

Awareness Regarding Cervical Cancer among Reproductive Aged Women in Community of Sudurpaschim Province in Nepal

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Abstract

Background: Cervical cancer is the fourth most frequently diagnosed cancer and the fourth leading cause of cancer-related deaths among women worldwide. It is the second leading cancer in Nepali women. The objective of this study is to find out the awareness regarding cervical cancer among reproductive aged women of Sudurpaschim Province in Nepal.

Methods: A cross sectional study was used among 100 reproductive aged women by using non-probability purposive sampling technique with semi-structured interview schedule. The data were analyzed in Statistical Package for the Social Science (SPSS) version 22 using descriptive and inferential statistics.

Results: Out of 100 reproductive aged women 34% were belonged to the age group of 25-34 with means (30.35±9.324), minimum age was 15 and maximum age was 49 years. As well as educational status 39% had basic education and 11 % had no informal education. Similarly, all the reproductive aged women followed Hindu religion. Likewise, 83% reproductive aged women were married and 17% were unmarried. Regarding awareness of cervical cancer 69 % reproductive aged women had moderate, 24% had high and only 7% had low. Level of awareness regarding cervical cancer is statistically significant with the age of reproductive aged women ($p=0.021$), Ethnicity ($p=0.05$) and age of marriage ($p=0.012$).

Conclusion: The finding of the study concluded that awareness regarding cervical cancer among reproductive aged women is moderate and most of the reproductive aged women were unaware about HPV vaccination and cervical cancer screening so cervical cancer screening awareness and education programs are needed to prevent cervical cancer.

Keywords: awareness, cervical cancer, reproductive age women

Introduction

Cervical cancer is one of the most common cancers affecting women globally and represents a significant reproductive health concern. Approximately 85% of the global burden of cervical cancer occurs in less-developed regions, where it accounts for nearly 12% of all cancers among women.¹ Cancer continues to be a leading cause of death worldwide and remains a substantial barrier to increasing life expectancy across all countries.² It is highest in Eastern Africa and lowest in Western Asia⁶ According to the GLOBOCAN 2022 report, the five most prevalent cancers among women worldwide are breast cancer, colorectal cancer, lung cancer, cervical cancer, and thyroid cancer. In Nepal, the three most

common cancers in women are cervical cancer, breast cancer, and lung cancer.³ Around 99% of cervical cancer cases are associated with high-risk Human Papillomavirus (HPV) infections, which are primarily transmitted through sexual contact.⁴ The 2023 annual report of B. P. Koirala Memorial Cancer Hospital indicates that cervical cancer is the third most common cancer overall and the second most common among women in Nepal, with 648 new female cases reported that year.⁶

The risk factors for cervical cancer include infection with Human Papillomavirus (HPV), having multiple sexual partners, early initiation of sexual activity, a weakened immune system, prolonged mental stress, multiple pregnancies, low socio-economic

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status, long-term use of certain oral contraceptive pills, and infection with other sexually transmitted diseases (STDs). Common signs and symptoms of cervical cancer include post-coital bleeding, intermenstrual bleeding, spotting between periods, post-menopausal bleeding, foul-smelling vaginal discharge, discomfort during sexual intercourse, and pelvic pain.⁷

In 2010, the Ministry of Health and Population in Nepal introduced the National Guideline for Cervical Cancer Screening and Prevention (CCSP). The initial goal of the program was to screen at least 50% of women aged between 30 and 60 years.⁸ Despite this target, approximately 95% of women have not undergone cervical cancer screening. The majority of these unscreened women are illiterate and live in rural areas.⁹

A study of Ethiopia finding revealed that 65.1% of women had heard of cervical cancer; however, over 80% were unaware that it is caused by Human Papillomavirus (HPV). Furthermore, only 21.4% of participants were familiar with the Pap smear test, a critical tool for early detection and prevention. Overall, just 19.87% of the women demonstrated good knowledge of cervical cancer and its prevention.¹⁰ Similarly, a study of Nepal found that only 28% of women had a good level of awareness about cervical cancer, while 43.5% showed a low level of awareness.¹¹ Another Nepal-based study reported that more than 87% of women lacked adequate knowledge about cervical cancer screening, and 86.4% had never undergone such screening.¹²

Various studies have shown a generally low level of awareness about cervical cancer and its screening, particularly in low- and middle-income countries. The need to investigate cervical cancer awareness among women of reproductive age in Darchula district is significant, as this specific area has not been thoroughly explored despite numerous studies conducted in other countries and regions. Therefore, the researcher is particularly interested in examining the level of awareness about cervical cancer among reproductive-aged women in communities of the Sudurpaschim Province.

Methods

A cross-sectional study design was used to assess awareness regarding cervical cancer among women

of reproductive age (15–49 years) in Malikarjun Rural Municipality, Ward No. 7, Darchula, Nepal. A non-probability purposive sampling technique was used for data collection, employing a semi-structured interview schedule. The sample size was 100. The instruments consisted of two parts: Part I included questions related to the socio-demographic characteristics of the respondents, and Part II included questions related to awareness regarding cervical cancer. The level of awareness was measured using the semi-structured interview schedule. There were a total of 31 questions; each correct answer was scored as 1, and each incorrect answer was scored as 0. Awareness levels were assessed based on Bloom's cut-off point and categorized into three levels: good (80–100%), moderate (60–79%), and poor (<60%). The data collection tool was self-developed in English and translated into Nepali. Ethical approval was obtained from the Institutional Review Committee (IRC) of BPKMCH, and administrative approval was obtained from Malikarjun Rural Municipality, Ward No. 7. Written informed consent was obtained from each respondent prior to data collection, these data were checked, reviewed, and organized for completeness, consistency, and accuracy. The data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 22, employing descriptive and inferential statistics.

Results

Out of 100 reproductive age women 34% were belonged to age group of 25-34 with mean±SD (30.35±9.324), minimum age was 15 and maximum age was 49 years. Regarding, educational status of the women 39% had basic education and 11% had formal education. Likewise, all the reproductive aged women followed Hindu religion. Furthermore, 57% of the women belonged to Brahmin/Chhetri and 43% were belonged to Dalit. Similarly 80% of reproductive aged women belonged to nuclear family, 61% women were house maker. (Table 1).

Similarly, 69% reproductive aged women's family income was enough for more than 12 months, 83% reproductive aged women were married. Regarding age at marriage 65% women got married at the age of less than 20 years and mean±SD as 18.76±2.564 and minimum age was 14 and maximum was 24 years. Similarly, 90.4% women had child. Likewise, 78.7% of women had 1-4 child. The minimum number 1 and

Table 1: Socio-demographic Characteristic of Reproductive Aged Women n=100

Variables	Frequency(%)
Age (in complete year)	
15-24	31(31.0)
25-34	34(34.0)
35-44	27(27.0)
45-54	8(8.0)
Mean±SD,min(max) 30.35±9.324,15(49)	
Educational status	
No education	11(11.0)
Basic Education	39(39.0)
Secondary education	37(37.0)
Above secondary education	13(13.0)
Ethnicity	
Brahmin/Chhetri	57(57.0)
Dalit	43(43.0)
Family structure	
Joint	20(20.0)
Nuclear	80(80.0)
Occupation	
House maker	61(61.0)
Students	21(21.0)
Agriculture	9(9.0)
Business	1(1.0)
Service Holder	8(8.0)

maximum number 8. Furthermore, 50.7% of women gave birth to the first baby at the age between 20-24. Mean±SD of age of born was 20.31±2.584 with the minimum age 16 and maximum age was 26 years. Regarding family history of cervical cancer, 100% women had no family history of cervical cancer. (Table 2)

Majority (90%) of the reproductive aged women responded that cancer which is arises from cervix is called cervical cancer. Similarly, 78% women knew cervical cancer is non-communicable disease. Likewise, all women knew cervical cancer is preventable disease and 97% knew it is curable if diagnosed in early stage. As for risk factors of cervical cancer majority 99% reproductive aged women knew multiple sexual partners, followed by 98% were knew early sexual intercourse and giving birth at an early age, 94% knew multiparity, 84% of women knew family history of cervical

Table 2: Socio--demographic Information of Reproductive Aged Women (Family income, marital status, age at marriage, have children, number of children) n=100

Sociodemographic Variables	Frequency(%)
Adequate family Income for	
3-6 month	3(3.0)
6-12 month	28(28.0)
more than 12 months	69(69.0)
Marital status(n=100)	
Married	83(83.0)
Never married	17(17.0%)
Age at marriage (n=83)	
<20	65(65.0%)
≥20	18(18.0)
Mean±SD,min(max) 18.76±2.56,14(24)	
Having children (n=83)	
Yes	75(90.4%)
No	8(9.6%)
Number of children (n=75)	
1-4	59(78.7%)
5-8	16(21.3%)
Min (Max),1(8)	
Age of 1st child born (n=75)	
<20	32(42.7)
20-24	38(50.7)
≥25	5(6.7)
mean±SD,min(max) 20.31±2.584,16(26)	

Table 3: Awareness Regarding Cervical Cancer in women of Reproductive Aged group

Statement	Frequency(%) of correct response
Cancer which is arises from cervix is cervical cancer	90(90.0)
Cervical cancer is non-communicable disease	78(78.0)
Cervical cancer is preventable disease	100(100.0)
Cervical cancer is curable if diagnosed in early stage	97(97.0)
Risk factors of cervical cancer**	
Human Papilloma virus	21(21.0)
Early sexual intercourse	98(98.0)
Multiple sexual partner	99(99.0)
Giving birth at an early age	98(98.0)
Multiparity	94(94.0)
Long term use of oral contraceptive pills	24(24.0)
Family history of cervical cancer	84(84.0)

cancer, 24% of women knew long term use of some

contraceptive pills and only 21% of reproductive aged women knew HPV are a risk factors of cervical cancer (Table 3).

Majority (96%) of reproductive aged women said unusual vaginal discharge is sign and symptom of cervical cancer, 95% said post-menopausal bleeding, 94% said lower abdominal and back pain and mass growth in cervix, 93% said vaginal bleeding between menstruation, 91% said pain during sexual intercourse and 90% said bleeding after sexual intercourse are the sign and symptoms of cervical cancer. Regarding preventive measures of cervical cancer 100% women said avoid several pregnancies and avoid early marriage and sex, 96% said avoid multiple sexual partners, 54% said cervical cancer screening and only 23% women said HPV vaccination are preventive measures of cervical cancer (Table 4).

Table 4: Awareness Regarding Cervical Cancer

Statement	Frequency(%) of correct response
Sign and symptoms of cervical cancer**	
Vaginal bleeding between menstruation	93(93.0)
Unusual vaginal discharge	96(96.0)
Lower abdominal and back pain	94(94.0)
Bleeding after sexual intercourse	90(90.0)
Pain during sexual intercourse	91(91.0)
Post-menopausal bleeding	95(95.0)
Mass growth in cervix	94(94.0)
Preventive measures of cervical cancer**	
Avoid multiple sexual partner	96(96.0)
HVP vaccination	23(23.0)
Avoid several pregnancies	100(100.0)
Avoid early marriage and sex	100(100.0)
Cervical cancer screening	54(54.0)

** Multiple response

Table 5 shows that 54% reproductive aged women said cervical cancer screening test is used to detect potentially precancerous and cancerous process in endocervical canal. Only 5% reproductive aged women said Pap smear/LBC, VIA/VILI, are the tests for cervical cancer screening. Regarding time of starting cervical cancer screening test only 9% women said that screening should be done 3 years after involving in sexual inter-course.

Table 5: Awareness of Cervical Cancer Screening among women

Statement	F (%)
Cervical cancer Screening test is used to detect potentially precancerous and cancerous process in endocervical canal	54(54.0)
Pap smear/LBC Test, VIA/VILI are the tests for cervical cancer screening	5(5.0)
Time of starting cervical cancer screening is 3 years after involving in sexual intercourse	9(9.0)
Place for screening**	
Health post	95(95.0)
Private hospital	31(31.0)
Government hospital	43(43.0)
Heath camp	75(75.0)
Participated in cervical cancer awareness program	1(1.0)

Regarding place of cervical cancer screening test done 95% women said in health post whereas 75% said in health camp, 43% said in government hospital and only 31% said in private hospital cervical cancer screening tests are done. Only 1% reproductive aged women were participated in cervical cancer awareness program (Table 5).

Regarding level the awareness of cervical cancer 69% of reproductive women had moderate, 24% had good and only 7% had poor (Table 6).

Table 6: Level of Awareness Regarding Cervical Cancer n=100

Level of awareness	Frequency(%)
Poor	7(7.0)
Moderate	69(69.0)
Good	24(24.0)

Level of awareness regarding cervical cancer is statistically significant with the age of reproductive aged women ($p=0.021$), ethnicity ($p=0.05$) and age at marriage ($p=0.012$) (Table 7).

Discussion

A descriptive study design was employed to assess the level of awareness about cervical cancer among women of reproductive age residing in Sudurpaschim Province, Nepal. In present study, 34% of women were within the 25–34 age group. The average age of the respondents was 30.35 years, with a standard deviation of 9.324. The participants' ages ranged from 15 to 49 years. These results align with a study of Nepal, which reported an average age of 33.37 years and a standard deviation of 8.39 among a similar population.¹⁵

Table 7: Association Between Level of Awareness Regarding Cervical Cancer and Selected variables Variables

Selected Variables	Level of awareness			χ^2 -value	P-value
	Poor	Moderate	Good		
Age					
15-24	4(12.9%)	20(64.5%)	7(22.65)	14.921	0.021*
25-34		23(67.6%)	11(32.4%)		
35-44	1(3.7%)	23(85.2%)	3(11.1%)		
45-54	2(25%)	3(37.5%)	3(37.5%)		
Ethnicity					
Brahmin/ Chhetri	2(3.5%)	33(57.9%)	22(38.6%)	18.995	0.05*
Dalit	5(11.6%)	36(83.7%)	2(4.7%)		
Age at marriage					
<20	3(4.6%)	52(80%)	10(15.4%)		
≥20	1(5.6%)	8(44.4%)	9(50%)	8.897	0.012*

Significant level< 0.05

In terms of educational status, 39% of the women had attained basic education, 37% had completed secondary education, and 11% had no formal education. Regarding ethnicity, 57% of participants were from the Brahmin/Chhetri group, while 43% belonged to the Dalit community. Additionally, 83% of the reproductive-aged women were married. Notably, none of the respondents reported a family history of cervical cancer. These findings are comparable to those of a similar study of Nepal, which reported that 93% of women were literate, with 35.2% having completed secondary education. In that study, 66% of participants were Brahmin/Chhetri, 83.9% were married, and 97.9% had no known family history of cervical cancer.¹¹ Regarding occupation only 1% reproductive aged women were involved in business. Similar study of Nepal, showed that only 3.7 % respondents were involved in business.¹⁵

In this study, 61% of reproductive-aged women were homemakers. All participants identified as followers of the Hindu religion. Regarding age at marriage, 65% of women were married before the age of 20, with a mean age at marriage of 18.76 ± 2.564 years (range: 14 to 24 years). Among the respondents, 50.7% gave birth to their first child between the ages of 20 and 24. The mean age at first childbirth was 20.31 ± 2.584 years, with the minimum and maximum ages being 16 and 26 years, respectively. These findings are consistent with a similar study conducted in Nepal, which reported that 65.7% of

participants were homemakers. In that study, the majority (92.78%) identified as Hindu, 66.19% were married between the ages of 16 and 20, and 49% had their first child between the ages of 21 and 25.²¹

Regarding awareness about cervical cancer, 90% of reproductive-aged women in this study correctly identified the meaning of cervical cancer. This finding contrasts with studies from Nepal, where only 10% of respondents correctly understood the meaning of cervical cancer, and women had inadequate knowledge.^{15,19} In the present study, 97% of participants believed that cervical cancer is curable if detected at an early stage. A similar study from Nepal reported that 95.7% of respondents shared this belief.²⁰ Furthermore, 78% of women in this study identified cervical cancer as a non-communicable disease, and all participants agreed that it is a preventable condition.

Regarding awareness of risk factors, 99% of reproductive-aged women identified having multiple sexual partners as a risk factor for cervical cancer. This is consistent with findings from a similar study conducted in Nepal, where 95.7% of respondents recognized multiple sexual partners as a risk factor¹¹. However, only 21% of participants in the current study identified Human Papillomavirus (HPV) as a risk factor for cervical cancer. Similarly, a study conducted in Northwest Ethiopia reported that over 80% of respondents lacked knowledge that HPV is a causative agent of cervical cancer¹⁰.

With regard to the signs and symptoms of cervical cancer, 90% of reproductive-aged women identified bleeding after sexual intercourse as a symptom. This finding contrasts with a study conducted in Nepal, where only 19.8% of respondents recognized post-coital bleeding as a sign of cervical cancer²¹.

Regarding the preventive measures of cervical cancer, 54% of reproductive-aged women in this study identified cervical cancer screening, while only 23% mentioned HPV vaccination as a method of prevention. In comparison, similar studies conducted in Nepal and Nigeria found that 58.45% of respondents were aware that regular screening is a preventive measure, and 34.31% recognized HPV vaccination as a means of preventing cervical cancer. Overall, knowledge of cervical cancer screening and Human Papillomavirus (HPV) immunization was

poor in those studies.^{21,18}

In this study, 54% of reproductive-aged women correctly stated that cervical cancer screening is used to detect potentially precancerous and cancerous changes in the endocervical canal. This finding is comparable to studies conducted in Nepal, where 57% and 84.3% of respondents demonstrated correct knowledge regarding cervical cancer screening.^{21,22} Additionally, only 5% of participants in the current study were able to identify Pap smear/Liquid-Based Cytology (LBC) and VIA/VILI as methods of cervical cancer screening. Similarly, studies conducted in Pakistan and Malaysia reported that only 2.5% of women were aware of the Pap smear test as a screening method for cervical cancer, while others showed good knowledge about regular Pap smears as a diagnostic tool for cervical cancer screening^{17,14}

Regarding the level of awareness about cervical cancer, 69% of reproductive-aged women in this study demonstrated a moderate level of awareness, 24% had a good level of awareness, and 7% showed a poor level of awareness. These findings are supported by a study conducted in Nepal, which reported that 71.1% of reproductive-aged women had a moderate level of awareness, 17.9% had a high level, and 11% had a low level of awareness regarding cervical cancer¹³.

The level of awareness regarding cervical cancer showed a significant association with the age of reproductive-aged women ($p = 0.021$) and their age at marriage ($p = 0.012$). A similar study conducted in Nepal reported a significant association between the level of awareness regarding cervical cancer and both age ($p = 0.026$) and age at marriage ($p = 0.014$)¹³. In this study, there was also a significant association between the level of awareness and the ethnicity of reproductive-aged women ($p = 0.05$). This finding is supported by a study from Nepal, which also reported a significant association between awareness of cervical cancer and ethnicity ($p = 0.014$)¹⁵.

Conclusion

Based on the findings of the study, it can be concluded that more than half of the reproductive-aged women had a moderate level of awareness about cervical cancer, while fewer than half

demonstrated a good level of awareness. The level of awareness was found to be statistically significant in relation to age, ethnicity, and age at marriage among reproductive-aged women. These findings highlight the need to enhance cervical cancer screening services and emphasize the importance of implementing targeted awareness programs for women.

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