

Perception Regarding HPV Vaccination among the Students of Medical University in Malaysia

Resni Mona^{1*}, Amierabinti Nor Azman², Fatin Nur Syahirinbt Atan², Jannathul Firdous¹, Norain Ab. Latif¹ and Noorzaid Muhamad¹

¹Cluster for Integrative Physiology and Molecular Medicine (CIPMM), Faculty of Medicine, Universiti Kuala Lumpur Royal College of Medicine Perak, Jalan Greentown, 30450 Ipoh, Perak, Malaysia.

²Faculty of Medicine, Universiti Kuala Lumpur Royal College of Medicine Perak, Jalan Greentown, 30450 Ipoh, Perak, Malaysia.

*Corresponding author E-mail: resnimona@unikl.edu.my

<http://dx.doi.org/10.13005/bpj/1701>

(Received: 22 January 2019; accepted: 05 March 2019)

Human papilloma virus (HPV) is the most important cause of cervical cancer that is infected among young and sexually active individuals and rated as third most common cancer. The aim of this research was to determine the perception regarding HPV vaccination among the MBBS students of UniKL RCMP. Descriptive cross-sectional study was done among 207 respondents from MBBS students of UniKL RCMP where a set of questionnaire was given that contains 38 questions. The sections were assessed their socio demographic input, knowledge, attitude and practice scores respectively. Descriptive statistics in terms of frequency and percentage, and cross tabulation were used to analyze the association of knowledge, attitude and practice. Pearson chi square was used to test the hypothesis. There was no association between gender and knowledge regarding HPV vaccination and between year of study and attitude regarding the HPV vaccination. However, gender had a statistical significance with attitude and was also a statistical significance between year of study and knowledge on HPV vaccination. It was concluded from the results that gender does not play a role in knowledge regarding HPV vaccination, but year of study does. However, gender plays a role in attitude on HPV vaccination.

Keywords: Cervical cancer, Descriptive cross-sectional study, Human papilloma virus, Knowledge, Perception.

Cervical cancer remains one of the deadliest cancers for women around the world.¹ The introduction of HPV vaccine in Malaysia in 2010 aims at a wide vaccination coverage to all women which proved to decrease the risk of cervical cancer provided that it is taken before the exposure to Human Papilloma virus (HPV).² HPV infection is the most common infection among young and sexually active individuals.³ It is caused by skin to skin direct genital contact and therefore,

WHO has declared the HPV vaccine as the first and foremost approach to prevent cervical cancer and this vaccine is to be administered prior to first sexual contact.⁴ However, the vaccine should also be taken by males as to prevent genital warts and passing on the HPV strain to their female partners.⁵

In Malaysia, free vaccination is provided for schoolgirls aged 13 for all three doses which must be taken within 6 months. For females of age 18-26, a similar program is offered at

any clinics owned by National Population and Family Development Board (LPPKN) or works in conjunction with LPPKN. Yet, cervical cancer remains the second most common cancer in Malaysia and the fourth leading cause of death among women. It is noted that there are 2,145 new cases and 621 die from the disease every year.

Vaccination is important as a step to reduce the occurrence of cervical cancer. HPV not only cause cervical cancer but also other cancer such as anal cancer and oropharyngeal cancer which affect both men and women. HPV vaccination is recommended for boys by the Centre for Disease Control (CDC), USA. Gardasil is available for boys aged 9-26 years old in which in USA, both sexes received the vaccination. Hence, it is important that both sexes shall be immunized. There are two HPV vaccines currently available in the market. Cervarix® provides protection towards HPV type 16 and 18 while Gardasil® provides protection against HPV type 6, 11, 16 and 18. The HPV-16/18 vaccine contains virus-like particles (VLPs) assembled from the L1 major capsid proteins of HPV-16 and HPV-18.⁶ As a future medical professional, it is important for medical students of both sexes to know in-depth regarding HPV vaccine and its implications. They are at a frontline of educating the masses regarding prevention of cervical cancer. This is important as to shape awareness of the public so that the attitude towards prevention of cervical cancer can be improved. Hence, it is important that the understanding of HPV vaccine as a primary prevention shall be assessed as to gauge the level of understanding towards the subject which subsequently can help in reducing the morbidity and mortality of cervical cancer in the future. Therefore, the present study was to compare the knowledge and attitude towards HPV vaccination between the male and female MBBS students of Universiti Kuala Lumpur Royal College of Medicine Perak (UniKL RCMP) in Malaysia.

MATERIALS AND METHODS

Study design and sample size

Cross sectional descriptive study among medical students of UNIKL RCMP was conducted using simple random sampling to distribute the questionnaires to the respondents. The sample size

for this study was 207, made up of 165 female and 42 male students. From year of study, preclinical students made up 68% of clinical students and 32% of preclinical students.

Study variables

Variables such as knowledge and attitude regarding HPV vaccination were studied and was shown in Table 1.

Data collection and Data analysis

Printed questionnaires were then given out to the respondents to be answered. Details given by the respondents were kept confidential and was not exposed to other parties unless the respondents himself wishes to do so. Data were collected using questionnaire which were self-administered by the respondents. The information obtained from questionnaires were demographic data, knowledge of HPV infection, cervical cancer and preventive methods against cervical cancer including HPV vaccination, attitude towards HPV vaccination, practice on HPV vaccination and factors promoting the participation in cervical cancer vaccination. The raw data were processed and entered for data analysis. Data collected was sorted out and processed using SPSS. Descriptive statistics including frequencies and percentages were calculated for each item in the questionnaire. Cross tabulation analysis and Chi-square statistical test were used.

RESULTS

Regarding source of information, 159 respondents reported that they came to know about HPV vaccination from health campaign, the biggest source of about 147 respondents by internet, 124 respondents came to know about HPV vaccination from healthcare providers, followed by 105 respondents from newspaper and 100 respondents from friend's circle. Media sources like radio and television gathered information by 95 respondents followed by 55 respondents from family members and 15 respondents from other sources respectively as shown in Table 2.

Knowledge score in relation to gender

Female respondents achieved mean score of 14.34, while male achieved mean score of 13.17. Among female respondents, 52.1% attained a good score for total knowledge score and 49.1% scored poorly. For male respondents, 42.9% belonged

in good score while 57.1% received poor score. According to Pearson Chi-Square test, the p-value of association between gender and knowledge score was 0.284. There was no statistical significant result between gender and knowledge score as shown in Table 3.

Attitude score in relation to gender

Total attitude mean score of female respondents was 44.14 while mean score for male respondents was 42.12. Female respondents achieved a good score of about 98.8% for total attitude and only 1.2% belonged to poor category of score. For men, 90.5% scored in the good category for attitude but 9.5% belonged to the ‘poor’ category as in Table 4. Since the Pearson Chi-Square p-value was 0.004, there was a statistical significant result between gender and attitude score on HPV vaccination.

Knowledge score in relation to preclinical and clinical years

Respondents from clinical years scored a higher mean of score, which was 15.08 compared to 12.02 as achieved by respondents of preclinical years. 59.6% of female respondents belonged in the good total knowledge score whereas 30.3% of male respondents belonged in the same group of

score. As much as 40.4% of female and 69.7% of male respondents scored poorly as shown in Table 5. As the Pearson Chi-Square p-value was less than 0.05, there was a statistical significance between year of study and knowledge of HPV vaccination.

Attitude score in relation to preclinical and clinical years

When comparing the attitude, 97.9% of respondents belonged to year 3,4 and 5 attained a good total attitude score whereas 2.1% belongs to the poor total attitude score category. Among pre-clinical and clinical years, 95.5% of preclinical respondents attained a good total attitude score while 4.5% had a poor total attitude score as shown in Table 6. As the p-value was 0.334, there was no statistical significant result between year of study.

DISCUSSION

Regarding the source of information on HPV vaccination, 159 respondents (76.8%) obtained information from health campaign as HPV vaccination was introduced in Malaysia at 2010, there was a rigorous campaign done by KementerianKesihatan Malaysia in order to raise awareness among Malaysians regarding the

Table 1. Study variables used in the study

Variables	Concept	Operational definition	Measurement/ Classification
Knowledge	Classification of respondents’ level of understanding on HPV vaccination	Based on the score that the respondent get after answering the questionnaire	Yes / No / Don’t Know
Attitude	Classification of respondents’ behaviour towards HPV vaccination	Based on the score that the respondent get after answering the questionnaire	Agree / Disagree / Don’t Know

Table 2. Source of information regarding HPV vaccination

Sources	Frequency (n)	Percentage (%)
Newspaper	105	50.7
Health Campaign	159	76.8
Radio And Television	95	45.9
Internet	147	71.0
Healthcare Providers	124	59.9
Friends	100	48.3
Family Members	55	26.6
Others	15	7.2

newly introduced drugs. The respondents were in 19 to 24 age category went through preparatory medicine courses (foundation, A-level, diploma, degrees) and offered HPV vaccination through LembagaPendudukdan Pembangunan Keluarga Negara (LPPKN). In regards to perception of medical students, the data was analysed from two viewpoints namely gender and year of study. The respondents were categorized into two groups for year of study where year 1 and year 2 were considered as preclinical year while the rest years 3, 4 and 5 were categorized as clinical years. The result differs from one another as for the gender

Table 3. Total knowledge in relation to gender

Gender	Total knowledge score			Mean	Median	Standard Error	
Female	Good	Poor	Total	14.34±3.54	15	0.276	
	count	86	79				165
	% within gender	52.1	47.9				100
Male	Good	Poor	Total	13.17±4.71	13.15	0.727	
	count	18	24				42
	% within gender	42.9	57.1				100

Table 4. Total attitude in relation to gender

Gender	Total attitude score			Mean	Median	Standard Error	
Female	Good	Poor	Total	44.14±4.84	44	.377	
	count	163	2				165
	% within gender	98.8	1.2				100
Male	Good	Poor	Total	42.12±5.42	43	.838	
	count	38	4				42
	% within gender	90.5	9.5				100

Table 5. Total knowledge in relation to pre-clinical and clinical years

Course year	Total attitude score			Mean	Median	Standard Error	
Clinical	Good	Poor	Total	15.08±3.53	16	.298	
	count	84	57				141
	% within clinical years	59.6	40.4				100
Pre-clinical	Good	Poor	Total	12.02±3.60	12	.443	
	count	20	46				66
	% within pre-clinical years	30.3	69.7				100

point of view, the mean knowledge score for female was higher (14.34) when compared to male (13.17). For total attitude score, 98.8% of female respondents have good knowledge as opposed to 90.5% of male respondents.

The study was done in order to identify the association between gender and perception of HPV vaccination. There was no association between gender and knowledge of HPV vaccination. However, there was an association between gender and attitude regarding HPV vaccination. This may be because male was excluded the HPV vaccination schedule by Kementerian Kesihatan Malaysia and HPV vaccination being relatively new in Malaysia,

there was lower knowledge and attitude among male population. As HPV vaccination proves to be effective against genital warts among sexually active adolescents, there was almost no effort to get the male adolescents to vaccinate as sex remains to become a taboo topic and the main policy of the nation is to practice abstinence. However, the lack of knowledge was important to be addressed because men is susceptible for genital warts and other type of cancers such as oropharyngeal, penile and anal cancer as well.⁷ There is no test to detect HPV infection in male. Previous studies concluded that there was no difference in HPV vaccine acceptability among the sexes.⁸ Education should

Table 6. Total attitude in relation to pre-clinical and clinical years

Course year	Total attitude score			Mean	Median	Standard Error	
Clinical	Good	Poor	Total	13.83±4.76	14	.378	
	count	138	3				141
	% within clinical years	97.9	2.1				100
Pre-clinical	Good	Poor	Total	12.32±5.66	12	.437	
	count	63	3				66
	% within pre-clinical years	95.5	4.5				100

be disseminated to the masses including men so that appropriate measures can be taken such as HPV vaccination.

Among the male respondents, only 19.2% had heard about HPV vaccination as opposed to 80.8% of female respondents. Furthermore, only 34.5% of male respondents aware that there was an available HPV vaccination as opposed to 65.5% of female respondents. There was a statistical significance of relation between gender and awareness. To compare between two group of students (preclinical and clinical students), 59.6% of clinical students scored good total knowledge score and 40.4% scored as poor knowledge about HPV vaccination. This was different from preclinical students, where only 30.3% scored good total knowledge score. Hence, there was a significance between preclinical and clinical student in knowledge of HPV vaccination. For total attitude score, 97.9% scored good attitude for clinical respondents and 95.5% of respondents from preclinical years. This is similar to a study that states most of the respondents have a positive attitude towards HPV vaccination because they had knowledge of cervical cancer and its prevention.⁹

There was some limitation to the study. For start, the number of respondents from men is less than number of female respondents. This was due to limited number of male students available during the study. In the future, the study could be improved by systematic sampling as the respondent's number could be balanced by ensuring specific number of respondents from both sexes answer the questionnaire. Other than that, this study does not measure the practice regarding HPV vaccination. This could be improved by including

questions related to the practice of HPV vaccination such as the rate of vaccination received.

CONCLUSION

It is important to instill a good understanding of HPV and its prevention among MBBS students. As a future medical professional, it is imperative that future doctors to be equipped with proper knowledge of HPV and its prevention as the trend of sexual practice might be different in the future. It is also important to curb the perception that men should not be vaccinated as men could be at risk of developing anal, oropharyngeal and penile cancer.

ACKNOWLEDGEMENT

The authors thank the management, UniKL RCMP for allowing to do this project and they also thank the respondents who filled in the survey which helps to carry out this project.

REFERENCES

1. Cox JT. Epidemiology and natural history of HPV. *J Fam Pract.*; Suppl:3-9 (2006).
2. Zaridah S. A review of cervical cancer research in malaysia. *Med J Malaysia.*; **69** Suppl A:33-41 (2014).
3. Shafei MN, Zainon N, Zulkifli NF, Ibrahim MI. Knowledge and Perception on Human Papilloma Virus Infection and Vaccination among Medical Students of a University in Malaysia. *Procedia - Social and Behavioral Sciences*; **116**: 2707-10 (2014).
4. Khan TM, Buksh MA, Rehman IU, Saleem A.

- Knowledge, attitudes, and perception towards human papillomavirus among university students in Pakistan. *Papilloma virus Research.*; **2**:122-7 (2016).
5. Wangu Z, Hsu KK. Impact of HPV vaccination on anogenital warts and respiratory papillomatosis. *Human Vaccines & Immunotherapeutics.*; **12**(6):1357-62 (2016).
 6. Sudenga SL, Royse KE, Shrestha S. Role and uptake of human papillomavirus vaccine in adolescent health in the United States. *Adolescent Health, Medicine and Therapeutics.*; **2**: 63-74 (2011).
 7. Palefsky JM. Human Papillomavirus-Related Disease in Men: Not Just a Women's Issue. The Journal of adolescent health : official publication of the Society for Adolescent Medicine.; **46**(4 Suppl):S12-S9 (2010).
 8. Daley EM, Marhefka S, Buhi E, Hernandez ND, Chandler R, Vamos C, et al. Ethnic and Racial Differences in HPV Knowledge and Vaccine Intentions among Men Receiving HPV Test Results. *Vaccine.*; **29**(23):4013-8 (2011).
 9. Aweke YH, Ayanto SY, Ersado TL. Knowledge, attitude and practice for cervical cancer prevention and control among women of childbearing age in Hossana Town, Hadiya zone, Southern Ethiopia: Community-based cross-sectional study. *PLoS ONE.*; **12**(7):e0181415 (2017).