

Original Research Article

## Knowledge and Practice Regarding Cervical Cancer Screening Among Women Attending Gynecology OPD, B.P. Koirala Institute of Health Sciences, Dharan, Nepal

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**Article History**

Received: 22.08.2020

Accepted: 29.08.2020

Published: 06.09.2020

**Abstract:** Cervical cancer is the fourth most frequent cancer in women with an estimated 570,000 new cases in 2018 representing 6.6% of all female cancers. Cervical cancer is the leading cause of cancer death in women in low-HDI countries. Cervical cancer ranks first among the female cancer in Nepal with age-adjusted incidence rate 21.5, 2,942 new cases and 1,928 deaths. The high mortality rate from cervical cancer globally could be reduced through prevention, early diagnosis, effective screening and treatment. The study aim to identify the knowledge and practice of cervical cancer screening among women attending gynecology OPD. A descriptive cross-sectional study design was used in this study. Hundred and fifty women were selected through purposive sampling technique. A pretested semi structured interview schedule was used to measure research variables. Frequency, percentage, mean and chi-squared test were used to analyze the data. Out of 150 women, mean age was  $39.41 \pm 10.26$  and 78.7% respondents were Hindu. More than three fourth (84.7%) were literate. Slightly more than one third (34.7%) of the respondents herd about cervical cancer screening. Among them, less than half (46.2%) had adequate knowledge and only 8.7% of women had practice of cervical screening. There were no association between knowledge and socio-demographic variables but the practice were associated with residence ( $p < 0.05$ ) and family income ( $p < 0.05$ ). A majority of women have inadequate knowledge and low practice of cervical cancer screening. Therefore cervical cancer screening and awareness program should be emphasized.

**Keywords:** Knowledge, Practice, Cervical, Cancer, Screening, Women.

## INTRODUCTION

Cervical cancer is the fourth most frequent cancer in women with an estimated 570,000 new cases in 2018 representing 6.6% of all female cancers [1, 2] Cervical cancer ranks second in incidence and mortality behind breast cancer in lower HDI settings. The vast majority of which are in Sub-Saharan Africa and South-Eastern Asia. The highest regional incidence and mortality rates are seen in Southern Africa [2]. Cervical cancer is the leading cause of cancer death in women in low-HDI countries. Nearly 70% of cervical cancer deaths occur in South-Central Asia (75,100 deaths), Eastern Asia (54,500), and sub-Saharan Africa (76,400) [1]. India is the second most populous country in the world, accounts for almost 20% (60,100) of cervical cancer deaths [2, 3]. According to WHO report 2018, cervical cancer ranks first among the female cancer in Nepal with age-adjusted incidence rate of 21.5 per 100,000 population, 2,942 new cases and 1,928 deaths [4]

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Currently, in many low resource settings, the disease is often not identified until it is further advanced or treatment is inaccessible resulting in a higher rate of death from cervical cancer. Understanding and detecting symptoms of cervical cancer can assist with early diagnosis. The high mortality rate from cervical cancer globally could be reduced through a comprehensive approach that includes prevention, early diagnosis, effective screening and treatment programmes. There are currently three vaccines that protect against common cancer-causing types of human papilloma virus and can significantly reduce the risk of cervical cancer [1].

According to world health organization, cervical cancer screening is the testing for precancer and cancer of women at risk, most of who will be without symptoms. At a minimum, screening is recommended for every woman 30–49 years of age at least once in a life time. 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. Early detection and treatment of precancerous lesions can prevent the majority of cervical cancers. Three different types of tests are currently available: —Conventional (Pap) and liquid based cytology (LBC) —Visual inspection with Acetic Acid (VIA) —HPV testing for high risk HPV types (e.g. types 16 and 18). HPV vaccination does not replace cervical cancer screening. In countries where HPV vaccine is introduced, screening programmes may need to be developed or strengthened [5].

Various screening techniques have been introduced for early detection of cervical cancer in Nepal. For instance, Papanicolaou smear screening (cervical cytology) has been reported to be a good method for detecting early cervical cancer. Although the Papanicolaou test has been used as a primary method of screening in Nepal, feasibility of its introduction among the general population is often questioned due to restrictions in the present infrastructure and a lack of human and financial resources [6]. In Nepal, the national guideline for cervical cancer screening 2010 has prioritized prevention of cervical cancer through screening and has emphasized using the VIA approach for cervical cancer screening. The guideline has highlighted the need for integration of cervical cancer screening programs and prevention through national health policy and reproductive health programs. The integration of cervical cancer screening with regular health services could potentially increase the uptake of screening services [7].

Despite the cervical cancer screening and prevention has been a part of public screening program in Nepal, very few women receive screening services and they don't have sufficient knowledge about cervical cancer screening [8-12]. Hence, the study was conducted to identify the knowledge and practice of cervical cancer screening among women attending gynecology OPD.

## MATERIAL AND METHODS

Descriptive cross sectional research design was employed to identify the knowledge and practice of cervical cancer screening among women attending gynecology OPD, B.P. Koirala Institute of Health Sciences (BPKIHS), Dharan, Nepal. The study population was women attending Gynecology OPD, BPKIHS. Hundred and fifty women were selected through purposive sampling technique. Married women ages 21- 60 years old and willing to participate were included in the study. Self-developed semi-structured interview schedule was used to collect the data. Questionnaire based practice were identified as per their interview. Before proceeding data collection, ethical approval was obtained from Institutional review committee, BPKIHS, Dharan. Informed consent was taken from each subject. Privacy and confidentiality of subjects were maintained throughout the research process. Data were collected within 2 months of period. Nurses working Gynecological OPD and VIA clinic were trained for the data collection.

## STATISTICAL ANALYSIS

The data were analyzed by using Statistical Package for Social Science (SPSS) version-15. Frequency, percentage were used to measure the socio-demographic and outcome variables. Chi-square test were used to find out association between socio-demographic and outcome variables. P-value was calculated and considered significant  $p < 0.05$ . The analyzed data were presented in tables and graph according to the objectives of the study; demographic information, knowledge and practice regarding cervical cancer screening and association between selected variables with knowledge and practice regarding cervical cancer screening. Regarding the knowledge scoring, score of '1' was assigned for the correct response and '0' for incorrect response. Total score was calculated and the score was subdivided into two groups i.e. respondents having knowledge score ( $< 50\%$ ) was considered as inadequate knowledge and knowledge score ( $\geq 50\%$ ) was considered as adequate knowledge. Regarding the practice scoring, score of '1' was assigned for their practice and '0' for not practice.

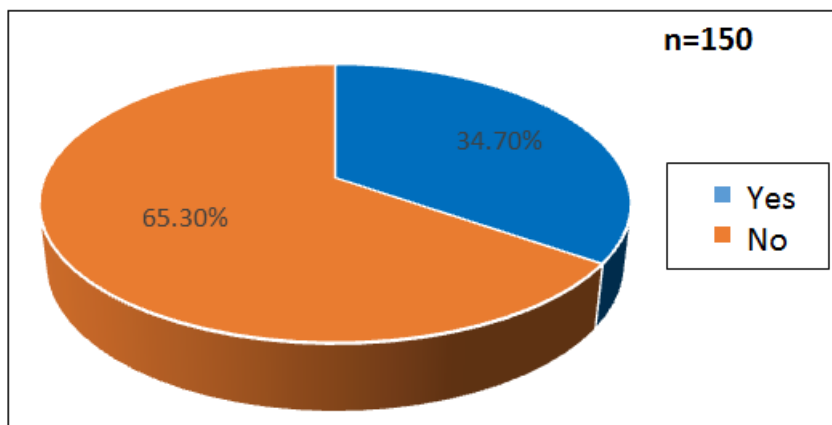
## RESULTS AND DISCUSSION

Table-1 shows that more than half (56%) of the women belong to age group 21 -39 years with mean age  $39.41 \pm 10.27$ . Similarly, more than half (54%) of women married below age 20 and majority (67.3%) had 2-4 children. Slightly more than half (51.3%) of women were from V.D.C. Majority (84.7%) of the women were literate, among them one third (33.9%) were only can read and write. Majority (78.7%) of women belong to Hindu. More than half (56%) women used to live single family and majority (58.7%) of women's family income was more than 20000 per month.

**Table-1: Socio-demographic Characteristics of Women (n =150)**

Variables	Frequency (%)
<b>Age (years)</b>	
21 - 39	84 (56.0)
40 – 59	56 (37.3)
60 & above	10 (6.7)
<b>Age at marriage (years)</b>	
Below 20	81 (54.0)
20 & above	69 (46.0)
<b>Parity</b>	
Never give births	9 (6.0)
Having one child	26 (17.3)
Having 2-4 children	101 (67.3)
Having 5 & more children	14 (9.3)
<b>Address</b>	
Municipality	72 (48.7)
V.D.C.	77 (51.3)
<b>Education</b>	
Illiterate	23 (15.3)
Literate	127(84.7)
Can read and write	43 (33.9)
Primary	27 (21.3)
Lower secondary	8 (6.3)
Secondary and above	14 (11.0)
SLC and above	35 (27.6)
<b>Religion</b>	
Hindu	118 (78.7)
Bauddha	12 (8.0)
Kirat	15 (10.0)
Christian	3 (2.0)
Islam	2 (1.3)
<b>Family type</b>	
Single	84 (56.0)
Joint	66 (44.0)
<b>Income (per month)</b>	
Less than 20000	62 (41.3)
20000 & above	88 (58.7)

Figure-1 shows that total of 150 women slightly more than one third (34.7%) of the women had knowledge about cervical cancer screening. Figure 2 reveals that below half (40.4%) of women got information from media followed by family/Friends (25%), health workers (19.2), course book/Newspaper (15.4).



**Fig-1: Women's Knowledge Regarding Cervical Cancer Screening**

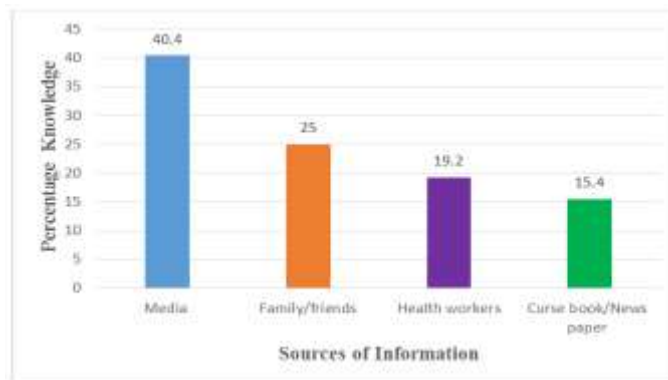


Fig-2: Sources of Information about Cervical Cancer Screening

Table-2: Women’s Knowledge Regarding Cervical Cancer, Methods and Frequency of Cervical Cancer Screening n=52

Description	Yes (%)	No (%)
<b>Cervical cancer</b>		
Heard about cervical cancer	45 (86.5)	7 (13.5)
Risk factors of cervical cancer	40 (76.9)	12 (23.1)
Treatment outcome is good if early detected	38 (73.1)	14 (26.9)
Prognosis of cervical cancer	25 (48.1)	27 (51.9)
<b>Cervical cancer screening</b>		
Cervical cancer screening is done to identify changes in cervix	26 (50.0)	26 (50.0)
Pap smear is acceptable cervical cancer screening	19 (36.5)	33 (63.5)
<b>Methods of Cervical Cancer Screening</b>		
Pap smear	24 (46.2)	28 (53.8)
Visual Inspection of Acetic Acid (VIA)	32 (61.5)	20 (38.5)
<b>Frequency of Pap smear</b>		
Women ages 21-29 years in every 3 yrs.	19 (36.5)	33 (63.5)
Women ages 30–65 years in every (3-5) yrs. with cytology	18 (34.6)	34 (65.4)
Women ages ≥ 65 should discontinue screening	42 (80.8)	10 (19.10)
<b>Reasons for more frequent Pap smear</b>		
Diagnosed case of cervical cancer or precancerous cell Present in Pap smear	38 (73.1)	14 (26.9)
Weakened immune system due to organ transplant, chemotherapy or chronic corticosteroid use	16 (30.8)	36 (69.2)
HIV infection	19 (36.5)	33 (63.5)
History of smoking	22 (42.3)	30 (57.7)
<b>Visual inspection with acetic acid (VIA)</b>		
It is a visual examination of the uterine cervix after application of 3-5% acetic acid	8 (15.4)	44 (84.6)
VIA determines incidence of precancerous lesions of cervix	14 (26.9)	38 (73.1)
Recommended age of women for VIA is 30 -60 yrs.	17 (32.7)	35 (67.3)
VIA should be done in every 5 years of interval once the negative result	15 (28.8)	37 (71.2)
<b>Availability of VIA health facilities</b>		
Mobile VIA Clinic	35 (67.3)	17 (32.7)
Primary Health Care Center	28 (53.8)	24 (46.2)
District Hospital	33 (63.5)	19 (36.5)
Zonal/regional/Center	34 (65.4)	18 (34.6)
Tertiary Care Hospital/Cancer Hospital	33 (63.5)	19 (36.5)
<b>(Multiple responses)</b>		

Table-2 depicts women’s knowledge regarding cervical cancer screening, the subsequent questions of knowledge portion were asked to 52 in respondents who heard about cervical cancer screening. Among them majority (86.5%) have heard about cervical cancer and 76.9% of women had knowledge about risk factors. Less than half (48.1%) of women had knowledge about prognosis of cervical cancer. Half (50%) of them mentioned cervical screening is done to identify changes in the cervix but majority (63.5%) did not have idea about Pap smear is acceptable cervical cancer screening. Regarding methods of cervical screening, more than half (53.8%) of women didn’t have knowledge about Pap smear but majority (63.5%) had idea about VIA. Similar portions (63.5%, 65.4%) did not have knowledge about frequency of screening for women ages 21–29 in every 3 yrs. and women ages 30–65 years in every (3-5) yrs. with cytology respectively. Majority (80.8%) of women mentioned women ages > 65 should discontinue screening. Regarding the reasons for more frequent Pap smear, majority (73.1%) mentioned diagnosed case of cervical cancer or a case with precancerous cells showed in Pap smear need more frequent pap smear. But they did not have knowledge about weakened immune system (69.2%), HIV infection (63.5%) and history of smoking (57.7%) need frequent Pap smear. Majority (84.6%) did not have knowledge about VIA is done with 3-5% acetic acid. Majority (73.1%) didn’t have

knowledge about VIA determines precancerous lesion of cervix. Similarly majorities (67.3%, 71.2%) did not have knowledge about recommended age group is ages 30- 60 years for VIA and frequency of VIA in every 5 years respectively. Majority (82.7%) of women had knowledge about health facilities where availability of VIA. Among them most of the responded that VIA is available in mobile VIA clinic (67.3%) primary health care center (53.8%), district hospital (63.5%), Zonal/Regional hospital (65.4%) and tertiary care hospital/cancer hospital (63.5%).

**Table-3: Women’s Practice Regarding Cervical Cancer Screening**

Description	Frequency (%)
<b>Cervical screening (n=150)</b>	
Done	13 (8.7)
Not done	137 (91.3)
<b>Types of cervical screening (n=13)</b>	
PAP smear	6 (46.2)
Visual Inspection with Acetic acid	7 (53.8)
<b>Pap Screening result (n=6)</b>	
Negative	6 (100.0)
Positive	0 (0.0)
<b>Time duration of Pap (n=6)</b>	
Less than 5 years	6 (100.0)
Five years & more	0 (0.0)
<b>VIA Screening result (n=7)</b>	
Negative	7 (100.0)
Positive	0 (0.0)
<b>Time duration of VIA (n=7)</b>	
Less than 5 years	7 (100.0)
Five years & more	0 (0.0)

Table-3 shows that out of 150, only 8.7% of women had practice of cervical cancer screening. Among them, practice of Pap smears were below half (46.2%) and visual inspection with acetic acid (53.8%). All (100%) of women had negative Pap smear and VIA test results. All (100%) Pap smear and VIA test were done within five years.

**Table-4: Association between Knowledge and Socio-Demographic Variables (n=52)**

Socio-demographic variable	Knowledge		
	Adequate F (%)	Inadequate F (%)	P-value
<b>Age (years)</b>			
21 -39	17 (54.8)	14 (45.2)	0.127
40—65	7 (33.3)	14 (66.7)	
<b>Age at marriage (years)</b>			
Below 20	9 (34.6)	17 (65.4)	0.164
20 and above	15 (57.7)	11 (42.3)	
<b>Having Children</b>			
0-3 children	21 (53.8)	18 (46.2)	0.064 F
4 & more Children	3 (23.1)	10 (62.5)	
<b>Residence</b>			
Municipality	15 (53.6)	13 (46.4)	0.246
VDC	9 (37.5)	15 (62.5)	
<b>Education</b>			
Illiterate	0 (0.0)	4 (100.0)	0.115 F
Literate	24 (50.0)	24 (50.0)	
<b>Occupation</b>			
House maker	15 (39.5)	23 (60.5)	0.111
Service holder & others	9 (64.3)	5 (35.7)	
<b>Religion</b>			
Hindu	15 (40.5)	22 (59.5)	0.202
Non Hindu	9 (60.0)	6 (40.0)	
<b>Family type</b>			
Single	11 (42.3)	15 (57.7)	0.578
Joint	13 (50.0)	13 (50.0)	
<b>Income (per month)</b>			
Less than 20000	16 (55.2)	13 (44.8)	0.143
20000 & above	8 (34.8)	15 (65.2)	

**Note:** level of significant considered p= 0.05, F= Fishers exact test

Table-4 reveals that there were no statistical association in knowledge regarding cervical cancer screening with age ( $p=0.127$ ), age at marriage ( $p=0.164$ ), having children ( $p=0.064$ ), residence ( $p=0.246$ ), education ( $p=0.115$ ), occupation ( $p=0.111$ ), religion ( $p=0.202$ ), family type ( $p=0.578$ ) and income of the family ( $p=0.143$ ). Table-5 shows that there are statistical association in practice of cervical cancer screening with residence ( $p=0.008$ ) and family income ( $p=0.008$ ). But there are no statistical association found between practice of cervical cancer screening and age ( $p=0.389$ ), age at marriage ( $p=0.260$ ), having children ( $p=0.039$ ), education ( $p=0.220$ ), occupation ( $p=0.155$ ), religion ( $p=0.115$ ) and family type ( $p=0.454$ ).

**Table-5: Association between Practice and Socio-Demographic Variables (n=150)**

Socio-demographic variable	Practice		
	Yes F (%)	No F (%)	P-value
<b>Age (years)</b>			
21 -39	9 (10.7)	76 (89.3)	0.389
40—65	4 (6.1)	61 (93.9)	
<b>Age at marriage (years)</b>			
Below 20	5 (6.2)	76 (93.8)	0.260 F
20 and above	8(11.6)	61 (88.4)	
<b>Having Children</b>			
0-3 children	13 (11.6)	99 (88.4)	0.039 F
4 & more Children	0 (0.0)	38 (100.0)	
<b>Residence</b>			
Municipality	11 (15.1)	62 (84.9)	0.008 F
VDC	2 (2.6)	75 (97.4)	
<b>Education</b>			
Illiterate	0 (0.0)	23 (100.0)	0.220 F
Literate	13 (10.2)	114 (89.8)	
<b>Occupation</b>			
House maker	8 (6.9)	108 (93.1)	0.155
Service holder & others	5 (14.7)	29 (85.3)	
<b>Religion</b>			
Hindu	8 (6.8)	110 (93.2)	0.115
Non Hindu	5 (15.6)	27 (84.4)	
<b>Family type</b>			
Single	6 (7.1)	78 (92.9)	0.454
Joint	7(10.6)	59 (89.4)	
<b>Income (per month)</b>			
Less than 20000	10 (16.1)	52 (83.9)	0.008 F
20000 & above	3 (3.4)	85 (96.6)	

**Note:** level of significant considered  $p= 0.05$ , F= Fishers exact test

## DISCUSSION

Though the national guideline for cervical cancer screening and prevention in Nepal was formulated in 2010 with coverage goal of 50% in next five years [7], majorities of the study's findings suggested that accessibility, acceptability and coverage of cervical cancer screening is still low along with low public awareness. Cervical cancer screening program had many difficulties in terms of limited medical services, difficult geographical terrain creating difficulties in delivering health services [13].

The current study showed that slightly more than one third (34.7%) of the women had knowledge about cervical cancer screening (Figure-1). Among them, less than half (46.2%) had adequate knowledge and only 8.7% of women had practice of cervical screening (Table 3) Slightly more than half (53.8%) of the women didn't have knowledge about Pap smear but majority (63.5%) had idea about VIA.. There were no association between knowledge and socio-demographic variables but the practice were associated with residence ( $p<0.05$ ) and family income ( $p<0.05$ ). Due to the a few numbers of women who practiced cervical cancer screening, this could not be real significant association.

The findings are consistent with various studies findings from Nepal, where insufficient knowledge and practice about cervical cancer screening were revealed except significant association observed in some of the socio-demographic variables i.e. education, ethnicity and positive family history of cancer [8-12]. Study conducted by Thapa M [8] on cervical cancer awareness and practice of Pap smear test among women with gynecological problems revealed that only



39% of women were aware of Pap smear test. Pap smear test coverage was 16.6% in studied population. Main reason of not doing Pap smear test was lack of knowledge of the test. High educational status of the women had significant positive impact on knowledge of cancer cervix and practice of Pap smear test [8]. Study findings of Bansal AB *et al.*, reported only 34.5% participants had heard about cervical screening and 9.5% actually underwent screening test, Binary logistic regression analysis revealed that education age and income were independent predictors of better knowledge and practice depends on age, income, and marital status [14].

Various studies findings from India are in contrast with the current study findings. There were observed somehow improvement in knowledge and practice of cervical cancer screening. The study of Shrestha BK *et al.*, where, majority (58.1%) of the respondents had good knowledge in cervical cancer screening and 66.4% of the respondent accepted Pap smear test. Study showed the association between respondents knowledge of cervical cancer screening with educational status ( $p=0.04$ ), religion ( $p=0.01$ ) at 0.05 level of significance [15]. A study from India by Narayana G *et al.*, revealed that most (74.6%) of the respondents had heard about cervical cancer and majority of them are heard from media (41.6%). Most women knew symptoms (64.2%), risk factors (62.7%), screening methods (76.9%), and preventive measures (61.7%) for cervical cancer. Various studies findings from India and some of the study findings from Nepal are in contrast with the current study findings more than three-fourth of women (86.6%) are not having practice toward cervical cancer screening. Socio-demographic characteristics are strongly associated with KAP levels [16]. A study of Dahiya N *et al.*, from New Delhi India showed that only 39 women (26%) had ever heard of cervical cancer screening. Only 27 women (18.0%) ever had Pap smear done in the past and 87 women (58.0%) were willing to undergo cervical cancer screening offered free of cost [17].

## CONCLUSION

The findings indicated that insufficient knowledge and practice of cervical cancer screening. Not any of the socio-demographic variables found as the predictor of knowledge and practice. Therefore cervical cancer screening awareness program along with service delivery should be emphasized.

## ACKNOWLEDGEMENT

The authors acknowledge B.P. Koirala Institute of Health Sciences, Dharan for providing fund to conduct study and study participants for providing data. Authors are grateful to the Mrs. Mahima Tuladhar, OPD Incharge and Mrs. Pujan Subba, ANM for providing supports in data collection. Authors appreciate the supports from staffs of College of Nursing.

## REFERENCES

1. WHO. (2018). Cervical cancer an overview. Retrieved August 16, 2018, from [www.who.int/cancer/prevention/diagnosis-screening](http://www.who.int/cancer/prevention/diagnosis-screening).
2. Bray, F., Ferlay, J., Soerjomataram, I., Siegel, R. L., Torre, L. A., & Jemal, A. (2018). Global cancer statistics 2018: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. *CA: a cancer journal for clinicians*, 68(6), 394-424.
3. American Cancer Society. (2018). Global Cancer Facts and Figures, 4th Edition. Retrieved April 16, 2019, from <https://www.cancer.org/research/cancer-facts-statistics/global.html>
4. GLOBOCAN. (2018). Nepal-Global Cancer Observatory: Nepal factsheet. In: International Agency for Research on Cancer, World Health Organization. Retrieved April 28, 2019, from <http://gco.iarc.fr/today/data/factsheets/populations/524-nepal-fact-sheets.pdf>
5. WHO. (2013). Guidance Note. Key facts about cervical cancer screening and treatment. Comprehensive cervical cancer prevention and control: a healthier future for girls and women. Retrieved August 20, 2018, from <https://apps.who.int/iris/handle/10665/78128>
6. Gyawali, B., Keeling, J. J., van Teijlingen, E., Dhakal, L., & Aro, A. R. (2015). Cervical cancer screening in Nepal: ethical considerations. *Medicolegal and Bioethics*. 5:1-6.
7. Family Health Division. (2010). *National Guideline for Cervical Cancer Screening and Prevention in Nepal*. Department of Health Services, Kathmandu: Government of Nepal.
8. Thapa, M. (2018). Cervical Cancer Awareness and Practice of Pap Smear Test Among Women with Gynecological Problems. *JAMA*. 56(211), 654-657.
9. Thapa, N., Maharjan, M., Petrini, M. A., Shah, R., Shah, S., Maharjan, N., ... & Cai, H. (2018). Knowledge, attitude, practice and barriers of cervical cancer screening among women living in mid-western rural, Nepal. *Journal of gynecologic oncology*, 29(4):1-12.
10. Shrestha, S., & Dhakal, P. (2017). Knowledge, attitude and practice regarding cervical cancer screening among women attending a teaching hospital, Bharatpur, Chitwan. *Journal of family & reproductive health*, 11(1), 18-23.

11. Sherpa, A. T., Karki, B. S., Sundby, J., Nygard, M., Franceschii, S., & Clifford, G. (2015). Population based study of cervical cancer screening in Bharatpur, Nepal. *Journal of Manmohan Memorial Institute of Health Sciences*, 1(4), 3-8.
12. Shrestha, J., Saha, R., & Tripathi, N. (2013). Knowledge, attitude and practice regarding cervical cancer screening amongst women visiting tertiary centre in Kathmandu, Nepal. *Nepal Journal of Medical Sciences*, 2(2), 85-90.
13. Joshi, M., & Mishra, S. R (2013). Cervical Cancer Screening in Nepal. *Health Prospect Journal of Public Health*, 12(1) I May-Aug. Retrieved from <http://www.nphss.org.np/jhprospect>
14. Bansal, A. B., Pakhare, A. P., Kapoor, N., Mehrotra, R., & Kokane, A. M. (2015). Knowledge, attitude, and practices related to cervical cancer among adult women: A hospital-based cross-sectional study. *Journal of natural science, biology, and medicine*, 6(2), 324-328.
15. Shrestha, B. K., Sapkota, D. K., & Sapkota, M. (2019). Knowledge and Acceptability of Cervical Cancer Screening among Adult Women Visiting in Gynecological OPD. *Journal of College of Medical Sciences-Nepal*, 15(1), 67-70.
16. Narayana, G., Suchitra, M. J., Sunanda, G., Ramaiah, J. D., Kumar, B. P., & Veerabhadrapa, K. V. (2017). Knowledge, attitude, and practice toward cervical cancer among women attending Obstetrics and Gynecology Department: A cross-sectional, hospital-based survey in South India. *Indian journal of cancer*, 54(2), 481-487.
17. Dahiya, N., Aggarwal, K., Singh, M. C., Garg, S., & Kumar, R. (2019). Knowledge, attitude, and practice regarding the screening of cervical cancer among women in New Delhi, India. *Tzu-Chi Medical Journal*, 31(4), 240-243.