

# THE GENDER DIFFERENCES IN SEXUAL BEHAVIOR, HIV/AIDS KNOWLEDGE AND PERCEPTIONS ABOUT HIV/AIDS AMONG UNIVERSITY STUDENTS IN INDONESIA

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**Abstract-** University students in Semarang became more accepted in premarital sexual behaviors, which place them at risk for HIV infection. The purpose of this study was to examine the association between gender and sexual behavior, gender differences in HIV/AIDS knowledge and perceptions about HIV/AIDS. The sample of the respondents was collected from three universities in Semarang, Central Java, Indonesia using self-administrated questionnaire. The Health Belief Model was used as theoretical framework. Chi-square tests and Independent t-test were used for data analysis. The results showed that gender was statistically associated with sexual behavior ( $\chi^2 = 24.50$ ,  $p < .001$ ) with male students were more likely to practice premarital sexual intercourse than female students. There were gender differences in HIV/AIDS knowledge, perceived susceptibility, perceived benefits, and perceived barriers. The findings of this study suggest that HIV prevention campaigns should be designed appropriately for the different gender.

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**Keywords-** Gender differences, Sexual behavior, Knowledge and Perceptions about HIV/AIDS, University students

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## I. INTRODUCTION

Both young men and young women aged 15-24 years face risk factors of HIV infection because young people lives through an experimental period and are more likely to be susceptible to socio-environmental risks which may include taking part in risky sexual behaviors [1]. University students, in particular, undergraduate students may also be at the high-risk group to get infected with HIV/AIDS. The university environment with relative lack of parental supervision offers the great opportunity for young people to test the limits of their newfound freedom through sexual experimentation [2]. According to the survey by Central for Disease Control and Prevention (CDC) in the United States in 2013, nearly 10,000 young people (aged 15-24) were diagnosed with HIV infection [3]. In Indonesia, more than 65 million young people belong to the young age category from 15 to 24 years, representing about 28% of the nation's population [4]. The survey by Ministry of Health of Republic of Indonesia (MOH) and Central Java AIDS Commission in 2014 reported that nearly 40% of new AIDS cases were found in people between the ages of 20 and 29, meaning the initial HIV infection likely occurred between the ages of 15-24 [5-6]. Additionally, more than half of the HIV transmission among young people in Semarang, Central Java Province was through heterosexual [7].

In order to prevent HIV transmission, abstinence behavior is one of the key actions recommended for the prevention of sexual transmitted infections, early pregnancy and much focus in HIV, and reproductive health programs among young people. Abstinence refers to individual's youth behaviors to delay sexual intercourse, but it also refers to the program approach and content designed to lead HIV prevention

behavior [8]. The risk of HIV transmission involves complex behaviors influenced from multiple and also an individual level such as gender [9]. A systematic review study showed that individual biological factors such as gender was directly influence sexual behaviors among young people [10]. Inconsistency findings were found in studies about the relationship between gender and sexual behavior. Previous study about HIV prevention behaviors among university students showed that female students in Ethiopia were more likely to practice sexual intercourse for the exchange money [11]. A meta-analytic study reviewed of the relationship between gender and sexual behaviors showed that sexual behavior was a stronger among females [12]. However, previous studies revealed that male university students in Nigeria and also in Indonesia were 2 to 5 times more frequently to engage risky sexual behaviors than females [13-14]. Additionally, both male and female students are vulnerable to HIV infection because lack of access to HIV information and prevention services. According to Indonesia Demographic Health Survey (IDHS), only 13% of youth female and 12% of youth male have comprehensive knowledge of HIV-AIDS, while the Millenium Development Goals (MDGs) target for youth's comprehensive knowledge on HIV is 95% [15]. Moreover, there is a necessary link between HIV knowledge and perceptions about HIV/ADS. Personal perceptions are influence by the whole range of intrapersonal factors related to health behavior [16]. Lack perceptions to HIV also one of the factors hindering sexual behavioral changes among youth [17]. Therefore, the gender differences in sexual behavior, HIV/AIDS knowledge and perceptions about HIV/AIDS need to be examined further. The findings would be useful to develop good HIV prevention strategies for university students.

## II. METHOD

### 2.1 Design and Sample

A cross-sectional study was conducted in three universities in Semarang, Central Java, Indonesia from 1-16 September 2015. The total participants of this study were 296 undergraduate students where allocated proportionally to each of the randomly selected universities. Then, stratified random sampling was used to select current educational year and simple random sampling was used to select the faculties and classes. Finally, the number of undergraduate students in each class was selected by using quota sampling based on the inclusion and exclusion criteria as follows. The inclusion criteria including (1) full-time undergraduate students (18-24 years old), (2) registered in the university from 1<sup>st</sup> – 4<sup>th</sup> year, and the exclusion criteria including (1) international students (2) married students (3) health science students.

### 2.2 Operational Definition

This study used the Health Belief Model (HBM) as a theoretical framework. The operational definitions each variable in this study are as follows.

- Sexual behavior meant abstinence behavior or refrain from sexual intercourse.
  - HIV/AIDS Knowledge meant understanding about HIV/AIDS regarding HIV transmission and HIV preventive behaviors.
- Perceptions about HIV/AIDS:
- Perceived susceptibility to HIV/AIDS referred the thought and feeling that individual undergraduate student is in danger of contracting HIV infection or the recognition of being at risk to HIV infection.
  - Perceived severity of HIV/AIDS referred the concern of individual undergraduate student about seriousness of HIV/AIDS.
  - Perceived benefits from HIV prevention referred the belief of individual undergraduate student regarding positive outcomes of HIV prevention behaviors.
  - Perceived barriers to prevent HIV infection referred the belief of individual undergraduate student about obstacles to perform HIV prevention behaviors.

### 2.3 Instruments

In this study, three questionnaires were used for collecting the data through self-administrated questionnaire. The questionnaires consist of demographic characteristics, HIV/AIDS knowledge questionnaire (HIV-KQ), and AIDS Health Belief Questionnaire (AHBQ).

The researcher developed demographic characteristics questionnaire. This close-ended questionnaire consists of age, gender, current educational year, and living status. For sexual behavior was assessed using single question and categorized as yes and no. The question is “Have you

ever had sexual intercourse?” the students can answer “Yes” or “No”, those who answer “No” means that the students are abstinence.

HIV-KQ was used to assess university students’ knowledge about HIV/AIDS that consists of 18 questions with responses answered as true, false and don’t know. This questionnaire was adopted from HIV-KQ-45 and HIV-KQ-18 [18]. The questions were recorded to correct with 1 score or incorrect with 0 score and “don’t know” considered incorrect. The level of HIV/AIDS knowledge was classified into three levels using Bloom’s Taxonomy criteria.

AHBQ was used to measure the four components of the Health Belief Model (HBM). This questionnaire was adopted from AIDS Health Belief Scale (AHBS) [19]. AHBQ consist of 4 subscales including perceived susceptibility to HIV/AIDS, perceived severity of HIV/AIDS, perceived benefits from HIV prevention, and perceived barrier to prevent HIV infection. The scaling involved the use of a 5-point likert type scale with responses of 5 = strongly agree, 4 = agree, 3 = neither, 2 = disagree, 1 = strongly disagree.

In this study, the Cronbach’s alpha coefficient of HIV-KQ, perceived severity of HIV/AIDS, perceived susceptibility to HIV/AIDS, perceived benefits from HIV prevention, and perceived barriers to prevent HIV infection were 0.74, 0.83, 0.70, 0.72, and 0.79, respectively.

### 2.4 Data Collection Process

Data was collected after ethical clearance was obtained from Ethical Review Committee for Research Involving Human Research Subject (COA No.12/2558); Boromarajonani College of Nursing Nopparat Vajira Bangkok affiliated with Kasetsart University, Thailand. The permissions were obtained from the presidents of each university. Then, the researcher met the dean of faculty and the lecturers in each university to provide information about the purposes, benefits, and method of data collection. The researcher introduced himself to the participants with the lecturer. To prevent any enforcement, the lecturers were not involved during data collection process. Then, the researcher explained about research purposes, benefits and procedures in this study to the participants. To ensure anonymity of the participants, the researcher did not ask the participants to write the name and sign the consent. The participants returned complete of the questionnaires in sealed envelopes in the box at a corner of the classroom.

### 2.5 Data Analysis

Data were analyzed using statistical software. The association between gender and sexual behavior were analyzed by using Chi-square tests, and Phi was used to determine the strength of the association. Independent t-test was used to analyze gender differences in HIV/AIDS knowledge and perceptions about HIV/AIDS.

### III. RESULTS AND DISCUSSION

#### 3.1 Results

The average age of university students in this study was 19.9 years with the range 18-24 years old. Regarding gender, the majority of respondents were male students. More than half of male and female (56.4% and 53.8% respectively) was aged between 20 to 24 years old. Almost thirty seven percent (36.9%) of male students were lived with friends and less than half (44.4%) of female students were lived with family. Regarding current educational year, the most frequency (29.1%) of male students was in the second year and 32.5% of female students were in the first year. The results were showed in Table 1.

**Table 1 The Individual Characteristics of the Respondents (n=296)**

Individual Characteristics	Gender	
	Male (n=179)	Female (n=117)
	N (%)	N (%)
<b>Age</b>		
≤19	78 (43.6)	54 (46.2)
20-24	101 (56.4)	63 (53.8)
Mean = 19.91, S.D = 1.518		
Min = 18, Max = 24		
<b>Living Status</b>		
Living alone	65 (36.3)	26 (22.3)
Living with friends	66 (36.9)	39 (33.3)
Living with family	48 (26.8)	52 (44.4)
<b>Current Educational Year</b>		
First Year	36 (20.0)	38 (32.5)
Second Year	52 (29.1)	22 (18.8)
Third Year	44 (24.6)	30 (25.6)
Fourth Year	47 (26.3)	27 (23.1)

The association between gender and abstinence behavior are shown in Table 2. The results revealed that male students were more likely (52.0%) to practice sexual intercourse compared to female students ( $\chi^2=24.50$ ,  $p<.001$ ). The strength of associations was weak ( $\Phi=-.245$ ).

**Table 2 The Association between Gender and Sexual Behavior (n=296)**

Sexual Behavior (Abstinence)	Gender		Phi	$\chi^2$
	Male N (%)	Female N (%)		
Yes	93 (48.0)	94 (80.3)	-.245	24.50***
No	86 (52.0)	23 (19.7)		

\*\*\* p-value < .001, \*\* p-value < .01, \* p-value < .05

Gender differences in HIV/AIDS knowledge and perceptions about HIV/AIDS among university students are shown in Table 3 and Table 4. There were gender differences in HIV/AIDS knowledge ( $t=2.317$ ,  $p<.05$ ), perceived susceptibility to HIV/AIDS ( $t=2.764$ ,  $p<.01$ ), perceived benefits from HIV prevention behaviors ( $t=2.701$ ,  $p<.01$ ), and perceived barriers to prevent HIV infection ( $t=3.486$ ,

$p<.01$ ). There were no difference between male and female in perceived severity of HIV/AIDS.

**Table 3 The Gender Differences in HIV/AIDS Knowledge (n=296)**

HIV/AIDS Knowledge	M	S.D	t-test
- Male	9.63	2.844	2.317*
- Female	8.87	2.664	

\*\*\* p-value < .001, \*\* p-value < .01, \* p-value < .05

**Table 4 The Gender Differences in Perceptions about HIV/AIDS (n=296)**

Perceptions about HIV/AIDS	M	S.D	t-test
Perceived Susceptibility			2.764**
- Male	10.91	4.200	
- Female	9.55	4.027	
Perceived Severity			1.209
- Male	10.09	3.195	
- Female	10.52	2.686	
Perceived Benefits			2.701**
- Male	13.56	4.602	
- Female	12.09	4.543	
Perceived Barriers			3.486**
- Male	8.17	5.766	
- Female	5.79	5.664	

\*\*\* p-value < .001, \*\* p-value < .01, \* p-value < .05

#### 3.2 Discussion

For Indonesian culture, discussion about sex among unmarried young people remains a taboo, subject that was not openly discussed with parents, teachers, and even with health care providers [20]. However, according to survey by IDHS, dating and sexual experience became an emerging issue due to shifting attitudes and knowledge among young people [15]. Dating experiences of young people were no longer holding hands or kissing only, but way further to necking, petting and sexual intercourse [21]. The findings of current study confirmed that more than half of male students and almost twenty percent of female students ever had engaged with premarital sexual intercourse, which place them at risk for unintended pregnancy, sexually transmitted diseases (STDs), and HIV infection. Despite premarital sex was not commonly accepted in Indonesia. The results of this study revealed that male students were more likely to practice premarital sexual intercourse compared female students. The possible reason is that may be because male students were more likely than female students to accept premarital sex. As reported in IDHS, only one percent of females accepted premarital sex [15]. Another reason is that female students may perceive the potential risks associated with sexual behaviors such as pregnancy and sexually transmitted infections [22]. Traditionally, Indonesian females may connect sexuality with love and engage in sexual activities after getting married [23], and virginity was still considered important, three out of four females said that it is important for females to maintain virginity before married [15]. In addition, HIV is mainly transmitted through heterosexual contact between an infected partner and

an uninfected partner [3]. Therefore, basic understanding of HIV for both young male and female is a necessary component of HIV prevention since increasing correct knowledge of HIV infection could reduce risk behaviors such as premarital sexual intercourse [24]. This study revealed that male students were more knowledgeable about HIV/AIDS than female students. This result was different with IDHS survey in 2012 which showed that female had a higher knowledge about HIV/AIDS than male. However, the survey also reported that there has been a significant increase in male youth's comprehensive knowledge of HIV/AIDS since 2007, from 1 percent to 12 percent [15].

The results of this study showed that there were no gender differences in perceived severity of HIV/AIDS. Thus, both male and female students were perceived about the seriousness of HIV/AIDS. Moreover, gender differences were showed in perceived susceptibility to HIV/AIDS, perceived benefits from HIV prevention behaviors and perceived barriers to prevent HIV infection. Male students were more perceived about likelihood of getting a HIV infection. In order to a prevention behavior to be adopted, male students were more perceived the benefits of the HIV prevention behavior. This may be because male students had more knowledge about HIV/AIDS, which perceptions are the base of knowledge [16]. However, male students were more perceived barriers to prevent HIV infection. This may be because male students more accepted premarital sex resulting in engaging in premarital sexual intercourse.

## CONCLUSION

HIV prevention campaigns could not only on the basic facts of the disease, but also enhance male and female students abilities to delay sexual intercourse until getting married, and emphasize perceptions about HIV/AIDS and HIV prevention behaviors.

## LIMITATION

The results of this study were based on self-report of sensitive topic issues. Sexual behaviors and HIV/AIDS are sensitive topics that many young people may not report their real situation. However, measures were taken to reduce these issues by granting confidentiality, maintaining privacy, and explaining the purpose of the study to participants.

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