KNOWLEDGE PERCEPTION AND PRACTICE TOWARDS CERVICAL CANCER SCREENING AMONG FEMALE INTERNATIONAL STUDENTS AT CHULALONGKORN UNIVERSITY, BANGKOK, THAILAND

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ABSTRACT: The rampage of cervical cancer can be prevented through early detection by screening. This study seeks to assess the knowledge, perception and practices of female international students at Chulalongkorn University, Bangkok, Thailand relating to cervical cancer and screening. This research was a cross-sectional study which made use of self-administered anonymously structured questionnaires to assess the set objectives of the study. Using purposive sampling technique, a total of 172 questionnaires were analyzed as results show that about 25% of respondents were 18-20 years old, mean age was 24.4 years (standard deviation 5.5) with range as 18 to 40 years, about 52.3% were undergraduates while 40.1% were in the master's degree level, with 7.6% in the PhD degree level. Respondents from Asia origin were South East Asians comprising of 29.0 % East Asians about 18.6 %, South Asians 14.0 % while respondents from the European countries were about 28.5%, Americans 5.8% and Africans were the least with 7 respondents. Awareness about cervical cancer was high among respondents (99.4%).Overall, respondents' perception was positive by (51%) and practice of cervical screening was only 12.2%. Further statistical analysis showed a significant association between perception and practice of cervical screening among the respondents (χ^2= 12.985, *p-value*=0.001), with 60.5% of the respondents having the intention to uptake cervical screening in the future and age (OR: 3.4., 95%Cl: 1.04-2.0), seen to be the predictor. This study shows that overall awareness of cervical screening was low among respondents while uptake of cervical screening was equally poor. Therefore to improve the knowledge gap reported in this study, further health education is recommended for this class of respondents.

Keywords: Cervical cancer, Female International Students, Thailand

INTRODUCTION

Cervical cancer is a disease in which the cells of the cervix which are either squamous cell carcinoma arising from the squamous (flattened) epithelia cells that line the cervix or adenocarcinoma which arises from the glandular epithelia cells, where these cells develop abnormally and start to grow uncontrollably forming tumors [1]. This is usually caused by certain types of human papillomavirus (HPV). The link between genital HPV and cervical cancer was demonstrated in the early 1980s by a German virologist Harold ZurHausen and it showed that the magnitude of the association of HPV and cervical squamous cell carcinoma was higher when compared to that between smoking and lung cancer [2]. Globally, female genital cervical cancer is a public health problem and the most common cause of death in developing countries where screening

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facilities and early treatment practices are usually limited due to the high prices of some of the screening test and also the knowledge barrier about this disease [1, 3, 4]. It has been reported to affect about 16 per 100,000 women and causing death of 9 per 100,000 women yearly worldwide [5] .

World Health Organization (WHO) recommendations suggests that cervical cancer screening programs need to cover over 80% of the target population at risk of cervical cancer, with success determined by reduction in the incidence of invasive cancer [6]. Globally, in 2012, there were nearly a billion women between 30 and 49 years old, most of whom have never been screened even once in their life. Effective preventive strategies are made available that has the potential to reduce the morbidity and mortality from this disease in low, medium and also high-income countries [7]. In Asia where cervical cancer ranks as the third most frequent cancer in women but seen as the second most common cancer in women aged 15-44 years. It has a population of 1.528 million women aged 15 years and older who are at risk of developing cervical cancer with current estimates which indicate that 284,823 and 144,434 women respectively are diagnosed and died from this annually [8].

Knowledge and structural variables may influence perception and thus indirectly affect health related behavior of females towards cervical cancer as different groups of people have different beliefs about the causes of the disease and risk factors such as transmission of human papillomavirus, smoking, sexual behaviors, early age at sex and multiparty [9]. Some women have their own perception regarding cervical cancer and screening, literature reviewed have provided more information on some beliefs of women that attending screening programs since they have neither been engaged in overly active sexual lifestyle nor contracted a sexually transmitted infections (STIs) was a waste [10]. In a study conducted in Somalia, there was a lack of understanding of the risk factors of CC as the women associated the disease with the idea of 'God's Will' this donates that some Somalian women may wrongly interpret Islam as not allowing disease prevention intervention [11]. Also perceived benefit of the screening which are belief that the various actions available to people will be effective in reducing the threat of the disease, can be used to access the knowledge and belief of women on the need for getting a screening and how often it should be done to help reduce the number of women who get this disease.

Practice on cervical cancer screening can be explained by the Health Belief Model that includes the concept of cues that can trigger actions since readiness to act could only be potentiated by other factors particularly by cues to instigate action such as bodily or environmental events like the mass media [9]. Since women most likely will be more willing to take preventive measures like using the pap smear facilities when they are reminded by family members or health care providers. Ackerson studied the roles of cues for obtaining Pap smear and saw that health care providers were influential since they provided respondents with information on the importance of cervical screening [12]. A study in Nigeria reported that greater public awareness by the physicians is needed since the patients who did a cervical screening did so because it was asked by a health worker, also those who were educated had the screening done than those who were not [13]. There are several cervical screening intervals adopted by several countries, this study considers the screening recommendation of the American Congress of Obstetricians and Gynecologists which allows women of 21-29 years of age to be screened once in 3 years while co-testing should be used on women 30- 65 years of age [14] and the Visual inspection using acetic acid (VIA) as a recommended method of screening in resource low setting [6].

This study aimed to assess the knowledge, perception and practice towards cervical cancer screening among female international students, also to describe their socio-demographic characteristics and behavioral profile.

METHODOLOGY

This is a cross-sectional study. The target population was female international students at Chulalongkorn University, Bangkok, Thailand from the following faculties: Economics, Arts, Communication Arts, Science, Commerce and Accountancy, Medicine, Engineering, College of Public Health Sciences, Political Science and Architecture. A self-administered anonymously structured questionnaire was used after pre-testing on a similar population. Data was analyzed by using SPSS Version 17 (University's license), descriptive statistics was use to describe what was observed in the study population. Chi square was used to test association between the independent variables and the dependent variable. Further analysis was done to determine respondents' intention to uptake cervical screening using multivariate analysis.

Sample size

This was estimated from a previous study

conducted in Nigerian students, where 12%, practice on cervical screening was recorded by Owoeye and Ibrahim [15]. A 20% non-response rate was added to the current sample size of 197 for this study.

Sample size was calculated using

$$\frac{Z^2Pq(1-p)}{d^2}$$

Z = Confidence level at 1.96
P = 0.12
D = Expected error at 5% = 0.05

$$\frac{1.96^2 \times 0.88 \times 0.12}{0.0025} = 163+34 = 197$$

ETHICAL CONSIDERATION

This study was approved by the Ethical Review Committee for Research involving Human as Research Subjects Health Science Group Chulalongkorn University (No 048.1/57).

RESULTS

Table 1 shows that out of the 172 respondents in this study, the respondents in their 18-20 years old were 25.0% mean age was 24.4 years (standard deviation 5.5) the range is from 18 to 40 years old. Amongst these respondents, 79.7% were single 11.0% were in a stable union while 8.1% were married, while two 1.2% were in an uncommitted relationship. Most of the respondents are from Asia origin with South East Asians comprising of 29.1 % East Asians about 18.6 % South Asians 14.0 % the respondents from the European countries were 28.5%, Americans 5.8% and Africans were the least with only 7 respondents. Among the respondents, the majority of them were undergraduates 52.3% while 40.1% were in the master's degree level, with 7.6% in the PhD degree level. Almost half of the respondents were enrolled in the Social sciences 44.2% with a few from the health sciences 16.9%. Also, majority of the respondents have never smoked (69.8%), with 16.9 % of them having smoked in the past and about 13.4% of the respondents are current smokers, 43 of the sexually active respondents engaged in sexual intercourse first at the age of 16-17 years, while the early starters were about 4 of them at the age of 13-15 while 16 respondents started sexual intercourse at a later age above 21 years old, it further shows that about 39.2% of the sexually active respondents had two sexual partners, 36.1% had multiple sexual partners while only about 24.7% had one sexual partner.

Table 1 Socio-demographic information and behavioral profile of respondents (n=172)

Variables	Frequency	Percent
Age (years)		
18-20	43	25.0
21-29	101	58.7
30-40	28	16.3
Nationality		
Africans	7	4.1
Americans	10	5.8
Europeans	49	28.5
South Asians	24	14.0
South East Asians	50	29.0
East Asians	32	18.6
Amount spent monthly		
<5000 Baht	21	12.2
5000-10000 Baht	52	30.3
10,001-20000 Baht	62	36.0
>20000 Baht	37	21.5
Level of study		
Undergraduates	90	52.3
Master degree	69	40.1
PhD	13	7.6
Marital status		
Single	137	79.7
Married	14	8.1
In a stable union	19	11.0
In uncommitted union	2	1.2
University program enrolled		
Sciences	10	5.8
Health Sciences	29	16.9
Social Sciences	76	44.2
Arts	38	22.1
Engineering	19	11.0
Smoking status (n=172)		
Current smoker	23	13.4
Ever smoked	29	16.9
Never smoked	120	69.7
Sexually active (n=172)		
Yes	97	56.4
No	75	43.6
Age at first coitarche for the sexually active respondents (n=97)		
13-15 years	4	4.1
16-17 years	43	44.3
18-21 years	34	35.1
>21 years	16	16.5
Number of sexual partners for sexually active respondents (n=97)		
One partner	24	24.7
Two partners	38	39.2
Multiple partners	35	36.1
Pregnancy history of respondents (n=97)		
Yes	12	12.4
No	85	87.6
Age at first pregnancy (n=12)		
20 years	3	25.0
21 years	2	16.7
27 years	1	8.3
29 years	2	16.7
30 years	3	25.0
31 years	1	8.3
Number of pregnancies (n=12)		
One pregnancy	9	75.0
More than one pregnancies	3	25.0

*Note Amount spent monthly, 1 USD = 32.22 Thai Baht

Table 2 Knowledge on cervical cancer and risk factors (n=172).

Variables	Frequency	Percent
Do you know the cervix of the uterus	121	70.3
Ever heard of cervical cancer	171	99.4
Smoking is a risk factor	55	32.0
Multiple sexual partners as a risk factor	100	58.1
HPV as a risk factor	91	52.9
Long term use of oral contraceptives	56	32.6
No condom use as a risk factor	85	49.4
Early age at first sex as a risk factor	56	32.6
STIs as risk factors	108	62.8
Diet low in fruits and vegetables	36	20.9
Poverty	14	8.1
HIV as a risk factor	59	34.3
Mother / sister with cervical cancer as a risk factor	90	52.3
More than three completed pregnancies as a risk factor	21	12.2

Table 3 Cervical screening history and reasons for not obtaining cervical cancer screening by respondents (respondents chose more than one option)

Variables	Frequency	Percent
Ever screened for cervical cancer	21	12.2
Never screened for cervical cancer	151	87.8
It may be painful	8	4.7
I feel shy	22	12.8
I am healthy	85	49.4
My partner/ husband will not agree	0	0
I haven't just decided	49	28.5
It is expensive	9	5.2
I am not informed	14	8.1
Others	18	10.5

Table 4 Association between perception and practice (n=172)

Perception	Practice		$\chi 2$	*p-value*
	Not screened	Screened		
	N (%)	N (%)		
Positive	69(79.3)	18(20.7)	12.985	0.001*
Negative	82(96.5)	3(3.5)		

Almost all the respondents 99.4% have heard about cervical cancer only one respondent did not hear about cervical cancer until the time of this study.

Table 2 shows respondents knowledge on cervical cancer and risk factors. Less than half of the respondents 32.0% chose smoking as a risk factor, about 58.1% of the respondents agreed that having multiple sexual partners is a risk factor. As shown in Table 3, among the total number of respondents in this survey, only twenty one persons have been screened for cervical cancer (12.2%), respondents gave reasons for their non-practice as most of them 49.4% said they are healthy and hence did not see cervical screening as very important. The mass media and internet 50.6% and 47.1% respectively were respondents' main sources of information on cervical cancer and screening. Condom use by sexually active respondents recorded the highest response use of about 74.2% while emergency pills (19.6%) were the least used.

The respondent could not identify the right cervical screening intervals, only 12.8% accurately mentioned once in three years, 50% said once every year, 7.6% mentioned once in five years, 4.7% mentioned other intervals like once every six months while about 25.0% did not know any screening interval at all.

Table 4, a significant association was seen between respondents' perception (χ^2=12.985, *p-value*=0001) and practice on cervical screening, about 20.7% of those with positive perception had the screening done whereas only 3.5% of those with negative perception did the screening, also age

(OR: 3.4., 95%Cl: 1.04-2.0), of respondents showed a significant association as a further statistical analysis was done using the logistic regression model, this shows that respondents who are older are 3.4 times likely to uptake cervical screening in the future.

DISCUSSION

To the researcher's knowledge, this is the first study describing knowledge, perception and practice of cervical cancer screening among female international students at Chulalongkorn University. About 80% respondents were single, while 8.1% were married, due to 52.3% being undergraduates, not expected to be married in Asia, unlike the study by Ofori et al. [16] carried out in Ghana where 51 and 49.0% were single and married respectively.

This study recorded few of the respondents with pregnancy history (n=12) and condom use which can help to reduce transmission of sexually transmitted infections (STIs), recorded a total response use of 41.9%, similar low account was also reported by Ghotbi and Anai [17] amongst students in an international university in Japan. Knowledge on some of the risk factors among respondents in this study was moderate as HPV attracted correct response of 52.9%. This was higher as compared to that reported by Thippeveeranna et al. [18] where only 32.9% of their nurse population correctly knew the link between HPV and cervical cancer. Here, about 78% of respondents agreed that cervical cancer can be prevented. This is higher knowledge when compared to 49% and 29%reported by Kalu [19] and another study conducted in Eastern Cape [20]. In this study, 84.4% of the respondents perceived themselves as susceptible to acquiring cervicalcancerin the future whilst 79.6% agreed that regular cervical screening is important, similarly reported in another [21].

Also, only 12.2% of my respondents had the cervical screening done at least once. This is slightly higher than 9.8%recorded among students in South Africa [22]. Although respondents aged 18-20 years old who according to this study are not eligible for cervical screening yet were 25.0% but their intentions to uptake screening in the future was assessed and about 60.5% of the respondents have the intention to get screened in the future while only 39.5% did not. Age was seen as a predictor for uptake of cervical screening in the future, a study conducted in Bhutan among University graduates also reported respondents with age >26 years old having more cervical screening [23].

CONCLUSION

It could be inferred that insufficient knowledge on some of the risk factors of cervical cancer, its detection and prevention measures are profound amongst test population. Also, the wrong notion that human papillomavirus vaccine was the major preventive measure as identified by most respondents in this study should be corrected. Respondents' belief of being susceptible to cervical cancer was high; the lack of knowledge on cervical screening was recorded to be very low. High level of misconception about screening after marriage was observed. However, positive perception translates into more respondents having intention to be screened. Consequently, good health education is recommended for the respondents especially those of non-health related programs to improve students' knowledge on cervical cancer and screening.

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