UTILIZATION OF CERVICAL CANCER SCREENING AND ITS ASSOCIATED FACTORS AMONG WOMEN IN A RURAL MUNICIPALITY OF KAPILVASTU DISTRICT, NEPAL

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ABSTRACT

INTRODUCTION

Despite the fact that cervical cancer is a serious public health issue that affects women everywhere, very few women get screened for the disease. Early cervical cancer screening has a clear effect on lowering cervical cancer related morbidity and mortality. Therefore, this study aimed to assess the use of cervical cancer screening and the factors that are associated with it.

MATERIAL AND METHODS

Community based cross-sectional study was employed from May to October 2023 in a rural municipality of Kapilvastu district, Nepal. Total 240 married women were interviewed. A logistic regression model was used and an adjusted odds ratio calculated with a 95% confidence interval at *p*-value <0.05 to determine the factors associated with cervical cancer screening utilization.

RESULTS

The study revealed that 76 (31.7%) of women have been screened for cervical cancer. Respondent's education [AOR: 0.353, 95%CI(0.172-0.724)], women engaged in agriculture [AOR: 0.168, 95%CI (0.041-0.699)], housewife's [AOR: 0.141, 95%CI (0.039-0.518)], age of marriage [AOR: 2.230, 95%CI (1.043-4.766)], duration of family planning used [AOR: 0.208, 95%CI (0.073-0.589)], history of sexually transmitted infection [AOR: 2.630,95%CI (1.033-6.699)], level of knowledge [AOR: 0.320,95%CI (0.146-0.702] and attitude towards screening [AOR: 0.252,95%CI (0.108-0.589)] were significant factors for utilization of cervical cancer screening.

CONCLUSION

According to the findings, less than one third of respondents had undergone cervical cancer screening. Furthermore, it provides information on a number of variables related to the use of cervical cancer screening. As a result, the local government should focus on the identified factors for implementing programs to enhance cervical cancer screening.

KEYWORDS

Cervical Cancer, Screening, Utilization

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INTRODUCTION

The fourth most common cancer among women is cervical cancer, with an estimated 563,847 cases worldwide.[1,2] The persistent infection with high risk genotypes of HPV is the relevant cause of cervical cancer.[3,4] It develops slowly and can be treated effectively on early detection as a precancerous lesion.[5,6] More than 80% of cervical cancers are diagnosed at an advanced stage with a poor prognosis, signifying that routine cervical cancer screening can decrease the number of new cases and also the mortality rate.[7] According to World Health Organization ,visual Inspection using acetic acid (VIA) and treatment with cryotherapy or thermal ablation for positive cervical pre-cancer cases is a recommended approach and is also prioritized according to National Guideline for Cervical Cancer Screening in Nepal.[8-10] Cervical cancer screening coverage in Nepal was found to be low: 2.4% among Nepalese women aged 18-69 years, 5.4% among women aged 30–65 years and 8.2% among women aged 30–49 years.[8,11,12] Unfortunately, still the majority (about 95%) of women have never done cervical cancer screening.[11] Though there could be several factors that delay women from attaining the services, lack of knowledge and information about the role of screening and services available are an important obstacles for participation among women in Nepal.[13,14] Thus, the main aim of this study was to find the cervical cancer utilization coverage and identify factors associated with utilization of cervical cancer screening among women in a rural municipality of Kapilvastu District.

MATERIAL AND METHODS

A community based cross sectional study was conducted among married women of Yashodhara rural municipality of Kapilvastu district, Nepal from May 2023 to October 2023.

Sample size and sampling technique
Sample size was calculated using formula $n=Z^2pq/d^2$
Where Z is confidence interval at 95%= 1.96,
p = 16% (0.16)[15]
q=1-p = 0.84
d= allowable error 5%.
The sample size after calculation = 228 including 10% non-respondent rate. In order to support the sampling techniques, additional 12 samples were included making total sample size to be 240.

Kapilvastu district contains total 10 local units with 6 municipalities and 4 rural municipalities. Since this study aimed to be conducted in the rural setting, 4 rural municipalities were taken and lottery method of simple random sampling technique was used to select one for the study, that is Yashodhara rural municipality which has 8 wards in total. Equal number of samples was taken from each wards that is 30 respondents, by using disproportionate random sampling technique.

Married women with no previous history of cervical cancer were included in the study. In case of more than one respondent in a same household only one was selected using lottery method. Married women who were critically ill and unable to give required information during study period were excluded from this study.

A semi-structured questionnaire amended from previous studies was used for data collection.[16-18] This semi structured questionnaire was translated into Nepali version and used for conducting face to face interview by the team of the researcher themselves. The questionnaire was pretested among 10% of sample size, among married women in Mayadevi rural municipality of Rupandehi district. The questionnaire comprised of five parts, categorized into socio -demographic, reproductive characteristics, knowledge, attitude about cervical cancer screening and utilization of cervical cancer screening.

For measuring the level of knowledge of CCS, 8 questions were included. Each correct answer was given score 1 and incorrect answer score 0. The median score was 5 hence those who scored ≥5 was considered as having good knowledge and with <5 score was considered having poor knowledge. For measuring attitude 10 questions were included using likert scale. Positive questions were scored as: 5 for strongly agree, 4 for agree, 3 for not sure, 2 for disagree and 1 for strongly disagree. Similarly, for negative questions: strongly disagree to strongly agree were scored from 5 to 1. The cutoff score 30, was calculated by adding minimum and maximum possible score and divided by 2. Hence those who scored ≥30 was considered as having positive attitude and with <30 score was considered having negative attitude.

Data were cross checked, edited, coded in order to maintain the accuracy of the collected data. Data entry and analysis was done using SPSS version 20 software. Frequencies and percentages were used to describe the characteristics of study participants. A bivariable analysis was performed to analyze the association between utilization of cervical cancer screening and independent variables using chi-square test. All the variables with *p*-value <0.05 in bivariable analysis was considered as statistically significant and were transferred to multivariable logistic regression analysis in order to calculate the final adjusted odd ratio.

Ethical consideration
This study was conducted following ethical clearance form Institutional Review Committee, UCMS, Bhairahawa (UCMS/IRC/017/23). Approval letter from the rural municipality was taken before data collection. After sharing the objectives of the study among the participants, verbal and written informed consent were taken prior to data collection. Privacy and confidentiality of the respondent was fully maintained throughout the study.

RESULTS

Sociodemographic characteristics
A total of 240 women participated in the study. The mean age of the study participants was 35.68 ± 8.06 SD. All of the participants were married and majority were Hindu by religion 187(77.9%). Regarding educational status 136 (56.7%) were illiterate and most of them were housewife's 170(70.8%). More than two-third (68.3%) of the respondents had their marriage at their teenage [Table1].

Table 1. Socio-demographic characteristics of the respondents

Variables	Category	Frequency (%)
Age of respondent	≤ 30	72 (30.0)
	>30	168 (70.0)
Religion	Hindu	187 (77.9)
	Other than Hindu	53 (22.1)
Ethnicity	Dalit	73 (30.4)
	Religious Minorities	159 (66.3)
	Upper caste	8 (3.3)
Respondent educational status	Illiterate	136 (56.7)
	Literate	104 (43.3)
Respondent occupation	Agriculture	52 (21.7)
	Housewife	170 (70.8)
	Service	18 (7.5)
Partners' education	Illiterate	60 (25.0)
	Literate	180 (75.0)
Partners occupation	Agriculture	100 (41.7)
	Labour	35 (14.5)
	Foreign	48 (20.0)
	Service/Business	57 (23.8)
Family type	Nuclear	59 (24.6)
	Joint	134 (55.8)
	Extended	47 (19.6)
Family size	3-8	105 (43.8)
	9-12	109 (45.4)
	>12	26 (10.8)
Monthly income	< 30000	141 (58.8)
	>30000	99 (41.2)
Age at marriage	< 20	164 (68.3)
	≥ 20	76 (31.7)

Reproductive characteristics of study participants

One hundred twenty-two (50.8%) study participants had their first sexual intercourse at age 18 and below. Thirty-three (13.7%) participants gave the history having STI, twenty-two (9.2%) of them were having family history of cervical cancer, ninety (37.5%) had used modern contraceptive method and out of them 53.3 % had used it for more than one year (Table 2).

Table 2. Reproductive characteristics of study participants

Variables	Category	Frequency (%)
Age at first sexual intercourse	≤ 18	122 (50.8)
	>18	118 (49.2)
Parity	≤ 3	171 (71.3)
	>3	69 (28.7)
History of STI	Yes	33 (13.7)
	No	207 (86.3)
Family history of cervical cancer	Yes	22 (9.2)
	No	218 (90.8)
Ever used modern contraceptives	Yes	90 (37.5)
	No	150 (62.5)
Duration of FP methods used (n= 90)	≤ 1	42 (46.7)
	>1	48(53.3)

Level of knowledge and attitude of cervical cancer screening

More than half of the respondents 129 (53.8%) had good knowledge, while only 48 (20.0%) had positive attitudes towards CCS (Table 3).

Table 3. Level of knowledge and attitude of CCS

Variables	Category	Frequency (%)
Level of knowledge	Poor	111 (46.2)
	Good	129 (53.8)
Level of attitude	Negative	192 (80.0)
	Positive	48 (20.0)

Utilization of cervical screening

Seventy-six (31.7%) of the respondents have ever undergone cervical cancer screening in their lifetime (Figure 1).

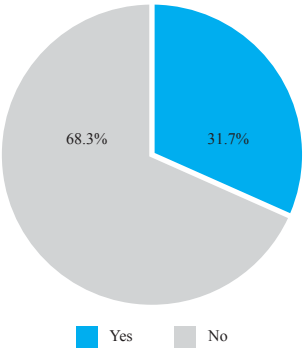

Figure 1. Utilization of CCS

Participants reasons for not utilizing CCS services

Among the 164 (68.3%) respondents who had not used CCS services, the most common reason given was not knowing about screening services (Figure 2).

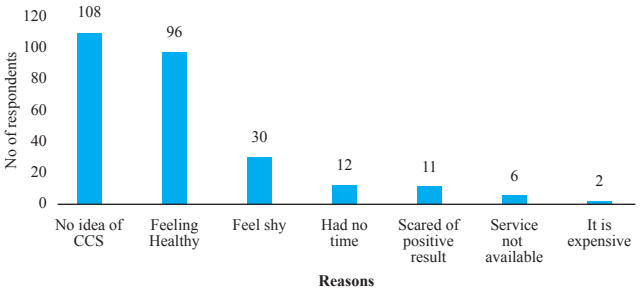

Figure 2. Reason for not to be screened

Factors associated with utilization of cervical cancer screening

In bivariable analysis age, respondent education, occupation, age of marriage, ever used modern method of contraception and its duration of use, history of STI, family history of cervical cancer, knowledge and attitude towards cervical cancer screening were found to be associated with cervical cancer screening utilization at a *p*-value <0.05. In a multivariable logistic regression, factors such as respondents' education, women engaged in agriculture, housewife's, age of marriage, duration of FP used, history of sexually transmitted infection, level of knowledge and attitude towards screening were significantly associated with cervical cancer screening utilization.

Accordingly, women who were illiterate were less likely to utilize CCS compared to those who were literate [AOR: 0.353, 95%CI (0.172-0.724)]. Likewise, those women who were engaged in agriculture as occupation [AOR: 0.168, 95%CI (0.041-0.699)] and those who were housewife's [AOR: 0.141, 95%CI (0.039-0.518)] were less likely to use CCS compared to service holders. While those women whose age of marriage was less than 20 years old were 2.23 times more likely to utilize CCS compared to women with age of marriage more than 20 years [AOR: 2.230, 95% CI (1.043-4.766)].

This study found that women who used family planning methods for less than and equal to one year were less likely to utilize CCS compared to those who used FP methods for

more than one year [AOR: 0.208, 95%CI (0.073-0.589)]. While those who had history of STI were 2.63 times more likely to utilize CCS services [AOR: 2.630,95%CI (1.033-6.699)]. This study also found that women having poor knowledge on CCS [AOR: 0.320,95%CI (0.146-0.702] and having negative attitude towards screening [AOR: 0.252,95%CI (0.108-0.589)] were less likely to utilize CCS services (Table. 4).

Table. 4. Bivariate and multivariate logistic regression analysis of factors associated with cervical cancer screening utilization

Variables	CCS utilization		Crude OR (95% CI)	Adjusted OR (95% CI)	*p*-value
	Yes (%)	No (%)			
Age of respondent					
≤ 30	14 (19.4)	58 (80.6)	0.413 (0.213-0.800)	0.648 (0.298- 1.413)	0.275
> 30	62 (36.9)	106 (63.1)	1		
Religion					
Hindu	65 (34.8)	122 (65.2)	2.034 (0.981-4.217)	-	
Others	11 (20.8)	42 (79.2)	1		
Ethnicity					
Dalit	29 (39.7)	44 (60.3)	1.098 (0.244-4.954)	-	
Religious	44 (27.7)	115 (72.3)	0.638 (0.146-2.782)		
Upper	3 (37.5)	5 (62.5)	1		
Respondent Education					
Illiterate	30 (22.1)	106 (77.9)	0.357 (0.204-0.625)	0.353 (0.172-0.724)	0.004
Literate	46 (44.2)	58 (55.8)	1		
Respondent Occupation					
Agriculture	17 (32.7)	35 (67.3)	0.389 (0.130-1.162)	0.168 (0.041-0.699)	0.014
Housewife	49 (28.8)	121 (71.2)	0.324 (0.121-0.869)	0.141 (0.039- 0.518)	0.003
Service	10 (55.6)	8 (44.4)	1		
Partner Education					
Illiterate	14 (23.3)	46 (76.7)	0.579 (0.296-1.135)		
Literate	62 (34.4)	118 (65.6)	1		
Partners occupation					
Agriculture	32 (32.0)	68 (68.0)	0.663 (0.333-1.321)		
Labour	9 (25.0)	27 (75.0)	0.469 (0.185-1.192)		
Foreign employment	13 (25.5)	38 (74.5)	0.482 (0.209-1.110)		
Service/Business	22 (41.5)	31 (58.5)	1		
Family Type					
Nuclear	13 (22.0)	46 (78.0)	0.548(0.231-1.297)		
Joint	47 (35.1)	87 (64.9)	1.047(0.520-2.108)		
Extended	16 (34.0)	31 (66.0)	1		
Family Size					
3-8	29 (27.6)	76 (72.4)	0.721 (0.289-1.798)		
9-12	38 (34.9)	71 (65.1)	1.011 (0.411-2.484)		
>12	9 (34.6)	17 (65.4)	1		
Monthly Income					
< 30000	43 (30.5)	98 (69.5)	0.878 (0.506-1.522)		
≥ 30000	33 (33.3)	66 (66.7)	1		
Age of Marriage					
< 20	60 (36.6)	104 (63.4)	2.163 (1.145- 4.088)	2.230 (1.043- 4.766)	0.039
≥ 20	16 (21.1)	60 (78.9)	1		
Age at first sexual intercourse					
≤ 18	40 (32.8)	82 (67.2)	1.111 (0.645-1.915)		
>18	36 (30.5)	82 (69.5)	1		
Parity					
≤ 3	52 (30.4)	119 (69.6)	0.819 (0.453-1.482)		
>3	24 (34.8)	45 (65.2)	1		
Ever used modern FP					
No	35 (23.3)	115 (76.7)	0.364 (0.207- 0.638)	0.314(0.042-2.328)	0.257
Yes	41 (45.6)	49 (54.4)	1		
Duration of FP					
≤ 1	14 (33.3)	28 (66.7)	0.389 (0.165-0.918)	0.208 (0.073-0.589)	0.003
>1	27 (56.2)	21 (43.8)	1		
History of STI					
Yes	16 (48.5)	17 (51.5)	2.306 (1.094-4.861)	2.630 (1.033-6.699)	0.043
No	60 (29.0)	147 (71.0)	1		
Family History of Cervical cancer					
Yes	12 (54.5)	10 (45.5)	2.887 (1.888-7.020)	2.526 (0.896- 7.118)	0.080
No	64 (29.4)	154 (70.6)	1		
Knowledge					
Poor	19 (17.1)	92 (82.9)	0.261 (0.143-0.477)	0.320 (0.146- 0.702)	0.004
Good	57 (44.2)	72 (55.8)	1		
Attitude					
Negative	54 (28.1)	138 (71.9)	0.462 (0.242- 0.885)	0.252 (0.108- 0.589)	0.001
Positive	22(45.8)	26 (54.2)	1		

DISCUSSION

This study was conducted to assess the magnitude of CCS utilization and its associated factors which found that only 31.7% of women had received CCS service at least once. This finding is in consistence with different studies done in Nepal.[8,19] The result is in contrast to many other studies conducted in Nepal where the utilization was found to be very low 16% , this difference in findings could be because of the difference in methodology adopted, types of study design and participants included from different religion and cultural values.[15] The maximum utilization of CCS was done during the camp organized by the government which could have also increased the utilization in this study. Further the result of the study showed a significant association between cervical cancer screening utilization and education level of respondents. Women who were illiterate were less likely to utilize CCS service, which is in accordance to several studies from Nepal.[8,11,13] In addition the result is in accord with the study where employed women were more likely to utilize screening services compared to unemployed women.[20] In this study Women with age of marriage below 20 years were more likely to utilize screening services. The possible explanation for this might be that the women who have started sexual intercourse at younger age have increased chance of having STI which leads to visit health facilities and have access to screening services. Similar findings was found in a study done in Ethiopia, which presented that women who had started sexual intercourse at younger age were more likely to utilize the screening services.[21] A significant association was found with the duration of FP used which specified that, women who used FP methods for less than 1 year were less likely to use CCS services. However, in contrast to this study another study conducted in northwest Ethopia found that duration of FP was not significantly associated with utilization of CCS.[21] This might be due to the variation in study setting and categorization of duration of family planning used. Women who had a history of sexually transmitted illness (STI) were more likely to utilize CCS than those without a history of STI which is similar to the findings from different studies.[22,23] This might be due to the reason that women with STI symptoms may have the need to visit health facilities which may have increase the chance to utilize CCS services as well.

The study found that level of knowledge about cervical cancer and attitude towards cervical cancer screening was another factor for utilization of the services. Women who were having poor knowledge were less likely to utilize the services in comparison to those having good knowledge. Similarly women who had a negative attitude were less likely to utilize the CCS services which is supported by different studies.[23,17,24] The possible explanation might be that women with good knowledge and positive attitudes towards CCS, are aware of the benefits of screening which leads them to utilize the CCS services.

CONCLUSION

Less than one third (31.7%) of the study participants had utilized cervical cancer screening. The most common reason for not utilizing CCS was not knowing about screening services and feeling healthy. Factors like education of women, occupation, age of marriage, duration of FP used, history of sexually transmitted infection, level of knowledge and attitude towards screening were significantly associated with utilization of cervical cancer screening. Thus, the study gives an insight into the need of intervention programs from local government focusing on importance of cervical cancer screening for prevention and providing information related to the screening and other reproductive health related services from different health facilities.

CONFLICT OF INTEREST

None

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