

Knowledge, Attitude and Practices of Students Enrolled in Health Related Courses at Saint Louis University towards Human Papillomavirus (Philippines)

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Abstract

Introduction: College students are at high risk for Human papillomavirus (HPV) infection, yet their knowledge, attitude and practices appear inadequate. Researcher has paid attention to college students in health related courses because this group generally represents only a small subset of samples of the broader college population.

Objective: To assess students' knowledge, attitude and practices towards Human papillomavirus

Methods: Voluntary and anonymous student (N=432) participation was solicited in randomly selected health related courses. They completed the questionnaire during September 2010 assessing HPV knowledge on modes of transmission, diseases caused by HPV, signs and symptoms and prevention and control of HPV; attitude towards HPV infection and vaccine and practices to reduce HPV infection.

Results: Students in health related courses had poor knowledge regarding modes of transmission of HPV and diseases caused by HPV. However, their knowledge was good on signs and symptoms of HPV and prevention and control measures. The attitude of students was positive towards HPV infection and the vaccine and students had good practices to reduce HPV infection. There was significant difference p-value < 0.05 when students were grouped according to course in all aspects of HPV with medical students being more knowledgeable compared to other students.

Conclusion: Sex education and public health funded campaigns are overdue and necessary, especially targeting the young adults.

Keywords: Human papillomavirus, knowledge, attitude, practices, students in health related courses.

Introduction

Human Papillomavirus (HPV) are common viruses that cause genital warts. There are more than 100 types of HPV and are classified as low risk and high risk. Thirty of these target the genitalia and approximately 15 types are cancer causing and these include 45,31,52,58,35,59,56,51,39,68,73 and 82 (in descending order of global prevalence) million (World Health Organization (WHO), 2008). According to the Centers for Disease Control and prevention (2008), about three out of four people have HPV at some point in their lives. By age 50, at least 80 percent of women will have acquired the HPV infection. These statistics show that HPV is really a burden worldwide and an action should be taken by the health organizations against it.

High-risk Human Papillomavirus (HPV) types, such as 16 and 18, are consistently identified in the Philippines as Predisposing factor to cervical cancer in Filipino women. HPV cases in men cause anal and penis cancer although it is endemic (Philippine Cancer Society Manila, 2005). Low-risk HPV can cause genital warts or skin warts in less than 10% of all infections. Although this number is relatively small, genital warts can cause considerable morbidity for patients. High-risk HPV can lead to cancers of the cervix, vulva, vagina, and anus in women. In men, it can lead to cancers of the anus and penis. Strain HPV 16 has been found to be associated with carcinomas of the tonsils, base of the tongue, vocal cords, lungs, or esophagus (Brotzman G, 1999). College students are the risk population in need of HPV information since this infection is transmitted through sexual contact. College students also are a group of people who when in college meet with several age groups or they interact with students from different background and places thus they can easily acquire some risky behavior from the people they stay with that can put them at risk of HPV. Increasing the understanding of how common and widespread the HPV infection may reduce the anxiety and confusion among individuals diagnosed with HPV, (Koutsky I. 1997).

Further, knowledge about the means of transmission and prevention of HPV seem to be lower than desirable.

This is not only a case of an “uninformed public” with low health literacy or little knowledge about HPV as some frame the issue. The virus has also not been fully understood or well communicated within the scientific community (Koutsky 1997). Researchers in studies of sexually active college students have shown that most students are often unaware of HPV, have low levels of knowledge of HPV infection, and are not practicing behaviors to successfully reduce their risk of contracting HPV (Ramos and Moscicki 1997). Therefore, the goal of this study was to assess the current knowledge, attitudes, and practices about HPV in a population of college students. The ultimate goal is to help inform the development of successful interventions targeting college students.

Research Methods

The study utilized descriptive survey (cross-sectional). The target subjects for the study were males and females of third and fourth year from Pharmacy, Medical Laboratory Science, Medicine and Nursing students. Subjects were recruited from Saint Louis University, Baguio city, Philippines. In all the four settings, the study sample was a random stratified sample of students. Students were assured of their confidentiality of their responses upon administration of the questionnaires. The questionnaire consisted of 46 items in a variety of formats: Section I consisted of demographic data of the respondents (gender, academic level, and course). Section II contained twenty eight questions on knowledge. Part A six questions on the transmission of HPV, part B six items on what HPV causes, part C seven items on signs and symptoms of HPV and part D contains seven items on prevention and control of HPV. Section III composed of twelve questions that tested the students’ attitudes, six items on attitudes towards people with HPV and six items on attitudes towards HPV vaccines. Section IV contained six questions on students’ practices to reduce HPV. Section III, attitudes responses and section IV practice responses were indicated by respondents on a 4-point likert-type scale as to: 4=strongly agree, 3= Agree, 2=Disagree and 1= strongly disagree) and (4=Always, 3= Sometimes, 2=Seldom and 1= Never) respectively.

SPSS software was used and the number of correct responses per each part was counted so that corresponding scores would reflect strengths and deficits in knowledge of HPV. The percentages and frequencies of the respondents who gave correct answers on knowledge were obtained. To determine significant difference according to gender and Academic level, independent t-test was used and among the courses analysis of variance (ANOVA) was used where, indicated, statistical significance is based on 95% confidence interval at p-value less than 0.05. The initial population consisted of 450 students of whom 432 submitted completed surveys questionnaires.

Analysis of Results

Descriptive analyses : The respondents were generally 52.1% third years and 47.9% fourth years. Thirty five percent were males and 64.6% were females. In terms of course: Medical Laboratory Science was 17%, Nursing 54.9%, Pharmacy 18.8% and Medicine 9%. (Table 1)

Knowledge: Based on the table 2, 94.2% (407) of the respondents were able to identify that HPV is transmitted by having either oral,anal and vaginal sex with infected partner. This means that most students are aware that HPV can be sexually transmitted. Most HPV is transmitted during penetrative genital contact (vaginal or anal sex), therefore sexual behavior is the most constant predictor of the acquisition of HPV infection (Waller et.al 2007). Besides the students’ understanding on other modes of transmission, more than 36% (159) of the respondents understood that HPV can also be transmitted by kissing. Furthermore, few respondents were able to identify correctly that HPV cannot be transmitted by body fluids with over 43% (188) of the respondents considering saliva as not a mode of transmission of HPV, 22.9% (99) considered semen and over 24% (105) considered blood as not a means of HPV transmission. Genital HPV is spread through skin-to-skin contact, not through an exchange of body fluid (National Cancer Institute Fact Sheet 2008).

Diseases caused by HPV.

Table 3 shows that over 81% (354) of the respondents were able to identify that genital warts is one of the outcomes of HPV and another 78.2% (338) of respondents also knew that cancer of the vulva and vagina are also caused by the virus. Furthermore the students considered Hepatitis B and colorectal cancer as not the outcome of the HPV,with over 71% (310) and 55% (239) respectively of respondents considering it. Over 44% of the respondents were still able to consider cancer of penis in men and 25% (111) and Genital Herpes and HIV as not an outcome of HPV respectively. Majority of respondents confuse HPV with HIV. According to table 4, more than 81% (353) of the respondents considered warty growths as most common sign among people with HPV. The strains of HPV known to cause genital warts in men and women obviously can cause genital warts to appear (National Cancer Institute Fact Sheet 2008). The respondents also believed that presence of a sore, itching and burning sensation on sex organ is a symptom of HPV with approximately 80% (347) and over 78% (338)

affirmative response respectively. Genital discharge also was reported by 77.8% (336) of the respondents as a symptom and over 65% (282) reporting white patches around genital area as a symptom of HPV. Small percentage or 37.7% (163) of the respondents were able to identify correctly that Foul urine smell is not a symptom of HPV. Although majority of the respondents have good knowledge, still they have some aspects not clear.

Majority of the students were able to understand various methods and strategies to prevent and control HPV infection on table 5. More than 93% (404) were able to react correctly that getting HPV vaccine is a good measure which is really a good preventive measure to those mainly at risk. Only 42.2% (183) of the respondents were able to report that circumcision of males is a good preventive measure, which means that a large number of the respondents are not aware of this method as a preventive strategy, hence, more information about how circumcision can reduce HPV need to be taught to the students in health related courses for their effectiveness in the future as healthcare workers. There was no significant difference in knowledge when respondents were grouped according to academic level and courses. There was significant difference when they were grouped according to course with a p-value of 0.001 which is less than 0.05. Medicine students appeared to me more knowledgeable compared to other courses with high mean of 70.15.(table 6)

On positively (# 1, 2, & 3) and negatively (4, 5, & 6) worded statements the respondents were expected to agree and disagree to the statements respectively to indicate positive attitude towards people with HPV. On likert scale the attitude of the respondents towards people with HPV tend to lead to agreement hence higher score in the scale, thus positive attitude. The highest mean was 3.85 corresponding to strongly agree and the lowest mean was 2.39 on likert scale. The stigma of the respondents towards HPV infection is low (table 7). The respondents still also perceive HPV vaccine as something that is a necessity since majority of them had positive attitude towards HPV vaccine. The responses on 4 likert scale drew towards agreement and disagreement in some aspect (table 8). Those drawing to disagreement could be confounded by lack of understanding about HPV. This could be so since the respondents disagreed that the cost of HPV is costly which is indeed not true, HPV vaccine is costly. Statistically, there was no significant difference when the respondents were grouped according Academic level on attitude towards HPV infection and vaccine, but significant difference existed when they were grouped according to gender on attitude towards HPV vaccine with a p-value of 0.004, with males having high mean of 2.58 compared to females who had mean of 2.49 (table 9). When also group according to course significant difference was established with a p-value of 0.001. Medicine students still had higher mean compared to others (table 10).

Practices to reduce HPV infection

The respondents reported to be having good and satisfactory practices to reduce HPV infection. They reported to be always seeking for guidance and counseling whenever at risk of HPV. Use of condom when they would engage in sex and never influenced by alcohol to sleep with several partners or have sex under influence of alcohol (table 11). Statistically there was no significant difference when grouped according to Academic level and it was significant when grouped according to gender with a p-value of 0.000, where females had a high mean of 3.34 compared to males who had 3.17 (table 12). According to course, there was significant difference p-value of 0.001 with nursing students having higher mean of 3.39 compared to other courses (table 13)

Discussion

Several conclusions can be drawn from this study. The first is, the students in health related courses have fair knowledge on modes of transmission of HPV. Moreover they have good knowledge on ways of preventing and controlling HPV and signs and symptoms on HPV. Their understanding was insufficient and spotty, as they were generally unaware of the more important factors about HPV infection, such as the modes of transmission. They have positive attitudes towards people with HPV and vaccines. Lastly, they also have good extensive practices that reduce HPV infection. However medical students have the highest extent of knowledge and most positive attitudes towards HPV compared to other students in health related courses. However, as previous studies found that levels of knowledge about HPV were low or nonexistent, the moderate level of knowledge in this population is an indication of positive change. Some of the differences in knowledge level, attitude and practices among courses are also troublesome. Medicine students showed to have high mean as to other courses except when it comes to practices where nursing students had high mean compared to other courses. The results of this research study indicate a real need for effective campaigns about HPV. Although the college-aged respondents in this study had a higher level of knowledge than previous studies found, the respondents still lack vital knowledge about the methods of transmission and greatly misunderstood. The attitudes of the respondents are not only unfounded in general but reveal a lack of awareness among the respondents. Respondents were not very clear in their understanding that HPV was not related to Human Immunodeficiency virus/Acquire Immunodeficiency Syndrome (HIV/AIDS) or genital herpes. Successful efforts to address Herpes virus and HIV/AIDS could be used as a template for the development of large-scale campaigns about HPV that avoid

further stigmatizing individuals with the virus while increasing knowledge and appropriate behavior choices.

Conclusion

This study also highlights the importance of understanding the value of educating and targeting incoming college freshman about sexual health, HPV, and potential HPV vaccination. A recent study found college-aged men and women had significant intentions to get vaccinated against HPV and that higher levels of HPV knowledge and a subsequent increase in perceived risk of becoming HPV-infected also led to higher levels of intention to receive the vaccine Yacobi et al (1999). The study consisted of large population of females than males since it was only limited to students in health related courses. Also, although the sample was of sufficient size, it was randomly selected and only drawn from one university so the findings may not be representative of college students in general. The study avoided a lot of self reporting information. Information about HPV can be somewhat confusing. Considering that research is still producing new knowledge about HPV, public education about this virus and the ongoing scientific process is key. However, the lack of complete scientific understanding about HPV should not be seen as a deterrent for efforts to increase health literacy and knowledge about this highly prevalent STI. A lack of understanding can lead to increased stigma about the virus, either as a result of a fear of the unknown or as fear of the misunderstood. Health literacy is a key tool that can increase empowerment about sexual health and is vital to increasing the public's ability to prevent the further spread of HPV. Future research remains needed to determine whether students in other no- health related courses are aware of HPV infection since anyone can acquire the infection not only in health related field but also in other fields.

Authors' contributions

All authors contributed to the conceptualisation of the paper. Sabella and STK did the initial review, the selection of abstracts, and the identification of papers to be included in the final review. All authors contributed to the assessment of papers. AE, WO and OE did the statistical analysis. All authors reviewed the results of the analysis. JM drafted the manuscript, and all authors contributed to its completion. Sabella is the guarantor.

Acknowledgements

Thanks to those who have been instrumental in the success of this research: The Saint Louis University, the adviser, the panels and students for participating in this research study and for their support of this study.

Competing interests

The authors declare that they have no competing interests

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Table and figures

Table1: profile of the respondents

Profile of Respondents	Frequency	Percent (%)
Gender		
Male	153	35.4
Female	279	64.6
Total	432	100.0
Academic Year level		
Third Year	225	52.1
Fourth year	207	47.9
Total	432	100.0
Course		
Medical Laboratory Science	75	17.4
Nursing	237	54.9
Pharmacy	81	18.8
Medicine	39	9.0
Total	432	100.0

Table 2: Modes of transmission of HPV

Modes of Transmission of HPV		Respondents who answered correctly on mode of transmission of HPV	
		Frequency	Percentage
1	Kissing	159	36.8%
2	Toilet seats	270	62.5%
3	Sharing personal items	188	43.5%
4	Having sex (oral, anal, vaginal) with infected partner	407	94.2%
5	Body fluids: Blood through needle prick	105	24.3%
6	Saliva	188	43.5%
7	Semen	99	22.9%
8	Eating from same bowl	311	72.0%

Table 3: Diseases caused by HPV

Diseases caused by HPV.		Respondents who answered correctly on what HPV causes	
		Frequency	Percentage
1	Colorectal cancer	239	55.3%
2	Genital Herpes and HIV	111	25.7%
3	Genital warts	354	81.9%
4	Cancer of vulva and vagina in women	338	78.2%
5	Hepatitis B	310	71.8%
6	Cancer of penis in men	190	44%

Table 4: Signs and symptoms of HPV

Signs and symptoms of HPV		Respondents who answered correctly on signs and symptoms of HPV	
		Frequency	Percentage
1	Warty growths	353	81.7%
2	Genital discharge	336	77.8%
3	Sore on the sex organ	347	80.3%
4	White patches around genital area	282	65.3%
5	Foul urine smell	163	37.7%
6	Blood in stool	305	70.6%
7	Itching and burning sensation in sex organ	338	78.2%

Table 5: prevention and control of HPV

Prevention and control of HPV		Respondents who answered correctly how to prevent and control HPV	
		Frequency	Percentage
1	Eating Healthy diet and staying physically fit	348	80.6%
2	Getting HPV vaccine	404	93.5%
3	Polygamous relationship	372	86.1%
4	Using condom during sexual intercourse for men	376	87%
5	Circumcision of males	183	42.2
6	Early age start of sexual activity	350	81%
7	Abstinence from sex	349	80.8%

Table 6: Significant difference (course)

Overall knowledge on		Mean	p- value
	Medical laboratory science	66.38	0.001
	Nursing	64.12	
	Pharmacy	59.964	
	Medicine	70.146	
	Total	64.277	

Table 7: Attitude towards HPV infection

Attitude towards HPV infection		Qualitative interpretation	w. mean
1	A person with HPV infection should have same rights for care as anyone else	Strongly agree	3.85
2	People who have HPV infection should not be ashamed	Agree	3.25
3	It is safe for people who have HPV infection to work with children	Disagree	2.39
4	People who have HPV infection are dirty (they don't observe personal hygiene)	Disagree	3.16
5	People who have HPV infection should be isolated	Disagree	3.11
6	It is bad to be friendly with people with HPV infection.	Strongly disagree	3.58

Table 8: Attitude towards HPV vaccine

Attitude towards HPV vaccine		Qualitative interpretation	W. mean
1	Introduction of HPV vaccine by the government is highly recommended.	Strongly agree	3.80
2	HPV vaccine should be given to boys and girls between 10-12 years old	Agree	2.95
3	Vaccination is effective in people that have not yet been infected with HPV	Strongly agree	3.49
4	Re-assurance of the safety of the HPV vaccine is still needed	Strongly disagree	1.46
5	The HPV vaccine is costly	Disagree	1.80
6	It is necessary to see a physician in order to get HPV vaccine	Strongly disagree	1.64

Table 9: statistical significance

Attitude Toward HPV Vaccines	Gender	Mean	p-value	interpretation
	Male	2.581		
	Female	2.493		

Table10: Significant differences of attitude among

	Course	Mean	p-value
Attitude Towards People with HPV	Medical Laboratory Science	3.208	0.000
	Nursing	3.234	
	Pharmacy	3.060	
	Medicine	3.539	
	Total	3.224	
Attitude Toward HPV Vaccines	Medical Laboratory Science	2.513	0.000
	Nursing	2.537	
	Pharmacy	2.425	
	Medicine	2.670	
	Total	2.524	

Table 11: Practices of the students to reduce HPV infection

	Practice	W Mean	Qualitative Interpretation
1	If you were at risk of HPV infection how often would you seek guidance and counseling?	3.75	Always
2	If you were to engage in sex, how often will you use a condom?	3.57	Always
3	Do you attend Sex education/lectures/seminars in and out of college whenever advertised?	2.18	Seldom
4	How often do you drink alcohol?	2.83	Sometimes
5	If you were an alcoholic drinker, how often will it influence you to sleep with multiple sexual partners?	3.63	Never
6	How often have you had sexual intercourse under the influence of alcohol?	3.74	Never

Table 12: significant differences of practices among sexes at 0.05 level.

	Gender	Mean	P-Value
Extent of Practices	Male	3.174	0.000
	Female	3.341	

Table 13: significant differences among courses at 0.05 level.

	Mean	Std. Deviation	p-value
Medical Laboratory Science	3.195	0.37606	0.001
Nursing	3.339	0.37176	
Pharmacy	3.287	0.39403	
Medicine	3.093	0.45196	
Total	3.282	0.39110	

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