

KNOWLEDGE, ATTITUDE AND PRACTICES ON CERVICAL CANCER AND ITS PREVENTION AMONG UNIVERSITY FEMALE STUDENTS

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ABSTRACT

Introduction: Worldwide, cervical cancer is the fifth most common cause of death caused by cancer following other types of cancer (Parkin, Louie & Clifford, 2008). In Malaysia, cervical cancer is the third most common cancer among women and the fourth most prevalent cause of death (Parkin *et al.*, 2010; Ministry of Health, Malaysia, MOH, 2006). Many studies indicated that knowledge of cervical cancer would improve screening coverage and preventive practices among women. It is important for young females to have appropriate knowledge and practices regarding cervical cancer and its prevention, since they are vulnerable to get this kind of preventable disease.

Methodology: A descriptive cross-sectional quantitative study design was used to find out the knowledge, attitude and practices about cervical cancer and its prevention among the university female students in Malaysia. Self-administered structured questionnaire was used to collect the data. The questionnaire focused on the demographic characteristics, knowledge on causes, risks, attitude and practice regarding prevention of cervical cancer.

Findings: In general, the respondents had moderate and low level of knowledge regarding cervical cancer and risks factors. Majority (76%) of respondents knew that HPV vaccine could prevent occurrences of cervical cancer. Most of the respondents did not know about the risks and symptoms of cervical cancer. However, nearly two-third (72%) had positive attitude on cervical cancer whereas approximately one-third (28%) showed their negative attitude towards cervical cancer. Regarding attitude statements, nearly all statements were showed positive attitude except the fact that they were examined by male doctors for Pap smear. Most of respondents (73% Vs 93% respectively) had never been vaccinated against cervical cancer before, and never experienced the Pap smear test before.

Conclusion: In conclusion, the knowledge and practices regarding cervical cancer among the female students at the study area were generally insufficient. There is a need for health education program among them to increase their knowledge, awareness, and practices on cervical cancer and its prevention so as to enhance the cervical screening rates among them and prevent occurrences of cervical cancer in their later lives.

Keywords: *Cervical cancer, Pap smear, Human Papilloma Virus, Female University students*

INTRODUCTION

Worldwide, cervical cancer is the fifth most common cause of cancer death following other types of cancer (Parkin, Louie & Clifford, 2008). In 2005, cervical cancer caused 502,000 deaths and 80% of global cervical cancer mortality and morbidity are in low middle-income countries (Parkin *et al.*, 2010). Eighty-

three percent of cases occurred in the developing world, where cervical cancer accounts for 15% of female cancers, as compared to just 3.6% in developed countries (Parkin *et al.* 2010). The Asia Pacific region alone contributes to half of the world's total cervical cancer cases (51.6%) and cervical cancer deaths (50.3%) (Parkin *et al.*, 2008).

In Malaysia, cervical cancer is the third most common cancer among women and the fourth cause of death (Parkin *et al.*, 2010; MOH, 2006). A total of 1,557 and 847 cases of cervical cancer were registered with National Cancer Registry in 2003 and 2007 respectively (Cancer Research Campaign, 2006). The overall incidence rate for cervical cancer in Malaysia is 19.7 per 100,000 populations and this differs by ethnic group. Ethnic Chinese women had the highest rate of 28.8 per 100,000, followed by ethnic Indians with 22.4 and ethnic Malays with 10.5 per 100,000 women (MOH, 2006).

The chief etiological factor of cervical cancer is Human Papilloma Virus (HPV) and there are over 200 recognized serotypes of the virus, the most common are 16 and 18, which are responsible for approximately 70% of cases. It is estimated that 80–90% of women is infected with this sexually transmitted infection at some point in their life, though only 3 to 4% of them will develop cervical cancer. The disease has a premalignant stage, which usually occurs in younger women under the age of 40 (Schiffman *et al.*, 2007). In this regard, health education messages about the cancer and its prevention also form part of the prevention strategies (Wellings *et al.*, 2004).

Many studies indicated that knowledge of cervical cancer is necessary to improve screening coverage. It is important for young females to have appropriate level of knowledge regarding this public health problem since they are at high risk of getting the infection spread sexually. So the females must have access to reliable information as well as correct attitude and practices on cervical cancer prevention, which can then lead to health gains. By exploring their knowledge and attitude, the required information would be disseminated among these high-risk groups. As a consequence, the morbidity and mortality of cervical cancer could be reduced to some extent.

Objective

The objective of this study was to explore the knowledge, attitude and practices on cervical cancer and its prevention among the university female students in Malaysia.

RESEARCH METHODOLOGY

A cross-sectional, descriptive quantitative research method was used to explore the knowledge, attitude and practices on cervical cancer and its prevention,

including HPV vaccinations and Pap smear among female students. The research was conducted in a private university in Kuala Lumpur, Malaysia. The targeted populations for sampling of this study consisted of all the female private university students, aged between 18 to 25 years and attending the university in 2014. A convenient sampling method was used to select the study sample comprising of 100 female students in a private university in Cheras.

A structured questionnaire was developed to explore the knowledge, attitude and practices on cervical cancer and its prevention, along with information about HPV vaccination and Pap smear test among female students. Section A was based on demographic information of the female students, which included their age, education level, ethnicity and marital status. Section B was about knowledge on risks and prevention of cervical cancer. Section C was based on attitude towards cervical cancer prevention and lastly, section was based on practices on prevention, which includes Pap smear and HPV vaccine. The instrument used in section C was developed as a five-point Likert to reflect the respondent's attitude towards cervical cancer. Scoring system was used for questions regarding knowledge and attitude. For 'correct response' on knowledge questions was scored as '1' while 'incorrect' and 'don't know' responses were scored as '0'. In seven statements for attitude, five statements represented negative attitude whereas two for positive attitude. For positive attitude statement scores for strongly agree response was '5', followed by agree as '4', neutral as '3', disagree as '2' and lastly strongly disagree scored as '1'. Regarding negative statements, reverse scoring system was applied. Lower scores indicated the poorer attitude and higher scores indicated the opposite meaning.

Data were collected by using a self-administered, structured questionnaire and analyzed with SPSS version-19. Descriptive statistics were presented with tables and figures to illustrate the frequency and percentage of the results. Before collecting the data, ethical approval was taken from the university. Informed consent was also taken from each respondent to ensure the ethical conduct of the study.

RESULTS AND DISCUSSION

Demographic data of the study population

Among 100 respondents, the age of respondents

ranged from 18 to 25, which were divided into three categories: (18-20; 21-22; 23-25 years). Most of the respondents (59%) were from the 18 to 20 years age group followed by 21-22 years which was 33% and the least was in 23-25 years age group, represented for 8% of respondents. As for the race and ethnic group, majority of them were Chinese 79%, followed by Indians 13% and Malays 8%, respectively. Majority of respondents were pursuing bachelor level education (70%), followed by (24%) of respondents pursuing their pre-university, and only 4% pursuing their diploma, and 2% were studying for master degree. In this study, 100 percent of the respondents were all single female students.

Table 1: Demographic data of the study population (n=100)

No.	Variable	Frequency	Percentage
1.	Age		
	18-20	59	59
	21-22	33	33
2.	Ethnicity		
	Malay	8	8
	Chinese	79	79
3.	Education		
	Pre-U	24	24
	Diploma	4	4
	Bachelor	70	70
4.	Marital status		
	Single	100	100
	Married	0	0
	Others	0	0

As for the sources of information regarding cervical cancer, *public media* was the most common source used by 30% of respondents, followed by *newspaper* used by 22% of respondents. The same per cent of respondents (19% each) were getting information on cervical cancer from healthcare personnel and parents while only 10% of respondents got cervical cancer information from their friends.

Most of the respondents received information regarding cervical cancer through public media and newspapers (30% and 22% respectively). These two high values may be attributed to the fact that these respondents are within the university environment and hence they had easy access to information through these media. In contrast, a study conducted by Marek *et al.*,

(2011) indicated that the main sources of information about cervical cancer among the respondents were the Internet (74.6%), television (62.8%) and newspaper (46.1%). Less popular sources were doctors, leaflets and family members. According to a study by Hoque (2010), less than half (42%) of the respondents had heard about cervical cancer, of those, almost a quarter (22%) had heard from the community health workers, only 19 per cent had heard about it from the media.

Table 2: Sources of information on cervical cancer (n=100)

No.	Source	frequency	Percentage
1	Public media	30	30%
2	Newspaper	22	22%
3	Healthcare personnel	19	19%
4	Friends	10	10%
5	Parents	19	19%

Knowledge regarding risks, causes, prevention of cervical cancer

More than 92% of the respondents correctly knew that cervical cancer could be prevented and 80% answered correctly that it can be cured in its earliest stages. In a study conducted by Kamzol, Jaglarz & Krzysztof (2013), over 14% of respondents believed that cervical cancer was fully curable, 66.2% thought that only some women could be cured, and approximately 5% considered cervical cancer to be incurable. Similarly, Richard & Andrew (2010) reported that a fairly large proportion of young women reported that the disease is potentially fatal and that the disease can be treated effectively if it is diagnosed at an early stage of development, but with only few respondents correctly answered that HPV is the main cause of cervical cancer and also that regular pap smear test is still required after HPV vaccination. In the present study, 30% and 42% of respondents correctly knew the cause of cervical cancer by HPV and needs of regular Pap smear tests, respectively. In this regards, the respondents' knowledge on question regarding preventable and curable nature of cervical cancer were assumed to be high. However it was found that their general knowledge regarding possibility of cervical cancer, HPV, Pap smear were considerably low indicating a requirement to raise awareness campaigns among the students. A similar study on the knowledge and attitude among Asian female university students showed that there was a very limited awareness among these youth regarding cervical cancer and its

preventive measures. The study concluded that young Asians need more education regarding their sexual health (Wong & Sam, 2010).

Concerning the causes of cervical cancer, among the respondents most of them did not know the common causes of cervical cancer. For instance, only a few respondents (20% and 18% respectively) knew that smoking and low socioeconomic status could also be the causes for cervical cancer. Studies conducted in other countries yielded similar results regarding awareness associated with the factors such as smoking, number of sexual partners and low socioeconomic status with cervical cancer (Munoz & Bosch, 2006). Regarding knowledge on causes and risk of cervical cancer, the present study indicated that most of respondents (over 60%) knew the risk of cervical cancer by multiple sexual partners and family history. However their knowledge on other risk factors of cervical cancer was considerably low.

Table 3: Percent of correct responses on knowledge regarding cervical cancer (n=100)

No	Items	Frequency	%	Interpretation
General knowledge				
1.	Cervical cancer can be prevented.	92	92	High
2.	Cervical cancer can be cured in its earliest stages.	80	80	High
3.	Cervical cancer is one of the sexually transmitted disease	41	41	Low
4.	All sexually active women are at risk of cervical cancer	47	47	Low
5.	HPV virus is the main cause of cervical cancer.	30	30	Low
6.	Regular cervical pap smear test is still required after HPV vaccination.	42	42	Low
7.	HPV vaccines cannot prevent all cases of cervical cancer (100% protection)	49	49	Low
Risk factors				
1.	Early sexual debut	38	38	Low
2.	Multiple sexual partners	60	60	Moderate
3.	Sexual contact with genital warts	43	43	Low
4.	Smoking	20	20	Very low
5.	Using oral contraceptives	26	26	Low
6.	Family history	63	63	Moderate
7.	Low socioeconomic status	18	18	Very low

Legend: 76-100= high knowledge; 51-75= moderate knowledge
26-50=low knowledge; 0-25 very low knowledge

Table 4 represents the results regarding the symptoms of cervical cancer and its prevention. Most of the respondents did not know symptoms of cervical cancer. Among three questions, most respondents (56%) knew that “abnormal vagina discharge” is one of the symptoms of cervical cancer. Only 38% of respondents knew that “bleeding after sexual intercourse” is a symptom of cervical cancer. Lastly, less than 40% of respondents knew that “bleeding after menopause” is a symptom of cervical cancer.

Taking into consideration the concern for the prevention of cervical cancer, least number of respondents was not aware that “abstain from smoking” compared to other three questions, because only 29% of respondents knew on that. The responses on question regarding “vaccination for HPV virus” showed that 76% of respondents could answer correctly and indicated that they had high knowledge on it. Furthermore, over half of respondents correctly knew regarding “limiting the number of sex partners” and “using condoms during sexual intercourse” are preventive means of cervical cancer.

Approximately half of respondents answered correctly on the recommended age and frequency of HPV vaccination. Similarly, 60% of respondents knew that Pap smear test can detect cervical cancer in the early stage. According to interpretation, the respondents had high knowledge on prevention of cervical cancer. However, their knowledge on the recommended age and frequency of vaccination was still not satisfactory.

Table 4: Percent of correct responses on knowledge regarding symptoms of cervical cancer and its prevention (n=100)

No.	Item	Frequency	Percent	Interpretation
Symptoms of cervical cancer				
1.	Abnormal vaginal discharge	56	56	Moderate
2.	Bleeding after sexual intercourse	38	38	Low
3.	Bleeding after menopause	31	31	Low
Prevention of cervical cancer				
1.	Using condoms during intercourse	55	55	Moderate
2.	Limiting the number of sex partners	61	61	Moderate
3.	Abstain from smoking	29	29	Low
4.	Vaccination for HPV virus	76	76	High

	Knowledge on vaccination & Pap smear			
1.	The recommended age of women for HPV vaccination	58	58	Moderate
2.	The recommended frequency to complete vaccination	50	50	Low
3.	Early detection of cervical cancer by Pap smear	60	60	Moderate

Legend: 76-100= high knowledge; 51-75= moderate knowledge
26-50=low knowledge; 0-25 very low knowledge

Attitude towards cervical cancer and its prevention

Table 5 shows the mean and standard deviation results for each statement among respondents' attitude towards cervical cancer. It was found that the scores on respondents' perception towards cervical cancer were mostly neutral to greater than neutral scores. Mean scores for nearly all statements were higher than the neutral score, that is score '3'. A below neutral mean score of 2.9 was obtained only for the statement; "I do not like to be examined by doctors to get a Pap smear". This might be due to the fact that religious and cultural beliefs on exposing the body part and being examined by doctor especially when doctors are males since most of the respondents came from Asian countries. In this regards, promoting awareness on cervical cancer screening programs should be raised among the targeted women. Besides, more trained female healthcare personnel are required so that they can examine the female patient and the patient could overcome feeling of embarrassment caused due to the examination by male doctors. In this manner the women will be comfortable and will be at ease in exposing their body parts during screening procedure.

The highest mean score of 3.9 was obtained for the statement; "It is advisable for every sexually active woman to have a Pap smear". Furthermore, it was evident that the mean score of 3.7 for the statement "every reproductive age women should take vaccine against cervical cancer".

Table 5: Mean scores regarding attitude towards cervical cancer prevention

No.	Statements	Mean ± SD
1.	It is embarrassing to get a pap smear	3.0±0.97
2.	I do not like to be examined by male doctors to get a Pap smear	2.9±2.90
3.	Cervical cancer is the disease that is not socially acceptable	3.2±1.02
4.	It is advisable for every sexually active woman to have a Pap Smear	3.9±0.91
5.	When I am feeling healthy, no need to get a Pap Smear	3.6±0.88
6.	Cervical cancer screening is only for those with symptoms	3.5±0.94
7.	Every reproductive age women should take vaccine against cervical cancer.	3.7±0.89

Table 6 shows the level of attitude among the respondents. Given the highest score being 35 and the lowest score being one for seven attitude statements, the levels were divided into two groups; incorrect perception 7 to 21 and correct perception from 22 to 35. Most of the respondents (72%) had good perception towards cervical cancer while about one-third of respondents (28%) had incorrect perception regarding cervical cancer and its prevention.

Table 6: Levels of attitude towards cervical cancer and its prevention

No.	Level of attitude Score	Frequency	Percentage
1.	Incorrect perception 7-21	28	28%
2.	Correct perception 22-35	72	72%

Practices on cervical cancer prevention

As shown in Table 7, most of the respondents (73%) had never been vaccinated against cervical cancer before, only 19% had completed the vaccination doses, reflecting a rather low rate. Among the respondents who had never experienced or vaccinated were asked their reasons for not getting vaccinated. Nineteen of them did not get vaccinated because the vaccine is too expensive. Another reason that was evident from 18 respondents is that the vaccine is not easily available. The other 14 respondents did not take because they had no symptoms. Furthermore, 13 respondents did not get vaccinated because they think there is no need for it and lastly the remaining 9 respondents chose other unspecified reasons for not undergoing vaccination. Most of the reasons chosen by the participants for not getting

vaccinated were that, the vaccine was too expensive and also not easily available.

In this study, all respondents had poor practice on vaccination since all of them are single. So they might consider that vaccination is not required as long as they are not getting married. However, theory and evidences indicated that cervical cancer vaccination schedule should be started among females before the onset of sexual intercourse and between ages of 9 to 26 years to correct their practice. In order to have correct practice among them, their knowledge and awareness on cervical cancer and its prevention should be promoted. Only after that, their attitude and practices would improve to a considerable extent.

Table 7: Getting vaccinated for cervical cancer vaccination

No.		Frequency	Percentage
1.	Number of vaccinations		
	Nil	73	73
	1 time	5	5
	2 times	3	3
	3 times	19	19
2.	Reasons for not receiving vaccination		
	No need to take	13	17.8
	Not easily available	18	24.7
	No symptoms	14	19.2
	Too expensive	19	26.0
	Others	9	12.3

In this study, 93% of the participants did not perform Pap smear test before, only 7% undertook the test, reflecting a very low rate of awareness. Similar finding was reported among Nigerian female university students that reported only 8.3% of the participants did Pap smear examination before (Ayinde, Omigbodun & Ilesanmi, 2004). Therefore it was evident that the practices for cervical cancer prevention among the respondents should be raised. But in the present study the marital status of most of the respondents were single. This has been contributing not to take Pap smear tests among the study group.

Table 8: Practice on Pap Smear tests

No. of Pap smear test	Frequency	Percentage
Nil	93	93
1 time	4	4
2 times	1	1
3 times	2	2

CONCLUSION

Generally, the knowledge and practices of female students of the university attending a private university in Malaysia was considerably low. Although their attitude towards cervical cancer and its prevention was quite satisfactory, vaccine uptake was rather low. Almost two-third of respondents had never been vaccinated for cervical cancer indicating that there is a need to spread more awareness regarding the practice of prevention of cervical cancer, by encouraging them to get vaccination and help them to understand the benefits of vaccination. A wide range of educational programs, especially for those young females who have never been vaccinated before, would improve the situation. In this manner they will become more aware regarding cervical cancer and its prevention and practices which in turns could reduce the occurrences of cervical cancer among young females.

RECOMMENDATIONS

1. There is a need to disseminate information regarding cervical cancer in terms of risks and preventive measures especially among young female students since they are at risks of having cervical cancer by virtue of their ages and exposure to other risk of sexually transmitted diseases.
2. The role of media campaigns such as newspapers and public media should be considered to work best in promoting awareness on cervical cancer, its risks, prevention, and screening practices.
3. Information on cervical cancer and its prevention should be linked to universities social websites since social media is one of the most popular communication channels among youths today.
4. In the university, it would be worthy to introduce reproductive health knowledge as a compulsory intellectual program for the university students.
5. Health awareness campaigns should be periodically conducted in university campus to provide students with knowledge regarding the prevention of cervical cancer.
6. It would be better to arrange health week and peer discussions regarding healthy practices including prevention of cervical cancer among the students. By doing so, their knowledge and awareness could be promoted to some extent.

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