

## Level of knowledge on HIV/AIDS among senior high school students

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### Abstract

**Background** Young people are now the epicenter and bear a disproportionate burden of HIV/AIDS pandemic. Until now, one of the strategies which are implemented by the government is by increasing the level of HIV/AIDS knowledge in order to avoid its spreading.

**Objective** This study was to explore the level of HIV/AIDS knowledge of senior high school's students towards HIV/AIDS at subdistrict of Petang. The secondary outcome is to compare the levels of knowledge toward HIV/AIDS between Petang and Pelaga Senior high school, between class and gender.

**Methods** This was a descriptive study, conducted between 1<sup>st</sup> to 28<sup>th</sup> February 2007 in Petang and Pelaga Senior High School. The study subjects are 529 students (all of senior high school students in subdistrict of Petang, Badung Regency). Data was taken using UNICEF questionnaire 2000 for young people, which had been passed the reliability test with the kappa value of 0.85.

**Results** Most subjects (90.5%) have excellent and good knowledge and only 9,5% have sufficient knowledge. Level of knowledge in girls is better than boys with significant difference between them ( $P=0.000$ ), while school and grade didn't show any differences ( $P=0.760$ ) and ( $P=0.489$ ).

**Conclusion** The level of knowledge of senior High School in Subdistrict of Petang, Badung Regency toward HIV/AIDS is at excellent or good level [Paediatr Indones 2008;48:235-9].

**Keywords:** HIV/AIDS knowledge, senior high school, good level

**H**uman immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) is one of health issue which is being very important recently. Data of WHO show there are 38.6 million sufferers of HIV/AIDS until the end of 2005 and 2.8 million among them died.<sup>1-3</sup> Based on data given by Health Ministry of Republic of Indonesia, in the year of 2000 there were 1624 cases HIV/AIDS and in the year of 2006 it increased to 10,859 cases which 1507 among them died.<sup>4</sup> It is predicted in the year of 2010 there will be around 110,000 HIV/AIDS cases; around one-million people will have HIV virus where half of HIV/AIDS cases are less than 25 years old and one third of HIV/AIDS cases are between 15 to 24 years old.<sup>5,6</sup>

A dearth of knowledge about HIV/AIDS among young people constitutes a major challenge to the control of this scourge. Until now, one of the strategies which are implemented by the government is by increasing the level of HIV/AIDS knowledge in order to avoid its spreading.<sup>6,7</sup>

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During the year of 2002-2003 there were 65.8% women and 79.4% men who are between 15 to 24 years old have been well informed the knowledge of HIV/AIDS. One study conducted in 2002 shows there were 38.4% senior high school students who were between 15 to 19 years old in Jakarta were able to demonstrate the correct ways to prevent HIV spread, and able to reject the wrong concept regarding the matter.<sup>5</sup> The investigators also found that there were young couples with children who were suffered from HIV/AIDS in the subdistrict of Petang, Badung Regency which they did not have any knowledge regarding HIV/AIDS as well as its spreading system when they graduated from senior high school.

This study explored the level of HIV/AIDS knowledge of senior high school students towards HIV/AIDS at subdistrict of Petang. The secondary outcome is to compare the levels of knowledge toward HIV/AIDS between Petang and Pelaga Senior high school, between class and gender.

## Methods

This cross-sectional study was conducted at senior high school in subdistrict of Petang, Badung Regency from 1<sup>st</sup> to 28<sup>th</sup> February 2007, involving high school students in subdistrict of Petang. There were two schools, all of the 529 students of the schools were recruited.

Data were taken by providing questionnaire (the UNICEF questionnaire 2000 for young people). This questionnaire was widely use over the world to explore the level of HIV/AIDS knowledge in young people. Having explained the nature of the study, the investigators distributed a self-administered questionnaire. The questionnaire was filled in by the subject in a class room. The students were informed that the survey was anonymous and were assured of the confidentiality of their responses. The questionnaire has to be filled in within 1 hour. The subjects had to answer the whole questions in the questionnaire. Written consent was obtained before participation. All students approached agreed to participate.

Before the study, the original questionnaire was translated into Indonesian by a person who understands both Indonesian and English well. The next step is to translate the questionnaire back to English

by the different person with the first translator. It was found that both translation concept are suitable than the reliability test for the questionnaire can be conducted by using the kappa test. The kappa test can be done by measuring the same variable (the questions in the questionnaire) which is answered twice by the same respondent, but in two days interval. The value of kappa test is 0.85.

Data was first coded and then entered and analyzed. Statistical analysis was performed using computer. The data was then subjected to simple descriptive statistical analysis. The differences in proportions between classes, gender and levels of knowledge were analyzed with the chi-square test.

## Results

The baseline characteristics of this study are shown in **Table 1**. There were 529 students, 254 among them were boys (48%) and 275 were girls (52%). The eldest participant was 20 years old and the youngest one was 15, with the mean age were 16,4 years (0,902 SD). Petang Senior High School has class 10, 11, 12, while the Pelaga only have class 10.

**Table 2** shows most subjects (90,5%) have excellent and good knowledge and only 9,5% have sufficient knowledge. There is no subjects have less sufficient and poor knowledge of HIV/AIDS.

**Table 3** shows there is significant difference of HIV/AIDS level of knowledge between boys and girls.

**Table 1.** Characteristics of the subjects

Characteristics	Frequency	Percentage
Gender		
Male	254	48,0
Female	275	52,0
Age (y)		
15	68	12,9
16	252	47,6
17	146	27,6
18	56	10,6
19	5	0,9
20	2	0,4
School		
Petang senior high school	452	85,4
Pelaga senior high school	77	14,6
Petang senior high school		
Class 10	181	40
Class 11	125	27,6
Class 12	146	32,4
Pelaga senior high school		
Class 10	77	100

There is no significant difference of HIV/AIDS level of knowledge between Petang and Pelaga Senior High School (P=0,760) as shown on **Table 4**.

**Table 5** shows that there is no significant difference of HIV/AIDS level of knowledge among class 10, 11, and 12 at Petang Senior High School (P=0,489).

## Discussion

Of more than six-billion people in the world today, one-billion are between the ages of 15-24 years. It is also widely documented that half of all new infections with HIV/AIDS now occur in young people under the age of 25 years. In Indonesia cumulative HIV and

AIDS cases from January 1<sup>st</sup> 1987 through March 31<sup>st</sup> 2006 consist of 4333 HIV and 5823 AIDS and one third of the cases are between 15-24 years old.<sup>2,4</sup>

Although the matter was still controversial, researchers in the United States and other western countries has suggested that sufficient knowledge regarding AIDS is a necessary, albeit insufficient, first step toward effective AIDS prevention and intervention efforts.<sup>8</sup>

The information from the continuing AIDS knowledge survey has been useful for guiding educational efforts and for evaluating specific campaigns.<sup>9</sup> This study is one of which is able to use as the baseline data for decision makers to prevent HIV spreading among teenagers, especially from scholars. This study is using UNICEF questionnaire which has been passed the reliability test with the kappa value of 0,85; which means that this tool (questionnaire) is reliable to measure the variable of study.

This study found that most of the students demonstrated excellent and good knowledge of HIV/AIDS. Only 9,5% subject fall under the categories of good knowledge. Previous studies in Scotland, Tanzania, and Japan also show that young people possess high levels of knowledge about many HIV/AIDS related issues. In general, they have an excellent understanding of the main transmission routes of the virus and how to protect themselves from becoming infected.<sup>10-13</sup> Other investigators implemented such study in Indonesia (West Java, South Sulawesi and East Nusa Tenggara) found that around 93.3% people who were between 15-24 years have good knowledge.<sup>5</sup>

This study found significant difference of HIV/AIDS level of knowledge between boys and girls. This finding is not consistent with studies in the United States which found that AIDS knowledge did not differ among students on the basis of gender.<sup>11</sup> The data from others studies revealed a significant gender differences in AIDS knowledge among students in China, with males being more knowledgeable than females,

**Table 2.** Levels of HIV/AIDS knowledge among senior high school in Subdistrict of Petang

Level of HIV/AIDS Knowledge	frequency	percent
All students:		
Excellent	171	32,3
Good	308	58,2
Sufficient	50	9,5
Total	529	100

**Table 3.** Levels of knowledge between boys and girls senior high school

Levels of knowledge	Boys n (%)	Girls n (%)
Excellent	58 (22.8)	113 (41.0)
Good	161 (63.4)	147 (53.5)
Sufficient	35 (13.8)	15 (5.5)
Total	254 (100.0)	275 (100.0)

Analysis by Chi-square test P<0.001

**Table 4.** Levels of knowledge between Petang and Pelaga Senior High School

Levels of knowledge	Petang Senior High School n (%)	Pelaga Senior High School n (%)
Excellent	63 (34,8)	25 (32,5)
Good	100 (55,2)	46 (59,7)
Sufficient	18 (10)	6 (7,8)
Total	181 (100)	77 (100)

analysis by Chi-square test P=0,760

**Table 5.** Petang senior high school levels of knowledge according to class

Levels of knowledge	Petang Senior High School Class		
	10 n (%)	11 n (%)	12 n (%)
Excellent	63 (34,8)	33 (26,4)	50 (34,2)
Good	100 (55,2)	81 (64,8)	81 (55,5)
Sufficient	18 (10)	11 (8,8)	15 (10,3)
Total	181 (100)	125 (100)	146 (100)

P=0,489

particularly in the areas concerning HIV/AIDS treatment and prevention.<sup>7</sup> However, gender differences in AIDS knowledge and attitudes have been found in other countries such as Tanzania.<sup>11</sup>

The level of knowledge between Petang and Pelaga does not have significant difference (class 10), the students are able to take in and understands information about a subject, and then make decisions, form judgments, take opinions or make a forecast toward HIV/AIDS.<sup>14,15</sup>

The level of knowledge among class 10, 11 and 12 at Petang Senior High School are not showing a significant difference eventhough the class 10 was the youngest group. This shows us they already have HIV/AIDS information from the beginning and it is unrelated with the grade.

The weakness of this study is the data was collected from one time measurement while the level of knowledge data should be getting from more than one time measurement. Finally, the results may not be extrapolated to other population groups in Bali who may differ substantially in age, economic status and geographic (rural or urban). Still, the students surveyed represent an important subgroup of the Balinese population and the information generated will be useful in the planning of future AIDS education programs.

We conclude that senior high schools in subdistrict of Petang Badung Regency have a good level of knowledge about HIV/AIDS. This level of knowledge is a good basis to prevent the spread of HIV/AIDS. It is necessary to conduct a study with bigger scale by including the students from both rural and urban areas in Bali, and to determine the correlation between the knowledge, attitude and behavior of senior high school students.

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