI)
Physically active all seven days for a total of at least 60 minutes per day during the past seven days	16.5 % ( 14.1 - 18.9 )	16.1 % ( 13.7- 18.4)	16.8 % ( 13.1 - 20.6 )
Physically active seven days for a total of at least 60 minutes per day during a typical or usual week	14.3 % ( 12.0 - 16.6 )	14.6 % ( 12.0- 17.2)	13.9 % ( 10.8 - 17.0 )
Participated in physical activity for a total of at least 60 minutes per day on five or fewer days on average	78.8 % ( 75.1 - 82.5 )	76.9 % ( 72.5- 81.2)	80.8 % ( 76.5 - 85.1 )
Spent three or more hours per day doing sitting activities during a typical or usual day	33.6 % ( 28.7 - 38.4 )	32.8% ( 27.1- 38.6)	34.2 % ( 29.1 - 39.3 )
Did not walk or bicycle to and from school during the past seven days	38.9 % ( 31.9 - 45.9 )	40.3 % ( 32.5- 48.0)	37.7 % ( 30.6 - 44.8 )
Usually took less than 30 minutes to get to and from school each day during the past seven days	67.5 % ( 62.8 - 72.1 )	70.8 % ( 65.5- 76.1)	64.3 % ( 59.2 - 69.4 )
Walked or bicycled to and from school for a total of 150 minutes or more during the past seven days	73.9 % ( 68.5 - 79.4 )	76.6 % ( 70.4- 82.9)	71.4 % ( 65.8 - 77.0 )

\*95% confidence interval.

In *INDONESIA*, 16.5% of students were physically active all 7 days during the past 7 days for a total of at least 60 minutes per day. Male students (16.1%) and female students (16.8%) are equally likely to be physically active all 7 days during the past 7 days. Overall, 14.3% of students were physically active 7 days during a typical or usual week for a total of at least 60 minutes per day. Male students (14.6%) and female students (13.9%) are equally likely to be physically active 7 days during a typical or usual week. Overall, 78.8% of students participated in insufficient physical activity (i.e., participated in physical activity for a total of at least 60 minutes per day on five or fewer days on average). Male students (76.9%) and female students (80.8%) are equally likely to participate in insufficient physical activity.

Overall, 33.6% of students spent three or more hours per day doing sitting activities during a typical or usually. Male students (32.8%) and female students (34.2%) are equally likely to spend three or more hours per day doing sitting activities.

Overall, 38.9% of students did not walk or bicycle to and from school during the past 7 days. Male students (40.3%) and female students (37.7%) are equally likely to not walk or bicycle to and from school during the past 7 days. Overall, 67.5% of students usually took less than 30 minutes to get to and from school each day during the past 7 days. Male students (70.8%) and female students (64.3%) are equally likely to usually take less than 30 minutes to get to and from school each day. Overall, 73.9% of students walked or bicycled to and from school for a total of 150 minutes or more during the past seven days. Male students (76.6%) and female students (71.4%) are equally likely to walk or bicycle to and from school for a total of 150 minutes or more during the past seven days.

## Protective Factors

For most adolescents, school is the most important setting outside of the family. School attendance is related to the prevalence of several health risk behaviours including violence and sexual risk behaviours (23).

Adolescents who have a positive relationship with teachers, and who have positive attitudes towards school are less likely to initiate sexual activity early, less likely to use substances, and less likely to experience depression. Adolescents who live in a social environment which provides meaningful relationships, encourages self-expression, and also provides structure and boundaries, are less likely to initiate sex at a young age, less likely to experience depression, and less likely to use substances (24).

Being liked and accepted by peers is crucial to young people's health development, and those who are not socially integrated are far more likely to exhibit difficulties with their physical and emotional health. Isolation from peers in adolescence can lead to feelings of loneliness and psychological symptoms. Interaction with friends tends to improve social skills and strengthen the ability to cope with stressful events (25).

Parental bonding and connection is associated with lower levels of depression and suicidal ideation, alcohol use, sexual risk behaviours, and violence (26).

**Table 7. Protective factors among students, by sex, INDONESIA, 2007.**

Question	Total % (CI)*	Sex	
		Male % (CI)	Female % (CI)
Missed classes or school without permission on one or more of the past 30 days	32.3 % ( 27.6 - 37.1 )	39.7 % ( 32.5- 46.8)	25.2 % ( 21.3 - 29.1 )
Most of the students in their school were kind and helpful never or rarely during the past 30 days	22.2 % ( 18.1 - 26.4 )	26.6 % ( 21.3- 32.0)	17.5 % ( 13.7 - 21.3 )
Parents or guardians checked to see if their homework was done never or rarely during the past 30 days	37.5 % ( 33.8 - 41.2 )	38.7 % ( 33.4- 43.9)	36.4 % ( 33.5 - 39.3 )
Parents or guardians understood their problems and worries never or rarely during the past 30 days	36.2 % ( 33.6 - 38.7 )	36.9 % ( 34.2- 39.5)	35.4 % ( 32.5 - 38.3 )
Parents or guardians really knew what they were doing with their free time never or rarely during the past 30 days	27.3 % ( 24.2 - 30.3 )	31.0 % ( 27.5- 34.5)	23.4 % ( 20.3 - 26.4 )

\*95% confidence interval.

In *INDONESIA*, 32.3% of students missed classes or school without permission on one or more of the past 30 days. Male students (39.7%) are significantly *more* likely than female students (25.2%) to miss classes or school without permission.

Overall, 22.2% of students reported that most of the students in their school were kind and helpful never or rarely during the past 30 days. Male students (26.6%) and female students (17.5%) are equally likely to report that most of the students in their school are kind and helpful never or rarely during the past 30 days.



Overall, 37.5% of students reported their parents or guardians checked to see if their homework was done never or rarely during the past 30 days. Male students (38.7%) are equally likely as female students (36.4%) to report their parents or guardians check to see if their homework is done never or rarely. Overall, 36.2% of students reported their parents or guardians understood their problems and worries never or rarely during the past 30 days. Male students (36.9%) are equally likely as female students (35.4%) to report their parents or guardians understand their problems and worries never or rarely. Overall, 27.3% of students reported their parents or guardians really know what they were doing with their free time never or rarely during the past 30 days. Male students (31.0%) are significantly *more* likely than female students (23.4%) to report their parents or guardians really know what they are doing with their free time never or rarely.

## Sexual Behaviours that Contribute to HIV Infection, Other STI, and Unintended Pregnancy

AIDS has killed more than 25 million people since 1981. As of 2005, an estimated 40.3 million people were living with HIV. In that year alone, roughly 3.1 million people died of HIV and another 4.9 million people became infected with HIV (27). Young people between the ages of 15 and 24 are the most threatened group, accounting for more than half of those newly infected with HIV. At the end of 2003, an estimated 10 million young people aged 15 to 24 were living with HIV. Studies show that adolescents who begin sexual activity early are likely to have sex with more partners and with partners who have been at risk of HIV exposure and are not likely to use condoms. In many countries, HIV infection and AIDS is reducing average life expectancy, threatening food security and nutrition, dissolving households, overloading the health care system, reducing economic growth and development, and reducing school enrolment and the availability of teachers (28).

STIs are among the most common causes of illness in the world and have far-reaching health consequences. They facilitate the transmission of HIV and, if left untreated, can lead to cervical cancer, pelvic inflammatory diseases, and ectopic pregnancies (29). Worldwide, the highest reported rates of STIs are found among people between 15 and 24 years; up to 60% of the new infections and half of all people living with HIV globally are in this age group (30).

**Table 8. Sexual behaviours that contribute to HIV infection, other STI, and unintended pregnancy among students, by sex, INDONESIA, 2007.**

Question	Total % (CI)*	Sex	
		Male % (CI)	Female % (CI)
Initiated sexual intercourse before age 13 years	0.4 % ( 0.1 - 0.6 )	0.7 % ( 0.2- 1.2)	0.1 % ( 0.0 - 0.1 )
Had sexual intercourse during the past 12 months	4.9 % ( 3.8 - 6.0 )	5.7 % ( 3.8- 7.6)	4.2 % ( 3.1 - 5.2 )

\*95% confidence interval.

In *INDONESIA* , 0.4% of students initiated sexual intercourse before age 13 years. Male students (0.7%) and female students (0.1%) are equally likely to have initiated sexual intercourse before age 13 years. Overall, 4.9% of students had sexual intercourse during the past 12 months. Male students (5.7%) and female students (4.2%) are also equally likely to have had sexual intercourse during the past 12 months.



## Tobacco Use

About 1.1 billion people worldwide smoke and the number of smokers continue to increase. Among these, about 84% live in developing and transitional economy countries. Currently 5 million people die each year from tobacco consumption, the second leading cause of death worldwide. If present consumption patterns continue, it is estimated that deaths from tobacco consumption will be 10 million people per year by 2020 (31). The overwhelming majority of smokers begin tobacco use before they reach adulthood. Among those young people who smoke, nearly one-quarter smoked their first cigarette before they reached the age of ten.

Smokers have markedly increased risks of multiple cancers, particularly lung cancer, and are at far greater risk of heart disease, strokes, emphysema and many other fatal and non-fatal diseases. If they chew tobacco, they risk cancer of the lip, tongue and mouth. Children are at particular risk from adults' smoking. Adverse health effects include pneumonia and bronchitis, coughing and wheezing, worsening of asthma, middle ear disease, and possibly neuro-behavioural impairment and cardiovascular disease in adulthood. Many studies show that parental smoking is associated with higher youth smoking (32).

**Table 9. Tobacco use among students, by sex, INDONESIA, 2007.**

Question	Total % (CI)*	Sex	
		Male % (CI)	Female % (CI)
Smoked cigarettes on one or more days during the past 30 days	10.9 % ( 8.3 – 13.5 )	21.6 % ( 16.9 – 26.2)	0.8 % (0.3 – 1.3)
Among students who smoked cigarettes during the past 30 days, those who tried their first cigarette at age 13 or younger	71.1 % ( 66.3 – 75.9)	71.4 % ( 66.4 – 76.3)	NA
Used any other form of tobacco, such as sirih or cerutu , on one or more days during the past 30 days	3.9 % ( 2.9 - 4.8 )	6.7 % ( 4.9- 8.4)	1.1 % ( 0.6 - 1.6 )
Among students who smoked cigarettes during the past 12 months, those who tried to stop smoking cigarettes	85.5 % ( 79.8 - 91.2 )	87.5 % ( 81.9- 93.1)	NA
People smoked in their presence on one or more days during the past seven days	85.5 % ( 83.9 - 87.0 )	87.8 % ( 85.9- 89.7)	83.2 % ( 81.4 - 85.0 )
Have a parent or guardian who uses any form of tobacco	66.4 % ( 61.8 - 70.9 )	63.7 % ( 58.4- 69.1)	69.1 % ( 64.6 - 73.6 )

\*95% confidence interval.

In *INDONESIA*, 10.9% of students and 21.6% of male students smoked cigarettes on one or more days during the past 30 days. Among students who smoked cigarettes during the past 30 days, 71.1% tried their first cigarette at age 13 or younger. Overall, 3.9% of students used any other form of tobacco on one or more days during the past 30 days. Male students (6.7%) are significantly *more* likely than female students (1.1%) to use any other form of tobacco on one or more days. Among students who smoked cigarettes during the past 12 months, 85.5% of students and 87.5% of male students tried to stop smoking cigarettes.

Overall, 85.5% of students reported that people smoked in their presence on one or more days during the past seven days. Male students (87.8%) are equally likely as female students (83.2%) to

report that people smoked in their presence on one or more days. Overall, 66.4% of students had a parent or guardian who uses any form of tobacco. Male students (63.7%) are equally likely as female students (69.1%) to have a parent or guardian who uses any form of tobacco.

## Violence and Unintentional Injury

Unintentional injuries are a major cause of death and disability among young children (33). Each year, about 875,000 children under the age of 18 die from injuries and 10 to 30 million have their lives affected by injury. Injury is highly associated with age and gender. Males aged 10-14 have 60% higher injury death rates than females. Teenagers aged 15-19 have higher rates than those aged 10-14 years (64 compared to 29 per 100,000).

Estimated global homicide death rate for males aged 15-17 is 9 per 100,000 (34). For every youth homicide, approximately 20 to 40 victims of non-fatal youth violence receive hospital treatment (35). Many unintentional injuries lead to permanent disability and brain damage, depression, substance abuse, suicide attempts, and the adoption of health risk behaviours. Victims of bullying have increased stress and a reduced ability to concentrate and are at increased risk for substance abuse, aggressive behaviour, and suicide attempts (36).

**Table 10. Violence and unintentional injury among students, by sex, INDONESIA, 2007.**

Question	Total % (CI)*	Sex	
		Male % (CI)	Female % (CI)
Were in a physical fight one or more times during the past 12 months	33.6 % ( 30.4 - 36.9 )	46.9 % ( 42.8- 51.1)	20.6 % ( 17.5 - 23.8 )
Were seriously injured one or more times during the past 12 months	45.9 % ( 41.9 - 50.0 )	55.4 % ( 50.1- 60.7)	36.8 % ( 33.3 - 40.3 )
Among students who were seriously injured during the past 12 months, those whose most serious injury happened to them while they were playing or training for a sport	24.1 % ( 21.3 - 26.8 )	30.0 % ( 26.2- 33.9)	15.5 % ( 11.0 - 20.0 )
Among students who were seriously injured during the past 12 months, those whose most serious injury was the result of a fall	40.2 % ( 37.7 - 42.7 )	39.9 % ( 36.9- 42.9)	40.9 % ( 37.4 - 44.5 )
Among students who were seriously injured during the past 12 months, those who most serious injury was the result of them hurting themselves by accident	51.6 % ( 47.3 - 55.9 )	50.8 % ( 45.2- 56.4)	52.7 % ( 47.7 - 57.7 )
Among students who were seriously injured during the past 12 months, those who had a broken bone or dislocated joint as their most serious injury	36.6 % ( 32.5 - 40.8 )	42.0 % ( 36.6- 47.4)	28.9 % ( 24.4 - 33.4 )
Were bullied on one or more days during the past 30 days	49.7 % ( 44.7 - 54.7 )	55.0 % ( 48.9- 61.2)	44.7 % ( 40.5 - 48.9 )
Among students who were bullied during the past 30 days, those who were bullied most often by being hit, kicked, pushed, shoved around, or locked indoors	8.2 % ( 6.4 - 9.9 )	10.9 % ( 8.3- 13.4)	5.1 % ( 3.1 - 7.1 )

\*95% confidence interval.

In *INDONESIA*, 33.6% of students were in a physical fight one or more times during the past 12 months. Male students (46.9%) are significantly *more* likely than female students (20.6%) to have been in a physical fight. Overall, 45.9% of students were seriously injured one or more times during

the past 12 months. Male students (55.4%) are significantly *more* likely than female students (36.8%) to have been seriously injured. Among students who were seriously injured during the past 12 months, 24.1% were playing or training for a sport when their most serious injury happened to them, 40.2% had their most serious injury caused by a fall, 51.6% had their most serious injury occur as a result of hurting themselves by accident, and 36.6% experienced a broken bone or dislocated joint as their most serious injury. Male students (30.0%) are significantly *more* likely than female students (15.5%) to be playing or training for a sport when their most serious injury happens to them. Male students (39.9%) and female students (40.9%) are equally likely to have their most serious injury be caused by a fall. Male students (50.8%) and female students (52.7%) are equally likely to have their most serious injury be as a result of hurting themselves by accident. Male students (42.0%) are significantly *more* likely than female students (28.9%) to experience a broken bone or dislocated joint as their most serious injury.

Overall, 49.7% of students were bullied on one or more days during the past 30 days. Male students (55.0%) and female students (44.7%) are equally likely to be bullied on one or more days. Among students who were bullied during the past 30 days, 8.2% were bullied most often by being hit, kicked, pushed, shoved around, or locked indoors. Male students (10.9%) are significantly *more* likely than female students (5.1%) to be bullied most often by being hit, kicked, pushed, shoved around, or locked indoors.

## Conclusions and Recommendations

In this survey the prevalence of current alcohol use among students (i.e., drinking at least one drink containing alcohol on one or more of the past 30 days) is 2.6%. Male students (4.3%) are significantly *more* likely than female students (0.8%) to report current alcohol use.

Patterns of alcohol drinking vary considerably with cultural settings. Since the population of Indonesia is predominantly Moslem, alcohol drinking is not part of their cultural tradition. In fact, in some communities, alcohol drinking is regarded as not socially acceptable. In the 2002-2003 Indonesia Young Adult Reproductive Health Survey (IYARHS), men are more likely than women to drink alcohol. A total of 34 percent of men have drunk alcohol at sometime. Of these, less than 1 percent drink daily, 16 percent are occasional drinkers, and 18 percent have not drunk in the past three months. These findings are supported by data from 2001 National Health Survey which indicated that only 2 percent of women age 15 and older have drunk alcohol. The corresponding percentage for men is 77 percent. The survey further shows that 6 percent of men and 1 percent of women are current drinkers (37).

Recognizing that as well as being hazardous to health, the use of drugs is not socially acceptable, and is classified as a criminal act, it should be expected that drug use will be underreported. This survey reported that the prevalence of lifetime drug use (using drugs, such as *putaw* or *sabu-sabu*, one or more times during their life) is 0.5%. Male students (0.6%) and female students (0.3%) are equally likely to report lifetime drug use. In the 2002-2003 IYARHS, 8 percent of men age 15-24 reported having used drugs, and almost all of them have smoked the drugs. About 3 percent of these respondents reported that they inhaled, injected, or drank or swallowed the drug (38).

Another risks behaviour among young people is tobacco consumption. One of the targets of the Indonesia Ministry of Health (MOH) programs in community empowerment and healthy behaviour is to reduce the prevalence of smoking while creating a healthy environment that is free of cigarette smoking at school, work, and public areas (39). Tobacco smoking is associated with major health problems. Information about smoking behaviour can be used to predict the prevalence of non-communicable diseases such as cardiovascular diseases, diabetes, chronic obstruction pulmonary diseases, and cancer (38). It is very sad that 10.9% of students and 21.6% of male students smoked cigarettes on one or more days during the past 30 days. Among students who smoked cigarettes during the past 30 days, 71.1% tried their first cigarette at age 13 or younger. Furthermore, 66.4% of students had a parent or guardian who uses any form of tobacco.

The 2001 National Socioeconomic Survey (Susenas) found that the prevalence of smoking among people age 10 and older, measured by the percentage who smoked in the month preceding the survey, had increased from 23 percent in 1995 to 28 percent in 2001. The Susenas survey also showed that the largest proportion (92%) of smokers said that they usually smoke at home together with other members of their family (40). Data from the 2001 National Health Survey (NHS) indicate that men are much more likely than women to smoke: 58 percent of men are daily smokers, compared with 1 percent of women. While from the 2002-2003 IYARHS, one in three women and 43 percent of men have started to smoke at age 14. This finding is supported by data from the 2001 Susenas which indicated that among people age 15 and older, 9 percent started to smoke at age 10-14 and 59 percent at age 15-19 (40). By this fact, we can say that from all surveys indicated that young adults start smoking at an earlier age.

Even though scientific evidence on the efficacy of school health programmes conducted in schools is limited (8), such programmes have been designed to help reduce risks associated with alcohol use among youth people (9).

In this matter, school health programs can help students acquire communication, critical thinking, refusal and other life skills needed to avoid problems associated with alcohol and other drug use.

As we know that fruits and vegetables are good sources of complex carbohydrates, vitamins, minerals and other substances important for good health especially among young people. There is good behaviour among students in Indonesia which 83.3% of students usually ate vegetables, such as carrot, cabbage, spinach, or *kangkong*, one or more times per day during the past 30 days. There is no significant difference between male students (80.4%) and female students (86.2%) to eat vegetables one or more times per day. Even though, 24.9% of students usually ate fruits and vegetables five or more times per day during the past 30 days. Male students (25.6%) and female students (24.1%) are equally likely to eat fruits and vegetables five or more times per day. As part of a school health programme, school meal programs can be a source of healthy foods to students (who may not have other regular sources of food) and can promote daily attendance, class participation, and academic achievement.

Regarding with physical activity, 73.9% of students walked or bicycled to and from school for a total of 150 minutes or more during the past seven days. Male students (76.6%) and female students (71.4%) are equally likely to walk or bicycle to and from school for a total of 150 minutes or more during the past seven days. On the other hand, the report of Risk Behaviour in Indonesia 2003 which derived from data of the National Social Economic Survey (NSES) 2003 shows that 91% of the population aged 10 years and above consume very low fibre, and 9% physical inactivity (41). At the national level development of policies, advocacies and strategies on promotion of NCD prevention and control should be more prioritize on the improvement of fibre consumption, followed by the improvement of physical activity.

As part of school health programmes, schools can offer physical education and opportunities, both during and outside the school day, for all students to participate in physical activity sports. Physical activity helps children to stay alert and concentrate better. Students who are physically active are more likely to have higher academic performance and fewer disruptive behaviour. (30)

As mentioned before that around 400 million school-aged children are infected with worms worldwide. It is related with personal hygiene such as hand-washing among school-aged children. Unfortunately in this study 8.9% of students never or rarely used soap when washing their hands during the past 30 days. Male students (11.4%) are significantly *more* likely than female students (6.5%) to never or rarely use soap when washing their hands. At this matter, priority should be paid attention on the promotion of the importance on personal hygiene especially among school-aged children. Schools can help improve child and adolescent health by providing and maintaining sanitary condition. By providing well-maintained and adequate numbers of sanitation facilities and safe water as part of the school health program, schools can reinforce the health and hygiene messages delivered in health education and serve as a model to both students and the broader community.

Regarding with early initiation of sexual activity, though a traditional society, premarital sexual activity among young people in Indonesia is not uncommon. Studies indicate that almost 12.5% of adolescents approved of premarital sexual relationship if they planned to marry the same person and 8.6% felt it to be a part of being love. Love and curiosity were cited as the most common reasons for

the initiation of young people in sexual activity. Peer pressure and drugs also influence the sexual behaviour of young people (42).

In this School Health Survey, 4.9% of students had sexual intercourse during the past 12 months. Male students (5.7%) and female students (4.2%) are also equally likely to have had sexual intercourse during the past 12 months. Based on this fact, the vulnerability of young people is compounded by their limited knowledge of how disease like HIV can be spread or how infection can be avoided. They often adopt risky behaviour since they are poorly informed about their bodies, sexuality and the consequences of unprotected sex.

Furthermore, increasing teenage pregnancy rates have prompted government organizations to provide reproductive health information and services to their peers. In collaboration with Perkumpulan Keluarga Berencana Indonesia (PKBI, the Indonesian chapter of the International Planned Parenthood Federation) and Badan Koordinasi Keluarga Berencana Nasional (BKKBN, the National Family Planning Coordinating Board), the United Nations Population Fund (UNFPA) supports the production of educational materials to reach parents, policy makers, and community leaders promoting the message “sex before marriage is not appropriate among youth” 38.

In 2005 National AIDS Commission (NAC) coordinated all sectors to formulate a National HIV/AIDS Strategy for youth. Moreover, the Department of National Education of Indonesia has formulated a curriculum on sexuality/reproduction education along with information on HIV/AIDS for school children (43).

At this important matter, school health programs can play an important role in helping students reduce their risk of pregnancy, STI, and HIV infection and AIDS. (39)

Based on community norms and preferences, school health education can help students develop the knowledge and skills they need to avoid or reduce sexual risk behaviours, school health services can provide or refer to reproductive health services, and school health policies can protect students and staff infected with HIV and foster a safe and respectful environment for everyone.

However, in this study a group of adolescent who deserves a special attention are those who are bullied on one or more days during the past 30 days (49.7%). Male students (55.0%) and female students (44.7%) are equally likely to be bullied on one or more days. Among students who were bullied during the past 30 days, 8.2% were bullied most often by being hit, kicked, pushed, shoved around, or locked indoors.

Related with victims of bullying, school health programmes can help reduce violence and unintentional injuries in school by establishing social and physical environments that promote safety and prevent injuries and violence, providing mental health and social services to meet the needs of students.

Finally, to track the results change over time it will be important to repeat the GSHS in the future.

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## Appendices