

Awareness On Cervical Cancer and Utilization of Pap-Smear (Papanicolaou) Test Among Adult Women-A Hospital Based Study

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Submitted: 05 March 2021; Accepted: 15 March 2020; Published: 20 March 2020

Citation: Arun Kumar Koirala (2021) Awareness On Cervical Cancer and Utilization of Pap-Smear (Papanicolaou) Test Among Adult Women-A Hospital Based Study. *J Gynecol Reprod Med*, 5(1): 01-07.

Abstract

Background: Cervical cancer, a major public health problem and stood in the 2nd position among other cancers in women and accounts more than 84% new cases worldwide and more than 85% death from middle and low income countries. It ranks as the 1st most frequent cancer among women of age 15 to 44 years in Nepal.

Purpose: To assess the awareness of cervical cancer and screening test and its practice among women in Nepal.

Method: A cross sectional study was conducted from June 2017 to August 2017 among 409 women at the Gynecology Out Patient Department (OPD) of Helping Hands Community Hospital, Kathmandu. Prior to data collection, necessary ethical approvals were taken from concern authorities and informed consents were taken from the participants. Data were collected using a semi-structured questionnaire with a face-to-face interview. Data were analyzed and presented in the tabular form with the frequency and percentage. To see the significant differences between variables chi square test was used and p value of <0.05 was set as the level of significance. Knowledge related factors were obtained using a Likert scale.

Results: The mean (standard deviation) age of the women was 33.52 (9.98) years. Among total respondents, 32.8% heard about cervical cancer and among them, only 13.4 % of them had knowledge of the causative agent the HPV and about 21.1% of them had an idea about the vaccine. Women who had heard about cervical cancer, only 13% had knowledge on the Pap smear test. Among the women who have heard about cervical cancer, only 23.9% of them had experienced on the Pap smear test. Among the women who had knowledge of cervical cancer (134), only 9.7% (13) of them had heard about the HPV vaccine. This study showed that heard about cervical cancer, knowledge on Pap smear test and knowledge of the HPV vaccine are significant difference with the education level of the respondents ($p < 0.01$).

Conclusion: Enrollment of women in academic education and adequate information through different media targeting eligible women is needed to raise awareness to change their behaviors to utilize the screening facility.

Keywords: Cervical cancer, screening, HPV, Pap smear test

Introduction

Cervical cancer is the most common, but preventable cancer in women worldwide, which stood 2nd position among other cancers estimating in women living in less developed regions estimated 570000 new cases in 2018 which is 84% of the new cases worldwide and died of cervical cancer about 311000 women and more than 85% of these deaths from middle and low income countries [1]. It is now becoming a major public health problem

in the Southeast Asia Region that contributes 35% of the global burden, where mortality is also very high. It is due to the certain carcinogenic type of Human Papilloma virus (HPV) mainly HPV 16 and 18, which is sexually transmitted infection and commonly prevalent in sexually active men and women [2]. HPV is the most common infection acquired during sexual relations, usually early in sexual life [3].

Though cervical cancer is now a major public health problem in Southeast Asia Region, it can be prevented by vaccination to the adolescent girls before initiation of sexual activity and cervical cancer screening and treatment before progression of invasive nature along with health education which is the most efficient and cost effective way of controlling the cervical cancer [2].

It is estimated that only about 5 % of women in developing countries goes under screening test by pap smear due to different reasons as illiteracy, lack of awareness and benefits of screening test, cultural barriers, disempowered women, no accessibility of health facilities and its' availability at all health facilities, competing health needs, lack of human and financial resources etc. [4-6].

It has been estimated that every year 2942 women are diagnosed as new cases of cervical cancer and 1928 die from that disease. Cervical cancer ranks as the 1st most frequent cancer among women between the age of 15 and 44 years in Nepal. It is also estimated that about 2.0% of women in the general population harbor the cervical HPV-16/18 infection at a given point of time and those infections constitute 80.3% of invasive cervical cancers. Crude incidence rates of HPV related cervical cancers are 19.3 in Nepal which has made Nepal a country with one of the highest cervical cancer rates in South Asia. It is also found that sexual behaviors of men and women in Nepal start at in early age. It is found that the percentage of 15-year-old who has had sexual intercourse is 3.7% in men and 4.6% in women. In Nepal women rarely go under screening test for cervical cancer, therefore the Cervical screening practices in Nepal is very low, i.e. 2.8%, where the study conducted in the US from 1976 to 2009 has shown a significant decrease in the incidence of cervical cancer in a widespread pap test screening [7, 8]. It shows that the risk of HV transmission starts from the early puberty age in Nepal. It is also seen that frequently detected malignancy among all cancers is cervical cancer in Nepal [9]. A study conducted in Nepal showed overall, the HPV prevalence among women in Nepal was 14.4%, and a study conducted in Nepal showed over 80% of the cervical cancer is diagnosed in Nepal at an advance clinical stage and that study also said that the at a later time, the illiterate women are 8 times more likely to be diagnosed with cervical cancer than the literate women [10-11]. Hence, Cervical Cancer has come across as an important public health problem for Nepal. Therefore, this study aims to assess the awareness of cervical cancer and screening and its practice among women in Nepal. The outcome of this study helps concerned authority to efforts accelerate the screening test and HPV vaccine coverage in Nepal.

Method

A cross-sectional study was conducted at the Gynecology Out Patient Department (OPD) of Helping Hands Community Hospital, Kathmandu has out patient load of about 50 patients daily who used to come for different gynecological and obstetric checkup and treatment. The study was conducted from June 2017 to August 2017. Ethical approval was taken from the Institutional Review Committee (IRC) of Nobel College authorized by Nepal Health Research Council (NHRC), Kathmandu and permission for information collection was taken from the Helping Hands Community Hospital, Chabahil, Kathmandu. All responsibilities of a research-

er for the protection of the subjects were taken as per the guidelines outlined in the Declaration of Helsinki. The participants were women visiting the Gynecological OPD for various gynecological problems. Prior to information collected from the participants, written consents were taken and for fewer participants verbal informed consents were also taken who want to take part in the study, but unable to read and write. Those participants were requested to put either their signature or thumb print on the consent paper after reading and explaining the consent paper by the researcher to make them understand and failing to give such consent were excluded from the study. The women presented for obstetric checkup and those with a history of cervical cancer and hysterectomy were excluded from the study.

Face to face interview was conducted with the women using pre-tested semi-structured interview schedule containing 58 questions, which was developed in support of the Matron of the hospital and with supportive literatures. The tool was pre tested for accuracy and clarity prior to the main study with the 5% female patients of required sample from a health center in Kathmandu, which was not included in the study and necessary amendments in tool was made after pretesting. To measure of internal consistency of tool, Cronbach's alpha was calculated based on the recommendation of >0.70 , which was 0.869. The content validity of the instrument was ensured by extensive literature review and consulting the subject experts. The sample size was calculated based on 35% of prevalence of adequate knowledge, margin of error was 5% using Cochran formula, $n = z^2pq/d^2$ and obtained 350 samples and by adding a 15% non-response rate of the calculated sample, the final required sample was decided 403 [12]. But in addition to required sample, the data collectors collected more samples till the last date permitted by the hospital authority for data collection even the response rate was 100%. Hence a total of 409 samples was decided to take for the study. Collected data were entered into the Statistical Package for Social Sciences version 16 and EpiTools epidemiological calculator for analysis. Data were analyzed and presented in the tabular form with the frequency and percentage. To see the significance differences between variables, chi square test was used and a p value of <0.05 was set at the level of significance. Knowledge related factors were obtained using a Likert scale with 5 levels, where the mean score less than 3 considered tends towards disagree and 3 or more considered, tends towards to agree. Level of education was set on the basis of Government classification.

Results

Among the total participated women (409) in this study, the Mean \pm SD age of the women was 33.52 ± 9.98 (minimum age: 17 and maximum age: 67 years). Among the total respondents, 347 (84.8%) were married and more than 3/4th (76.9 %) of them were married before the age of 20 years and 81.2% had children and among them more than half (53.3%) delivered their first baby before the age of 20 years and more than two-fifth (22.3%) having two or more children. Among married, about 1/5th were illiterate or having a primary level education; about half (49.6%) were of lower secondary to secondary levels and 30.1 % were of Higher Secondary and above (Table 1).

Table 1: Socio-Demographic distribution and behavioral characteristics of women (n=409)

	Frequency	Percent
Age of the respondents		
<20 years	31	7.6%
20 and above	378	92.4%
Mean±SD	33.52 ± 9.98	
Marital status		
Married	347	84.8%
Unmarried	62	15.2%
Age at marriage		
<20 years	267	76.9%
20 and above	80	23.1%
Education status		
Primary or none	83	20.3%
L. Sec. to Secondary	203	49.6%
H. Secondary & above	123	30.1%
Having children (n=347)		
Yes	332	81.2%
No	15	18.8%
Age at first childbirth (n=332)		
<20 years	177	53.3%
≥20 years	155	46.7%
Number of children		
One child	258	77.7%
Two or more children	74	22.3%

Regarding knowledge of cervical cancer and its risk factors, among total respondents of 409, only 32.8% women heard about cervical cancer from different sources where more than 2/3rd had got information through News media. Among the women of 134 who have heard about cervical cancer had different knowledge on risk factors of cervical cancer, but only 13.4% of them had knowledge of causative agent the HPV. In a total of 134 women who had heard about cervical cancer, only 96 women (71.6%) said that they know the symptoms, but among them some considered pain during sexual intercourse and lower pain abdomen were also the main symptoms of cervical cancer. (Table 2).

Table 2: Knowledge of cervical cancers and its risk factors

	Frequency	Percent
Heard about cervical cancer (n=409)		
Yes	134	32.8%
No	275	67.2%
Information on cervical cancer received from (n=134)*		
News Media	83	61.9%
Health worker	53	39.6%
Friends and family	65	48.8%
Leader of women group	13	9.8%
Knowledge on causative agent (HPV) (n=134)		
Yes	18	13.4%
No	116	86.6%
Knowledge of different risk factors (n=134)*		
Prolong infection	63	47.0%
Multiple sex partners	43	32.1%
Multiple childbirth	57	42.5%
Poor genital hygiene	68	50.7%
Early marriage / sexual exposure	52	38.8%
Early pregnancy	57	42.5%
Prolong use of OCP	35	26.1%
Weak immune system	45	33.6%
Smoking	49	36.8%
Knowledge of signs and symptoms of cervical cancer (n=134)		
Yes	96	71.6%
No	38	24.4%
Knowledge of symptoms * (n=96)		
Irregular Vaginal bleeding	80	83.3%

*Multiple answers

In total, of 134 women who have heard about cervical cancer, 95 (70.9%) of them had knowledge on prevention by avoiding different risk factors, but only 20 (21.1%) of them had an idea of HPV vaccine; and regarding curability of the disease, only 62.7% of them were believed that the disease is curable if get proper treatment, but few of them (3.0%) had knowledge on treatment

service is free from the Government. (Table 3) Women who had heard about cervical cancer, less than half (47.8%) had an idea about screening tests and among them, about 11% had no idea on all women to be screened and only 39.0% said that the screening is for early diagnosis of cervical cancer. In total respondents, only 53(13%) had knowledge on Pap smear test, but most of them (89.7%) had no idea when to be performed and only half of them (50.9%) had an idea on who should go under the Pap smear test. (Table not shown) Near about one third (31.3%) of the women

among those who have heard about cervical cancer agreed that the disease is highly prevalent and the leading cause of death in Nepal, whereas a few (5.8%) were disagreed and rest of the women had tended towards agree on the same (mean score is 3.26), likewise, more than two-fifth (41%) of women were agreed that any women, including herself can get the cervical cancer, whereas 13.4% disagreed and rest of them had tended to disagree on the same (mean score is 2.51).

Table 3: Knowledge of prevention and curability of cervical cancer

Knowledge of prevention (n=134)	Frequency	Percent
Yes	95	70.9%
No	39	29.1%
Knowledge of prevention (n=95)*		
Treatment of Infection	61	64.2%
Avoid multiple sex partner	50	52.6%
No many children	57	60.0%
Maintain genital hygiene	59	62.1%
Avoid early sexual intercourse	54	56.8%
Follow doctor advice on OCP	33	34.7%
Avoid smoking	50	56.2%
Through HPV vaccine	20	21.1%
Knowledge of cure of cervical cancer (n=134)		
Yes	84	62.7%
No	42	31.3%
Don't know	8	6.0%
Knowledge of cost of treatment (n=134)		
Free of charge from the government	4	3.0%
Reasonably priced	15	11.2%
Moderately expensive	11	8.2%
Very expensive	54	40.3%
Do not know	50	37.3%

*Multiple answers

Similarly majority of the women who had heard about cervical cancer, 31.6% were agreed that the screening helps in the prevention of cervical cancer, whereas only a few (1.5%) were disagreed and the rest had tended towards the agreement (mean score 3.23). Though screening for cervical cancer is free of cost in Nepal, only few of them (9.0%) were agreed on that whereas more than two fifth of them (23.1%) were disagreed and rest of them had tended towards disagreement (mean score is 2.65); and it was also seen that even if they know the screening is free and causes no harm, only one-third (33.6%) of them were agreed to go under screening test, whereas 1.5% of them disagreed and the rest of them

had tended towards the agreement (mean score is 3.37). (Table 4) Among the women who have heard about cervical cancer, only 32 (23.9%) of them had experienced on Pap smear test and about 87% of them had done the test once. Three-fourth of the total experienced had done the test more than 3 years ago and mostly (87.5%) of them done test when visited the hospital for other gynecological problems. Among the women who had knowledge of cervical cancer (134), only 13 (9.7%) of them had heard about the HPV vaccine and only 1 (7.6%) of them had inoculated HPV vaccine. (Table not shown).

Table 4: Knowledge of disease prevalence; self-risk; availability and attitude towards utilization of screening services

Knowledge of highly prevalent and leading cause of death in Nepal among women (n=134)	Frequency (%)	scoring	Average
Strongly Agree	5 (3.7%)	5x5=25	=438/134 =3.26
Agree	37 (27.6%)	37x4=148	
Neither agree nor disagree	84 (62.7%)	84x3=252	
Disagree	5 (3.7%)	5x2=10	
Strongly Disagree	3 (2.3%)	3x1=3	
Knowledge of any women including you can get cervical cancer (n=134)			
Strongly Agree	7 (5.2%)	7x5=35	=337/134 =2.51
Agree	48(35.8%)	48x4=192	
Neither agree nor disagree	61(45.5%)	61x3=183	
Disagree	9 (6.7%)	9x2=18	
Strongly Disagree	9 (6.7%)	9x1=9	
Knowledge of Screening helps in prevention of cervical cancer (n=134)			
Strongly Agree	1 (7.0%)	1x5=5	=433/134 =3.23
Agree	33 (24.6%)	33x4=132	
Neither agree nor disagree	98 (73.1%)	98x3=294	
Disagree	0	0	
Strongly Disagree	2 (1.5%)	2x1=2	
Knowledge of screening is free in Nepal (n=134)			
Strongly Agree	0	0	=356/134 =2.65
Agree	12(9.0%)	12x4=48	
Neither agree nor disagree	91(67.9%)	91x3=273	
Disagree	4(3.0%)	4x2=8	
Strongly Disagree	27(20.1%)	27x1=27	
If screen is free and causes no harm will you screen (n=134)			
Strongly Agree	9(6.7%)	9x5=45	=452/134 =3.37
Agree	36(26.9%)	36x4=144	
Neither agree nor disagree	87(64.9%)	87x3=261	
Disagree	0	0	
Strongly Disagree	2(1.5%)	2x1=2	

This study showed that heard about cervical cancer, knowledge of the Pap smear test and knowledge of the HPV vaccine are sig-

nificantly difference with the education level of the respondents (P<0.01). (Table 5)

Table 5: Mother's education and knowledge on cervical cancer, Pap smear test, and HPV vaccine

	Mother's Education			x ² value	p -value
	Primary (1-5 class or none)	L.Sec to Sec Level (6-10 classes)	Higher Sec. and above (11-12 and above)		
Heard about Cervical Cancer					
Yes	13(15.7%)	47 (23.2%)	74 (60.2%)	61.447	<0.01
No	70 (84.3%)	156(76.8%)	49 (39.8%)		
Knowledge of Pap smear test					
Yes	2 (2.4%)	13 (6.4%)	38 (30.9%)	51.001	<0.01
No	81 (97.6%)	190 (93.6%)	85 (69.1%)		
Knowledge of HPV Vaccine					
Yes	1(1.2%)	2(1.0%)	10 (8.1%)	14.023	<0.01
No	82(98.8)	201(99.0%)	113 (91.9%)		

Discussion

This study showed that nearly one third of women had heard about cervical cancer and among them, very few had heard about the causative organism HPV, which is very low than that of study conducted in a tertiary hospital at Kathmandu, Khokana, the sub-urban community of central Nepal and Saphebagar, a remote hill district in Far-Western Nepal and rural and urban women of DPR of Korea and women of different city of Turkey [13-16].

Likewise, one third of women had no idea about the sign and symptoms and almost women had no idea about the risk factor and the ways of prevention and found unaware of HPV and few of them who had knowledge of HPV could not relate it to the causative agent of cancer and only some of them had heard about HPV vaccine, but had no idea for what purpose to be injected. Which is also seemed very less than the previous studies conducted in Khokana and Saphebagar of Nepal and Javarnahalli, a rural area of Karnataka, India [14, 17].

Likewise, in this study, the majority of the women had not heard about screening, which is found less than the studies conducted in, Kathmandu, Karnataka and Mangalore [13, 17, 18]. Those who had heard about screening most had no idea why the screening is for and who to be screened.

Among total women, very few had heard about the Pap smear test which is also less than the previous study (42.9%) conducted in Kathmandu [13]. and those who had heard about Pap test almost could not give right answer on how often a Pap test to be performed. All those findings mentioned above may be because of many I/NGOs and also the Nepal Government are focusing their different activities related to women's health like awareness program on cervical cancer, population based screening etc. mostly in rural and sub-urban areas but people in capital Kathmandu are under the shadow of such services.

This study also showed that who had heard about cervical cancer, nearly one fourth of them had done Pap smear, which is even found better than the previous study of Kathmandu and lesser than

the study conducted in Bharatpur, Nepal, but still only a few of them had knowledge of the reason why to do the Pap smear test [13, 19]. This may be because, when they had visited the hospital with gynae problems, many of them had gone under pap-smear test, because the doctor had advised to do so and they had followed the advice without knowing the reason why to do like other regular test (blood, urine etc.).

Among the women who had knowledge of cervical cancer, only some were agreed to do the screening test if the screen would be free and causes no harm, though the government has provided free services, where a study conducted in Karnataka, India showed more than three-fourth women (76.2) found interested to go under the test if offered free of cost [17]. Lack of awareness on screening test and absence of symptoms of the cervical cancer in initial stage may be the reason for not undergoing screening.

This study showed the academic education, health information through different media along with different health education activities related to the cervical cancer can play a significant role in getting knowledge about cervical cancer, knowledge on Pap smear test and knowledge on HPV vaccine (p <0.01),

Conclusion

Knowledge of cervical cancer, causative agent, screening and its importance, HPV vaccine and its' availability are still low even in the capital of Nepal. The study showed that the level of education of a mother can make significant difference on knowledge of cervical cancer, screening and pap-smear test and also in encouraging attitude for screening. Therefore, Nepal Government should focus on enrollment of women in higher level education and also should provide adequate information and conduct different activities related to cervical cancer in collaboration with different I/NGOs in Kathmandu through different media sources focusing news media targeting eligible women, which can play an important role to change their behaviors to utilize the screening facility that ultimately helps to address the high morbidity and mortality of cervical cancer among women in Nepal.

Acknowledgement

I acknowledge Dr. Aalisha Koirala, who had supported in the process of data collection and Mr. Swarnim Abiral Koirala for cleaning the data and Dr. Niranjana Shrestha who put a glance on manuscript and provided some suggestions.

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