



ORIGINAL RESEARCH ARTICLE

FACTORS INFLUENCING UTILIZATION OF CERVICAL CANCER SCREENING SERVICES AMONG MARRIED WOMEN IN COMMUNITY, CHITWAN

Mina Kumari Ranabhat^{1*}, Basanta Thapa²

¹ B. P. Koirala Memorial Cancer Hospital, Bharatpur-7, Chitwan, Nepal

² School of Nursing, Chitwan Medical College, Bharatpur-10, Chitwan, Nepal

*Correspondence to: Ms Mina Kumari Ranabhat, B.P. Koirala Memorial Cancer Hospital, Bharatpur-7, Chitwan, Nepal. Email: minaranabhat@gmail.com

ABSTRACT

Cervical cancer is one of the most prevalent cancers affecting women globally. It is the fourth most common cancer in women and the seventh overall. The morbidity and mortality of cervical cancer can be highly reduced through vaccination against human papilloma virus, regular screening and timely intervention. The objective of this study was to find out the factors influencing utilization of cervical cancer screening services among married women aged 30-60 of Bharatpur Sub-Metropolitan 19, Chitwan. A community based descriptive cross sectional research design was used, 175 married women were selected using simple random sampling technique. Semi- structured interview schedule was used to collect the data within four weeks. The collected data was entered in Epi data 3.1 and exported to IBM SPSS version 20. Out of 175 women, 42.3% of the respondents were of 30-39 years, 72% were literate, 18.9% had good level of awareness of cervical cancer screening, 44% had utilized cervical cancer screening services and 77.9% of the respondents had done screening only one time. The association showed between utilization of cervical cancer screening services such as duration of marriage ($p=0.025$), involvement in cervical cancer awareness programme ($p<0.001$), fear ($p=0.007$), shyness ($p<0.001$), preference of sex of health personnel ($p=0.016$), time to reach nearest screening center ($p=0.024$) and need of cervical cancer screening without any problems of cervix ($p<0.001$).

Multivariate analysis showed that association between utilization of cervical cancer screening services such as duration of marriage 3.036 times, fear 2.992 times, shyness 3.335 times and need of cervical cancer screening without any problems of cervix 30.720 times more likely to utilize cervical cancer screening services.

Key words: Factors influencing, utilization of cervical cancer screening, women

INTRODUCTION

Cervical cancer screening is an essential part of a woman's routine health care. It is a way to detect abnormal cervical cells, including precancerous cervical lesions, as well as early cervical cancers. Both can be treated very successfully and HPV vaccines are available to prevent it. Routine cervical screening has been shown to greatly reduce the number of new cervical cancers and deaths from the disease.²

There are many potential risk factors for cervical cancer, but the most prominent known cause, responsible for about 70% of cases, is infection

with the Human Papilloma Virus (HPV). HPV can be spread through skin-to-skin contact, body fluids, and sexual intercourse, two strains in particular; HPV 16 and 18 are precursors for cervical cancer.¹ In Nepal the target age group for screening between 30-60 years old and screening interval to be 5 years. The screening method is used Visual Inspection Acetic Acid (VIA) and pap smear.³ The low coverage of cervical cancer screening related to a variety of factors, including socioeconomic and cultural barriers poverty, lack of information, fear, myths, and lack of support from husbands and families. For instance, asymptomatic women are unconcerned

with screening due to lack of routine screening, women from poor communities often seek care only when they develop symptoms, often at an advanced stage of the cancer, lack of privacy during screening, embarrassment among women, and low importance given to women's health.⁴

MATERIAL METHODS

Descriptive cross sectional study design was used to find out the factors influencing utilization of cervical cancer screening services. The required number of sample was 175. That sample was selected by simple random sampling technique. The semi structured interview schedule was used. Ethical approval was taken from Chitwan Medical College (P) Ltd., College of Nursing, CMC-IRC and ward office of Bharatpur Sub- Metropolitan 19. Verbal informed consent was taken from each respondent prior to data collection. Content validity of the instrument was established by consultation with research advisor and subject expert and reliability was maintained by pre-testing

the questionnaire. The tool was translated into Nepali version to make it clear, simple and consistency of instruments. Data was collected within four weeks from house hold survey in any time in the day by using a semi-structured interview schedule by researcher. In a day 7 – 8 respondents were interviewed and about 25- 30 minutes was taken to collect data from each respondent. Data was analyzed by using descriptive statistics (frequency, percentage, mean and standard deviation). Inferential statistic (Chi-square test was done to test the association between different variables). Bivariate and multivariate analysis was done to see the association between outcome variables less or equal to 5% level of significance. Odd ratio with 95% Confidence Interval was calculated during bivariate and multivariate analysis. Multivariate analysis was carried out for those variables which were significant at 95% confidence level through binary logistic regression and were adjusted for possible confounders.

RESULTS

Table 1: Socio-demographic Characteristics of Married Women

Variables	Frequency	Percent
Age in years(n=175)		
30-39	74	42.3
40-49	57	32.6
≥50	44	25.1
Mean ±SD= 42.46±9.09, Min=30, Max=60		
Duration of marriage in years(n=175)		
<10	17	9.7
10-19	77	44.0
20-29	51	29.2
≥30	30	17.1
Mean ±SD=21.01±10.50, Min= 4 year, Max=48years		
Education status(n=175)		
Illiterate	49	28.0
Literate	126	72.0
Occupation(n=175)		
Service holder	12	6.8
Business	36	20.6
Daily wages labour	4	2.3

Agriculture	41	23.4
House wife	82	46.9
Religion(n=175)		
Hinduism	150	85.7
Buddhism	25	14.3
Ethnic group(n=175)		
Dalit	11	6.3
Janajati	30	17.1
Brahmin	131	74.9
Others	3	1.7
Adequate family income for (n=175)		
Less than 3 months	10	5.7
3<6 months	19	10.9
6 to 12 months	101	57.7
More than 12 months	45	25.7
Involvement in cervical cancer awareness programme(n=175)		
Yes	62	35.4
No	113	64.6
Family history of cervical cancer(n=175)		
Yes	7	4.0
No	168	96.0

Table 1 reveals that 42.3% of the married women belonged to the age group of 30-39 years, 44% of women's duration of marriage was 10-19 years, 72% of the women were literate, 46.9% of the women were housewife, 85.7% followed Hindu religion, 74.9% were Brahmin, 57.7% of the women's family income was enough for 6 to 12 months, 64.6% of women were not involved in cervical cancer screening and awareness programmes and 96% of women had no family history of cervical cancer.

Table 2: Level of Awareness of Cervical Cancer and Screening Services of Married Women (n=175)

Variables	Frequency	Percent
Level of awareness of cervical cancer		
Good	48	27.4
Fair	40	22.9
Poor	87	49.7
Level of awareness of cervical cancer screening		
Good	33	18.9
Fair	23	13.1
Poor	119	68.0

The table 2 reveals that 49.7% of women had poor level of awareness and 22.9% had fair level of awareness of cervical cancer. Similarly, 68.0% of the women had poor level of awareness and 13.1% had fair level of awareness of cervical cancer screening.

Table 3: Personal Factors of Utilization of Cervical Cancer Screening Services (n=175)

Variables	Frequency	Percent
Fear		
Yes	77	44.0
No	98	56.0
Painful		
Yes	97	55.4
No	78	44.6
Husband support		
Yes	154	88.0
No	21	12.0
Shyness		
Yes	93	53.1
No	82	46.9
Expensive		
Yes	26	14.9
No	149	85.1
Sex preference of the health personnel		
Male	3	1.7
Female	93	53.2
Either sex	79	45.1
Time to reach cervical cancer screening center		
<25 minutes	116	63.3
≥25 minutes	59	33.7
Mean ±SD=21.31±8.96, min=10, max=60		
Convenient time for cervical cancer screening		
Yes	151	86.3
No	24	13.7
Health worker encouragement		
Yes	102	58.3
No	73	41.7
Maintain privacy		
Yes	163	93.1
No	12	6.9
Need cervical cancer screening without any problem of cervix		
Yes	75	42.9
No	100	57.1

Table 3 reveals that 56% of women were not afraid of cervical cancer screening, 55.4% responded screening is painful, 80% of women's husband were supportive for screening, 53.2% of women said that they felt

shy for cervical cancer screening, 85.1% said cervical cancer screening is not expensive, 53.1% preferred female health personnel during screening. Likewise, 63.3% of the women said it takes <25 minutes to reach nearest cervical cancer screening center, 86.3% said screening center opening time was convenient, 58.3% said health workers encouraged for cervical cancer screening, 93.1% said health workers maintained privacy during cervical cancer screening and 57.1% of the women said cervical cancer screening is not necessary without any problems of the cervix.

Table: 4 Utilization of Cervical Cancer Screening Services of Married Women

Utilization of screening	Number	Percentage
Ever done cervical cancer screening(n=175)		
Yes	77	44.0
No	98	56.0
Age of first cervical cancer screening (n=77)		
26-35	35	45.4
36-45	26	33.8
≥45	16	20.8
Mean±SD=39.19±8.19,min=26,max=60		

The table shows that 56.0% of married women had never utilized cervical cancer screening and 44% of married women had utilized cervical cancer screening. Similarly, 45.4% of the women had done first cervical cancer screening at the age of 26-35 and 20.8% of women had done at the age of ≥45 years. The mean was 39.19, standard deviation was 8.19, the minimum age was 26 years and maximum age was 60 years.

Table 4: Association between Utilization of Cervical Cancer Screening Services and Factors

Factors	Utilization of Cervical Cancer Screening Service		χ^2 Value	p Value
	Yes No. (%)	No No. (%)		
Duration of marriage in years				
<20 years	34(36.2)	60(63.8)	5.053	0.025*
≥20 years	43(53.1)	38(46.9)		
Involvement in cervical cancer and screening awareness				
Yes	39(62.9)	23(37.1)	13.925	<0.001*
No	38(33.6)	75(66.4)		
Level of awareness in Cervical cancer screening				
Good	22(66.7)	11(33.3)		
Fair	7(30.4)	16(69.6)	9.247	0.010*
Poor	48(40.3)	71(59.7)		
Fear				
Yes	25(32.5)	52(67.5)	7.442	0.006*
No	52(53.1)	46(46.9)		

Shyness				
Yes	29(31.2)	64(68.8)	13.233	<0.001*
No	48(58.5)	34(41.5)		
Need of screening without problems of cervix				
Yes	59(78.7)	16(21.3)	64.015	<0.001*
No	18(18.0)	82(82.0)		

*Significance level at 0.05

Utilization of the cervical cancer screening services was statistically significant with duration of marriage ≥ 20 years ($p=0.025$), involvement in cervical cancer screening awareness programme ($p<0.001$), with good level of awareness in cervical cancer screening ($p=0.01$), with women who were not afraid of screening ($p=0.006$), women who feel shy for screening ($p<0.001$) with women who preferred for female health personnel ($p=0.016$) and with women who said cervical cancer screening is necessary even though there is no problem ($p<0.001$).

Table 5: Multivariate Analysis of Utilization of Cervical Cancer Screening Services and Personal Factors (n=175)

Personal factors	Unadjusted OR (95% CI)	Adjusted OR (95% CI)	p value
Duration of Marriage			
<20 years	1	1	
≥ 20 years	1.997(1.08-3.66)	3.036(1.217-7.578)	0.017*
Involvement in cervical cancer awareness			
No	1	1	
Yes	3.34(1.75-6.38)	2.126(0.850-5.319)	0.107
Level of awareness of cervical cancer screening			
Fair	1	1	
Good	2.958(1.315-6.658)	1.201(0.346-4.170)	0.773
Poor	0.647(0.248-1.691)	0.972(0.232-4.080)	0.969
Fear			
Yes	1		
No	2.35(1.26-4.37)	2.992(1.082-8.271)	0.035*
Shyness			
Yes	1	1	
No	3.11(1.67-5.79)	3.335(1.223-9.090)	0.019*
Preference of health care personnel			
Either sex	1	1	
Female	2.10(1.14-3.86)	1.415(0.550-3.639)	0.471
Time to reach screening center			
<25 minutes	1	1	
≥ 25 minutes	2.07(1.09-3.92)	2.053(0.840-5.016)	0.114
Need screening without problems of cervix			

No	1	1	
Yes	16.79(7.91-35.63)	30.720(10.589-89.124)	<0.001*

1-reference category

*significance at 95% CI

Table 5 reveals that the women whose duration of marriage was ≥ 20 years were 3.036 times more likely to utilize cervical cancer screening services as compared to whose duration of marriage was < 20 years. Married women who were not afraid of cervical cancer screening were 2.992 times more likely to utilize of cervical cancer screening services compared to women were afraid of. Women who did not feel shy during screening were 3.335 times more likely to utilize cervical cancer screening services compared to women felt shy. Similarly, women who said cervical cancer screening is necessary even though no problems of cervix were 30.720 times more likely to utilize cervical cancer screening services as compared to women who said not necessary.

DISCUSSION

Regarding the demographic characteristic, this study showed that out of 175 married women, 42.3% women were 30-39 years, 72% were literate, 85.7% women were Hindu, 74.9% were Brahmin and 57.7% of the women's family income was enough for 6 to 12 months. This finding of study is supported by Sudhir and Krishna⁵ study was carried out among 800 village women in South India. The majority of study subjects were in the age group of 30-60 years. 88.9% were Hindu and most of them were married and poor socio-economic status. This finding of the study also compromised to the Budkaew and Chumworathay⁶. Where all respondents aged 30-60 years married women. Among them 53.8% were 30-46 years and 46.2% were ≥ 46 years. As regards family history of cervical cancer, 96% of women had no history of cervical cancer. Finding of the study is supported by Jia et al⁷. Where the study showed that 88.9% of respondents had no family history of cervical cancer.

In this study, 49.8% of women had poor level of awareness on cervical cancer. The findings of the study are contradicted with the study of Harsha and Tanya⁸. where 81.9% had poor level of knowledge about cervical cancer. In this study, 44% of the women were afraid of cervical cancer screening and 55.4% of the women said screening is painful. The finding is supported by Bessler et al¹². Where the result showed that 42% of respondents reported that feared their cervical cancer as the result of a Pap smear, and 46% feared the pain of a pap test. It also supported by Sherpa et al¹³. Where the result showed that 29% having fear for screening of being diagnosed as cancer. Similarly, in this study, 53.2% of

the women said that they felt shy for cervical cancer screening and 46.9% said that they did not feel shy. The findings of the study supported by Sherpa et al.¹³ where 977 respondents had pap smear test and 56 refused the test. Out of them 41.1% of the respondents felt shy for gynaecological examination.

As regard utilization of cervical cancer screening services, 44% of the married women had utilized and 56.0% had never done cervical cancer screening and 20.8% of the women had done screening at the age of ≥ 45 years. This finding is supported by Kono et al¹⁰. Where the result showed that utilization of cervical cancer screening in Korea was 41%. This finding was supported by Budkaew and Chumworathay⁶. where 32.3% had been screened cervical cancer and 67.7% reported had not been screened. This study also supported by Jia et al⁷ conducted study in China among 7929 women where women older than 45 years were more willing to undergo cervical cancer screenings.

Utilization of the cervical cancer screening services was statistically significant among the married women whose duration of marriage was ≥ 20 years than those whose duration of marriage was < 20 years. The finding is supported by Shrestha et al¹¹. It was found that advancing age and longer duration of marriage were significantly associated with practice of cervical cancer screening.

Women who had good level of awareness of cervical cancer screening were more likely to utilize of cervical cancer screening services than those women who had fair level of awareness. It is consistent with the study conducted by Lyimo and Beran⁹. Where the highest level of knowledge about cervical cancer

and its prevention were more likely than those with low and medium levels of knowledge to have been screened. Likewise, in this study the women who preferred to female health personnel were 2.10 times more likely to utilize cervical cancer screening services as compared to those who had preferred either sex. The finding of this study is contradicted by study of Lyimo and Beran⁹. where women who did not have a preference for the sex of health provider 1.76 times were more likely to have screened for cervical cancer compared to those who preferred a female health provider.

CONCLUSION

Based on the findings of the study, it is concluded that less than half of the married women had utilized the cervical cancer screening services. Utilization of the cervical cancer screening services was statistically significant with duration of marriage ≥ 20 years ($p=0.025$), involvement in cervical cancer screening awareness programme ($p<0.001$), with good level of awareness in cervical cancer screening ($p=0.01$), with women who were not afraid of screening ($p=0.006$), with women who preferred for female health personnel ($p=0.016$) and with women who said cervical cancer screening is necessary even though there is no problem ($p<0.001$). Women whose duration of marriage was ≥ 20 years, involved in cervical cancer awareness programme, not afraid of cervical cancer screening, did not feel shy during screening, and who said cervical cancer screening is necessary even though no problem of cervix were more likely to utilize cervical cancer screening services.

REFERENCES

- Green A. Motsoaledi launches free HPV vaccine for schoolgirls. mail guardian. (2014).
- National Cancer Institute. A snapshot of cervical cancer incidence and mortality. (2014).
- National Guidelines for Cervical Cancer Screening and Prevention in Nepal. (2010).
- Gyawali B, Keeling JJ, van Teijlingen E, Dhakal L, Aro AR. cervical cancer screening in Nepal: ethical considerations. *Medicolegal and Bioethics*. 2015 Jan 16.
- Sudhir D, Krishna D. Knowledge and practice about cervical cancer screening among women in a rural population of South India. *Journal of Applied Medical Sciences* 2014;2(2C):689-693.
- Budkaew J, Chumworathayi B. Factors associated with decisions to attend cervical cancer screening among women aged 30-60 years in Chatapadung Contracting Medical Unit, Thailand. *Asian Pacific journal of cancer prevention APJCP* 2013 Dec;15(12):4903-7.
- Jia Y, Li S, Yang R, Zhou H, Xiang Q, Hu T, Zhang Q, Chen Z, Ma D, Feng L. Knowledge about cervical cancer and barriers of screening program among women in Wufeng County, a high-incidence region of cervical cancer in China. *PloS one* 2013 Jul 2;8(7):e67005.
- Kumar HH, Tanya S. A study on knowledge and screening for cervical cancer among women in Mangalore city. *Annals of medical and health sciences research*. 2014 Sep 1;4(5):751-6.
- Lyimo FS, Beran TN. Demographic, knowledge, attitudinal, and accessibility factors associated with uptake of cervical cancer screening among women in a rural district of Tanzania: three public policy implications. *BMC public health*. 2012 Jan 10;12(1):1.
- Konno R, Shin HR, Kim YT, Song YS, Sasagawa T, Inoue M, Park JS. Human papillomavirus infection and cervical cancer prevention in Japan and Korea. *Vaccine*. 2008 Aug 19; 26:M30-42.
- Shrestha J, Saha R, Tripathi N. Knowledge, attitude and practice regarding cervical cancer screening amongst women visiting tertiary centre in Kathmandu, Nepal. *Nepal Journal of Medical Sciences*. 2013 Oct 14;2(2):85-90.
- Bessler P, Aung M, Jolly P. Factors affecting uptake of cervical cancer screening among clinic attendees in Trelawny, Jamaica. *Cancer Control*. 2007 Oct;14(4):396.
- Sherpa AT, Karki BS, Sundby J, Nygard M, Franceschii S, Clifford G. Population Based Study of Cervical Cancer Screening in Bharatpur, Nepal. *Journal of Manmohan Memorial Institute of Health Sciences*. 2015 Jan 31;1(4):3-8.