Knowledge, Attitudes, and Practices on HIV/AIDS among College Students in Pampanga, Philippines

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ABSTRACT

Introduction. Young adults are more susceptible to HIV infection due to a lack of reliable and timely information about HIV/AIDS prevention and transmission. This study examined the KAPS of college students in Pampanga, Philippines due to high cases of HIV in the region. KAPs is vital in developing effective strategies for HIV intervention.

Objective. The study evaluated the knowledge, attitudes, and practices on prevention and transmission HIV/AIDS among college students in Pampanga, Philippines.

Method. This cross-sectional, descriptive study used a self-administered questionnaire to assess HIV/AIDS knowledge, attitudes, and practices among 565 college students aged 18–24 from three Pampanga higher educational institutions Philippines. A questionnaire was used to gather data on KAPs regarding HIV/AIDS transmission and prevention. The data were analyzed using SPSS version 20.0.

Results. Among 565 participants, 239 persons (42%) showed low knowledge of transmission and prevention of HIV/AIDS, 203 (36%) had moderate level of knowledge, and 121 (21%) had high level. Common misconceptions about HIV transmission included washing genitals could prevent transmission and that transmission was possible through mosquito bites, respiratory fluids, sweat, or urine. Television was the most frequent source of HIV/AIDS-related knowledge among respondents. More than half (63.1%) of those surveyed had a good attitude toward HIV-positive people. Those who answered questions related to the sexual practices said that their last three encounters were with the same person (18.1%). Those who used piercing objects claimed to sterilize them before utilizing them on their bodies (18.6 %). And many participants refused to question related to practices.

Conclusion. Participants had a low knowledge of HIV/AIDS, which explains why there were many misconceptions about HIV/AIDS transmission and prevention. More than half of the respondents had a good attitude toward HIV-positive people. Those who answered the practice-related questions engaged in risky behaviour. Providers should implement an intervention program to increase HIV/AIDS knowledge, attitudes, and behaviors in the region.

Keywords: Knowledge, attitude, practices, HIV/AIDS, college students, Philippines

INTRODUCTION

The human immunodeficiency virus (HIV) targets the immune system, primarily CD4 cells, which are white blood cells. AIDS, or acquired immunodeficiency syndrome, is the most severe stage of HIV infection and, depending on the individual, can take many years to develop if not treated.[1] Around 76 million people have been infected with HIV, and 33 million have died from HIV/AIDS-related illnesses, while 38.0 million (31.6 – 44.5 million). Among people aged 15–49 years worldwide who are currently living with HIV,[2] 5 million youths aged 15–25 years[3] and 3.8 million are living in 11

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countries in South-East Asia (WHO region).[4] Young adults are more prone to HIV infection, partly due to insufficient knowledge and misconception regarding the spread and prevention of HIV/AIDS and poor behavioral health.

The Philippines experienced an increase of 174% in the number of new HIV/AIDS cases since 2010, one of the fastest rates of growth in the Asia-Pacific Region.[5] Nearly all new infections (80%) were among young people aged 15–34 years, and the median age at diagnosis was 28 years. Diagnosed HIV/AIDS patients in the Philippines are highly predominantly males.[6] As of June 2020, 110,000-120,000 persons in the Philippines are living with HIV, with only 78000 (68%) having tested for HIV and knowing their HIV status since the first case was detected in 1984.[7]

Religious and cultural beliefs have been shown to have potent influences on the sexual behavior of people.[8] For Filipinos, the importance of virginity and the need to avoid premarital sex and pregnancy were associated with religious doctrine or practice.[9] The work of Tuason et al.[10] that verified the relationship of religious involvement and parental communication in the sexual behaviors of Filipinos aged 18–25 years showed that low levels of parental communication were linked to a higher report of not using a condom during previous intercourse among Filipino respondents. Catholics were less likely to have used alcohol or illegal drugs prior to intercourse, have had many sex partners, and engaged in casual sex. Low levels of religiosity were linked to those who claimed having engaged in casual sex.

Barriers in HIV/AIDS prevention and control among youths include lack of awareness and correct practices related to HIV/AIDS with regards to viral transmission, diagnosis and treatment,[6] as well as potentially stigmatizing attitude towards HIV patients.[11] A recent study highlighted that the Philippines is the leading country with HIV infection in Southeast Asia. This study found out that low knowledge of HIV/AIDs infection and transmission gives rise to a negative attitude towards people living with HIV and poor practices that promote HIV infections among the key population.[4] In the Philippines, KAP surveys on HIV/AIDS among youths have been conducted in schools in Metro Manila[12] and among commercial sex workers in various cities,[13-15] as well as among male injecting drug users in Cebu City.[16] However, little data exist on KAPs related to HIV/AIDS among tertiary students (i.e., youths age 18–24 years) and KAPs related to HIV/AIDS in Pampanga province. Demographic-based (age and sex) and setting-specific surveys of knowledge, attitude, and practice related to HIV/AIDS can contribute empirical evidence for relevant, population- and setting-appropriate programs for program planners and policymakers. Thus, this study's objective was to assess the level of knowledge, attitude, and practices related to HIV/AIDS prevention, control, stigma, and determine the effect of sex and year of study, among college students in Pampanga Province, Philippines.

METHODS

Study Design and Setting

This campus-based cross-sectional survey was conducted at three higher education public institutions in Pampanga Province from January to April 2018. School officials of Pampanga State Agricultural University in Magalang (RS1), Mabalacat City College in Mabalacat (RS2), and City College of Angeles (RS3) agreed to the survey. For a population of less than 10,000 people, a sample size of 400 was chosen using the Leslie-Fisher's formula, but 563 respondents answered the survey. The ratios of each school and class were used to compute the overall population for the study. We included undergraduate students who were aged 18 to 24 years. We excluded high school, and graduate students, as well as those who could not answer the questionnaires by themselves (e.g., blind). Pampanga Province is located in Central Luzon Region, the Philippines, with a land area of 2,180.68 km^2 and a population of 2,014,019 as of 2010. The capital city is San Fernando, while the highly urbanized city of Angeles is situated within the province but is governed independently.

Study Instrument Development and Outcome Measurements

This study used a self-administered adopted questionnaire in English from the MEASURE DHS program and the AIDS survey model, and some indicators from the National HIV/AIDS programs for young people.[17] However, a slight modification was made due to the conservative nature and religious beliefs of the Filipino people. Moreover, this questionnaire is validated and has been used in other studies, specifically a similar study conducted in Cameroon.[18]

The study instrument included four sections 1. Socio-demographic (age and sex), academic, and family characteristics; 2. Determinant indicators (Source of information about HIV/AIDS knowledge, transmission, prevention and management). 3. Attitudes towards people living with HIV/AIDS). 4. Self-reported sexual health practices. The questionnaire was reviewed by two public health researchers on HIV and AIDS preventive practice and a psychometrician. After review, the questionnaire was modified according to their recommendations.

The questionnaire was pretested on students from local institutions other than the three participating institutions who met the same inclusion criteria as the study participants and used their feedback to make further changes and finalize the study instrument. The pretested questionnaire was considered reliable (Cronbach's reliability co-efficient of 0.85).[19]

Measurements of Knowledge, Attitude and Practices Related to HIV/AIDS

Most of our questions for measurement of knowledge, attitude, and practices related to HIV/AIDS had dichotomous ('yes' vs 'no') responses. Knowledge measurement questions included 13 questions, 7 questions related to HIV/AIDS

transmission and misconceptions, 1 question on the asymptomatic carrier, 4 questions on prevention or reduction of HIV transmission, and 1 question on treatment of HIV. We gave participants a score of 1 for each correct response and 0 for each incorrect answer. We then summed the knowledge score (possible range: 0–13 points). We considered participants with the arbitrary cut-off point median score of 7 or below as having low level of knowledge, those with the score of 8–10 as having medium level, and those with a score of 11–13 as having high level.

Attitude measurement questions included five questions: two questions on acceptance of people living with HIV (PLHIV) in an educational environment, and three questions on accepting people living with HIV in family and social settings. The attitudes scores were divided into two categories: negative and positive. We assigned a score of 1 to each positive answer and 0 to each negative response (attitude score possible range: 0 to 5). Based on the participant attitude mean score. Those who scored less than the mean for attitude were labelled as having "negative" attitudes, while those who scored equal to or higher than the mean was labelled as having "positive" attitudes.

We included two questions on practices related to HIV/AIDS: 1) having the same sexual partner for the last three sexual encounters; 2) sterilizing any form of piercing object before use. We avoided queries regarding the use of condoms to measure sexual practices since we are ordered not to emphasize condoms by the ethics committee; this is because of the Catholic belief against condoms; the Philippines being predominantly Catholic. The first question was intended as a proxy measure for sexual behaviors. In contrast, the second question was designed as a proxy measure for the safe use of sharp objects, with implications for hypodermic needles. We decided to use the second question in lieu of directly asking about injection drug use due to legal sensitivity during the study period.

Data Collection

After identifying the target population and the institutions, the researchers sought ethical clearance from the Angeles University Foundation Ethics committee. Each participating educational institution's administrators extensively reviewed the informed consent form to ensure the participants' rights and privacy before giving their permission. After the gatekeepers' permission was granted for each school, the school administrators requested that all the students from year 1-4 who were willing and voluntarily wished to participate in the survey should assemble in the campus study hall during their free time. Those who volunteered were further clarified on the purpose, procedure, and requirement of the study. The questionnaire was self-administered to those who gave their informed consent. We used systematic sampling among the students in the 1st to 4th year levels to ensure proportional distribution of the target population. The participants were asked not to write their names or any other identifying information on the questionnaire and the informed consent form, so as to secure the privacy of the participant. We also informed the students that they had the right to decline to participate without any consequence. At the time of the data collection for this study, only those respondents that were 18 and above considered were allowed to participate. This study was approved by the Angeles University Foundation Ethics Review Board on Jan 29 2018, ERC Ref No: 037.

Data Management and Analyses

The data were de-identified to maintain participants' anonymity and confidentiality during data analyses and publication of the study findings.

Descriptive statistical analyses included univariate analyses of the responses using frequency and percentages and mean and standard deviation (SD) or median and inter-quartile range (IQR), depending on the distribution of the values. Statistical analyses were done using the Statistical Package for the Social Science® (SPSS), version 20.0 (SPSS Inc., Illinois, and USA). The association between attitude toward people living with HIV/AIDS and the respondents' demographics (age and sex) were assessed using the Pearson Chi-square test of independence.

RESULTS

There were 563 respondents in this study. Most participants were female (69.3%), age less than 20 years (60.4%), in year level 3 (54.7%), and identified as Roman Catholic (61.2%) (Table 1). Most participants (63.2%)

Table 1. Characteristics of College students in Pampanga, Philippines (n=563 participants)

Characteristic	Frequency (%)
Gender	
Male	173 (30.7)
Female	390 (69.3)
Age Group (years)	
<20	340 (60.4)
20-22	135 (24.0)
>22	88 (15.6)
Year of Study	
1st	95 (16.9)
2nd	78 (13.9)
3rd	308 (54.7)
4th	82 (14.6)
Religion	
Roman Catholic	346 (61.2)
Born Again Christian	137 (24.3)
Methodist	8 (1.4)
Muslim	1 (0.2)
Others	63 (11.2)
None	7 (1.2)
No response	1 (0.2)

Table 2. Source of information on HIV/AIDS among college students in Pampanga, Philippines (multiple answers allowed, N=563)

Source	Frequency (%)
Television	356 (63.2)
Social Media	253 (44.9)
Sex Education Material	226 (40.1)
Friends	133 (23.6)
Newspaper	78 (13.9)
Church	68 (12.1)
Family	59 (10.5)
Radio	54 (9.6)

identified television as the most common information source about HIV/AIDS, followed by social media (44.9%), sex education material (40.1%), friends (23.6%), and newspapers (13.9%) (Table 2).

On knowledge and misconceptions about HIV/AIDS transmission and prevention, although the majority (75.0%) of participants seemed to be aware of asymptomatic carriers of HIV and reduction of HIV transmission by condom use (57.9%) and abstinence (60.9%), more than half of the participants also reported common misconceptions, including that washing one's genitals could help to prevent HIV transmission (56.8%), that HIV could be transmitted through mosquito bites (55.6%), and that HIV could be transmitted via respiratory fluids, sweat, or urine (45.5%) (Table 3). On attitude, most participants reported acceptance of people living with HIV in school (66.1%), family (74.1%), and friends (80.2%). However, each attitude question had a considerable number of respondents who refused to answer. (Table 4)

In terms of HIV transmission practices, more than half of all participants (22.0%) indicated that their past three sexual experiences were with separate people, while (18.1 %) said they were with the same person. and about 28.1% said they don't sanitize piercing tools before using them, while 18.6 % said they do. The majority of the participants (52.0%) either declined to answer or did not respond to the practice-

Table 3. Knowledge on HIV/AIDS transmission, prevention and control among college students in Pampanga, Philippines (N=563)

Knowledge Domain and Sub-domains	Correct Response / "Yes" (%)	Incorrect Response / "No" (%)	Refused to Answer	No Response
HIV transmission				
HIV cannot be transmitted by sharing bathroom, meals, utensils and swimming pools.	360 (63.9)	203 (36.1)	N/A	N/A
HIV cannot be transmitted through contact with HIV positive person saliva, tears, sweat, or urine.	307 (54.5)	256 (45.5)	N/A	N/A
Coughing and sneezing from HIV positive person will not spread HIV.	262 (46.5)	301 (53.5)	N/A	N/A
HIV will not be transmitted through mosquito bites.	250 (44.4)	313 (55.6)	N/A	N/A
HIV and STDs can be transmitted easily through anal sexual activities.	342 (60.7)	221 (39.3)	N/A	N/A
HIV can still be transmitted by having sex with a virgin (a person who has never had sex before).	278 (49.4)	285 (50.6)	N/A	N/A
A person cannot get HIV virus from witchcraft or other supernatural means.	348 (61.8)	215 (38.2)	N/A	N/A
Asymptomatic carriers				
A healthy-looking person can be a HIV carrier and can still transmit HIV.	422 (75.0)	141 (25.0)	N/A	N/A
Prevention and reduction of HIV transmission				
Washing one's genitals/ private parts after sexual activities cannot keep a person from getting HIV/STDs.	243 (43.2)	320 (56.8)	N/A	N/A
HIV/STDs transmission can be reduced by having sexual activities with just one uninfected partner.	281 (49.9)	282 (50.1)	N/A	N/A
Use of protective measure like condoms will help to reduce the chance of getting HIV and STDs during sexual activities.	326 (57.9)	237 (42.1)	N/A	N/A
Risk of HIV and STDs infection can be reduced by abstaining from sexual intercourse.	342 (60.9)	220 (39.1)	N/A	N/A
Involving in any risky sexual activities will increase chance of HIV infection.	70 (12.4)	441 (78.3)	38 (6.8)	14 (2.5)
Using of any form of intoxicating substance will increase risk of HIV infection.	13 (2.3)	124 (22.2)	381 (67. 7)	45 (8.0)
Using any injectable illegal drugs will increase the risk of HIV Infection.	12 (2.3)	342 (60.5)	173 (30.7)	36 (6.4)
Faithfulness to one uninfected partner will reduce the chance of getting infected with HIV.	291 (51.6)	58 (10.0)	181 (32.2)	33 (5.9)
Staying away from any form of sexual activities before marriage will help reduce risk of getting infected with HIV.	277 (49.2)	111 (19.2)	147 (26.1)	28 (4.97)
Having HIV test within every 12 months will help keep check of your health status.	21 (3.73)	479 (85.8)	46 (8.2)	17 (3.0)
Using protective measure during your last 3 sexual intercourse will help reduce risk of getting infected with HIV.	63 (11.1)	139 (24.9)	322 (57.2)	39 (6.9)
Treatment of HIV				
At the present, HIV/AIDS has no cure.	263 (46.7)	300 (53.3)	N/A	N/A

Table 4. Attitudes and practices related to HIV/AIDS transmission, prevention and control among college students in Pampanga, Philippines (N=563)

Domain	Correct Response / "Yes" (%)	Incorrect Response / "No" (%)	Refused to Answer	No Response
Attitude				
Acceptance of people living with HIV in an educational environment				
HIV positive person should be allowed to continue his or her teaching in school.	280 (49.80)	158 (28)	125 (22.2)	N/A
HIV/AIDS positive student should be allowed to continue his/her study in school.	372 (66.1)	101 (15.9)	101 (18.0)	N/A
Acceptance of people living with HIV in family and social settings				
We should care for relative and friends in our community who are living with HIV/AIDS.	417 (74.1)	66 (11.8)	80 (14.1)	N/A
We should maintain our friendship with our friends that are HIV positive.	452 (80.2)	34 (6.1)	77 (13.8)	N/A
We should not buy items from a shopkeeper or food seller that is HIV positive.	159 (28.3)	132 (48.3)	132 (23.4)	N/A
Practices				
Your last three sexual encounters were with the same person.	102 (18.1)	125 (22.0)	293 (52.0)	43 (7.6)
Sterilizing any form of piercing object before using it on yourself.	105 (18.6)	158 (28.1)	264 (46.9)	36 (6.4)

Table 5. Levels of knowledge and attitude related to HIV/AIDS transmission, prevention, control and stigma among college students in Pampanga, Philippines (N=563)

Domain	No. (%)
Knowledge	
Low	239 (42.5)
Moderate	203 (36.1)
High	121 (21.5)
Attitude	
Negative	208 (36.9)
Positive	355 (63.1)

Table 6. Association between demographics of college students in Pampanga, Philippines and attitude towards people living with HIV (N=563)

Demographics	Negative Attitude N (%)	Positive Attitude N (%)	P-value*
Sex			
Men (n=173)	62 (35.8)	111 (64.2)	0.879
Women (n=390)	144 (36.9)	246 (63.1)	
Age group			
20 years and below (n=341)	116 (34.0)	225 (66.0)	0.048
21–22 years (n=135)	49 (36.3)	86 (63.7)	
23 years and above (n=87)	42 (48.2)	45 (51.8)	

**Chi-square test of independence. Bold number denotes statistical significance at 95% level of confidence*

related question (7.6%). There were only two questions on high-risk practices related to HIV/AIDS and findings during initial data exploration, and there was a high proportion of refusal to answer and non-responses in both questions.

More than three-fourths of the study participants had a low to medium level of knowledge related to HIV/AIDS, while two-thirds had a positive attitude towards people living with HIV (Table 5). Attitude toward people living with HIV was the same for men and women, although younger respondents had a higher proportion of those with a positive attitude than older respondents. Overall, only age showed a statistical association with the respondents' attitude towards people living with HIV at p= 0.048 (Table 6).

DISCUSSION

The study showed that the participants had low knowledge, positive attitude and a proportion of negative practice related to HIV/AIDS among higher education students in Pampanga, Philippines. Students received information on HIV/AIDS mainly from television and social media, although sex education material was also a relatively common source. This is similar to the finding of Bankole and Abioye[20] who explained that the reason for more usage of the media platform is due to increase acceptance and use of the internet among the younger generation. Nonetheless, misconceptions about HIV/AIDS transmission remained (e.g., coughing will spread HIV, washing one's genitals can help prevent transmission), implying that lack of HIV-related knowledge remained, which is similar to the finding of Tarkang[21] in Cameroon. Again, most study participants indicated a positive attitude towards people living with HIV/AIDS supporting the findings of Beaulieu et al.,[22] and younger students were more likely than older students to express such attitude. There was only one variable, age, which was significantly associated with knowledge and attitude towards people living with HIV in which the younger respondents had a higher proportion of those with a positive attitude than older respondents. This finding differed from the report of Alawad et al.[23] where there were strong negative attitudes regarding HIV/AIDS in Pakistan, being an Islamic country. HIV-related practices, however, could not be assessed with certainty due to the high proportion of refusal to answer the questions.

The television, social media, and sex education materials were the most common sources of information about HIV/

AIDS among our study respondents, which is similar to a previous study among secondary school students in Nigeria,[24] but differed from another study in Cameroon where they used more of sex education in school.[18] Since the Philippines is a predominantly Catholic country, it does not allow any form of sex education in school, especially the use of condoms.[25] Most families in the Philippines are very conservative in expressing issues related to sex education, which is similarly reported in Nigeria.[26] The findings of this study, particularly that sex education materials were mentioned as the third most common source of information, may be an indication of a changing social attitude toward sex education, just as the Pope has suggested that condoms could be regarded as a method of HIV transmission and not just for the purpose of contraception alone.[27] The level of HIV/AIDS-related knowledge in our study differed from a previous survey of Nubed and Akochere[18] and Thanavanh and colleagues,[28] which found a higher level of knowledge among students using a similar instrument. The reason for this difference could be attributed to the method in data collection and the precautions taken to ensure voluntary participation and the unbiased response of the participants. Misconceptions about HIV transmission reported by the respondents in this study are concerning, although they may not be unique to our study setting,[18,29] they are potential areas of interventions to improve knowledge on preventive practices. However, a number of caveats exist in the study. We grouped all the bodily fluids with no viral loads ("saliva, tears, sweat, or urine"). The question did not allow us to distinguish the type of bodily fluid that was most commonly misconceived, limiting the usefulness of the response in this question and other questions with similar wording. The questions also did not precisely measure knowledge regarding the probability of transmission for low-risk sexual activity (e.g., oral sex and manual stimulation) or emerging issues (e.g., pre-exposure and post-exposure prophylaxes), which potentially had a direct implication on the promotion of safe sex. Future studies should make considerations for these limitations and emerging issues.

Furthermore, most participants reported a positive attitude towards people living with HIV, which differed slightly compared to a previous study.[21] Around 63 % had a good attitude toward people living with HIV, while 37% had a discriminatory attitude against HIV-positive people. To the question "Would you buy things from a shopkeeper or food seller who is HIV positive?" 48.3 % answered they would not. However, many participants agreed to preserve connections with HIV-positive friends (80.2 %) and to care for HIV-positive relatives and friends in their neighborhood (74.1 %), which differed somewhat from a prior study.[13-18] Discrimination against PLWHIV could hinder the battle against HIV and voluntary compliance with HIV counselling and testing. Better understanding of HIV/AIDS transmission might reduce stigma, encourage voluntary HIV testing and impact adherence to antiretroviral therapy (ART) among PLWHIV in the Philippines. A number of factors could have influenced the responses. There is a controlling element of *'hiya'* in Filipino culture, essentially defined as a sense of modesty that makes one refuse to disagree and show hostility openly for fear of causing offense.[30] The sense of 'hiya' could be considered a proxy for social norms for not reporting stigma or intolerance, which might have influenced our study findings. Similarly, other religious values and cultural norms could be potential influencing factors on youth in the Philippines who reported sexual behavior as in previous studies.[7-9] Future studies may consider other methods to measure attitude, such as introducing hypothetical scenarios on stigma in various settings and ask the participants about their potential courses of action, allowing for multiple answers.

Most participants refused to answer the two questions on practices with implications for HIV transmission. Of those who answered (47.2 %) to questions on sterilizing sharp objects before use, 18.6% said they sterilized the objects before use, and 28.6% said they did not. Among the who responded to questions about their last sexual encounters (40.1%), 125 (22.0%) reported that their last three sexual experiences were with different persons, while 102 (18.1%) claimed to be with the same person. A study by Nubed and Akochere [18] and a DHS-MIC survey report from 2011[31] both revealed similar findings regarding having many partners. This suggests that a portion of our study participants exhibited a predisposition for having multiple sexual partners, which is a risk factor for HIV infection and transmission. Refusal to answer the question could be due to the question's socially/legally sensitive nature, implying that social desirability bias could have influenced self-reported practice responses. Alternatively, students could have answered "refused to answer" or not respond because they were not sexually active or had no history of using hypodermic piercing objects. The response of 'not applicable' was not available in the questionnaire. Future studies should consider modifying the study instrument to lessen this ambiguity. More so, modifying the questions conservatively and asking delicate issues indirectly rather than directly is recommended to help improve the social desirability of the questions and elicit more accurate responses.

Strengths and Limitations

This is one of the first studies to assess knowledge, attitude, and practices related to HIV/AIDS among tertiary students in Central Luzon and contribute empirical evidence of interest to policymakers and health promotion program planners. However, a number of limitations exist. Firstly, the survey was carried out in Pampanga, Philippines where cultural and religious values are well observed. Therefore, sensitive issues related to sex- education were avoided by the participants. Secondly, the wording of the questions and the dichotomous answers limited the participants' level of detail of information. Lastly, the study only included students 18 to 24 years of age who were actively enrolled at tertiary education

institutions. This study's findings may not be generalizable to other populations, including youths who are not enrolled in tertiary education or those with lower educational attainment. Internal validity concerns due to the accuracy of the questionnaire in ascertaining KAP, questionable representativeness of the sample from the three schools, and high nonresponse to certain questions may have biased the estimates. For future study, we recommend improvement of questionnaire development for KAP on HIV and AIDS.

CONCLUSIONS

Most respondents at three tertiary education institutions in multiple cities in Pampanga province had a low to medium level of knowledge regarding HIV/AIDS, and misconceptions regarding HIV transmission. However, most participants reported a positive attitude towards people living with HIV. Only age showed a significant correlation with knowledge and attitude towards people living with HIV in this study. Information related to sexual practices towards HIV/AIDS transmission and prevention was limited. Those who answered questions related to practices regarding HIV prevention and transmission may be at risk in getting infected and spread of HIV. Social desirability, religious beliefs, and cultural norms might have affected the study findings.

Statement of Authorship

All authors participated in the collection of data and analysis and approved the final version submitted.

Author Disclosure

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