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Female School Teachers' Knowledge Regarding Cervical Cancer.

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Abstract

Cervical cancer is a globally leading cause of mortality and morbidity in females. It is a curable cancer if diagnosed in the early stage. Lack of awareness of screening methods, risk factors, and early symptoms may lead to a late diagnosis. This study aimed to assess the knowledge regarding cervical cancer among female school teachers. A cross-sectional study design was adopted to assess the knowledge regarding cervical cancer among 106 female teachers. A non-probability purposive sampling technique was used to select the sample. Data was collected using a structured self-administered questionnaire and subsequently entered into IBM SPSS version 22 for analysis. The findings of the study revealed that the mean age was 30.45±3.911 and the majority of respondents were married (95.3%). Similarly, 72.6% of respondents had bachelor-level education, and 12.3% respondents had a family history of cervical cancer. Regarding the level of knowledge, the majority (64.2%) had a good level of knowledge, 25.5% had moderate level of knowledge, and 10.4% had poor level of knowledge. There was a significant association between levels of knowledge and religion (p=0.006). Findings indicate that a substantial percentage of respondents possess a good level of knowledge on cervical cancer.

Keywords: Cervical cancer, Female school teachers, Knowledge

Introduction

Cervical cancer is the fourth most frequently diagnosed cancer and the fourth leading cause of cancer death in women, with an estimated 604,000 new cases and 342,000 deaths worldwide in 2020 (Song et al.,2021). The global burden of cervical cancer is disproportionately high in developing countries, where 85% of the estimated 493,000 new cases and 273,000 deaths occur worldwide (Sung et al., 2021). Most of these deaths occurred in low- and lower-middle-income countries (LMICs) due to inadequate access to cervical cancer prevention, screening and treatment (WHO, 2020). Cervical cancer is the most common cancer and the leading cause of death among Nepalese women (Poudel et al., 2016). In Nepal, cervical cancer is diagnosed in an advanced stage which leads to a high mortality rate (Subebedi et al., 2021).

The natural history of cervical cancer follows a prolonged period of a premalignant condition, which can take more than 10 years to progress to invasive cancer (WHO,2006). Hence, this gives ample opportunity for cancer screening. But, lack of awareness was one of the key factors for delayed diagnosis of cervical cancer. Women in Nepal present at a late stage though cervical cancer is an early detectable and curable disease. Four out of five cases of cervical cancer in Nepal were found to have a late diagnosis (Gyenwali et al., 2013).

Studies have shown variable levels of knowledge among female school teachers on cervical cancer in different countries. In Ethiopia, 27.2% of participants had a good level of knowledge about cervical cancer risk factors, signs, and symptoms, and preventive measures of cervical cancer (Embiale et al., 2021). Another study conducted in Nigeria demonstrated a relatively high level of awareness about cervical cancer, its cause, risk factors and prevention (Toye et al., 2017). A cross-sectional study conducted on knowledge and awareness of cervical cancer among female school teachers in Solukhumbu, Nepal revealed that school teachers' awareness of cervical cancer screening was found poor (Sherpa et al., 2020). Similarly, the study conducted in Hail City (Saudi Arabia) also reported that the overall knowledge of female high school teachers on cervical cancer and its preventive measures was inadequate (Alshammir, 2022).

Previous studies focused on knowledge and practices on cervical cancer screening. To promote the screening practice in women, their own knowledge and understanding of disease is essential. The findings of Adekanle et al .(2011) revealed that those with better knowledge of the disease had significantly higher acceptance of the screening compared with those with lower knowledge. Therefore, knowing the risk factors and early signs and symptoms of cervical cancer will make early detection and will make the disease more curable.

Female school teachers represent the educated sector and have a great influence on the students, colleagues, families and the community. Their health, literacy levels will directly and indirectly impact the health of all the people around them. They can play a significant role in public awareness regarding the prevention of cervical cancer. So it is important to improve the knowledge of female school teachers. Therefore, a paucity of studies was conducted among school teachers on knowledge of cervical cancer to assess the knowledge regarding cervical cancer among female school teachers in Bharatpur Chitwan, Nepal.

Methodology

A cross-sectional study design was adopted to assess the female school teachers' knowledge regarding cervical cancer. The study encompassed all 11 high schools (7 private and 4 government schools) of Bharatpur-4, Chitwan Nepal. Altogether 106 female school teachers were included in the study. A non-probability purposive sampling technique was used to select the sample. Female teachers who actively worked during the data collection period were the inclusion criteria. Female school teachers who had already been diagnosed with cervical cancer and were under treatment were excluded from the study.

Ethical clearance was obtained from the Institutional Review Committee of B.P. Koirala Memorial Cancer Hospital. Administrative approval was granted by Bharatpur Metropolitan for each school involved in the study. Researchers personally visited the school teachers at their respective schools. Written informed consent was obtained from each respondent prior to data collection by explaining the purpose of the study. Data was collected by using a 20-item self-developed structured questionnaire. The instrument was constructed in English and translated into the Nepali language by reviewing previous studies concerning the knowledge of cervical cancer. The instrument was presented to 11 female school teachers. The study was carried out in November 2022.

Knowledge assessment consisted of 20 questions related to cervical cancer as follows: five items on concept of cervical cancer, six items on risk factors, five items on signs and symptoms ,and four items on cervical cancer screening. Each correct answer was given a score of 1, and incorrect answers received a score of 0. An overall score was calculated, which ranges from 0 to 20. The overall score was converted into a percentage, and the level of knowledge was categorized utilizing Bloom's cut-off point, as poor (<59%), fair (60 - 79%), and good (80 -100%).

All gathered data were coded, organized, and entered into the Statistical Package for Social Sciences (IBM SPSS) version 22, then analyzed using descriptive statistics such as frequency, percentage, mean, and standard deviation. Inferential statistics were used to assess the association between different variables, and the findings were presented in tables. Statistical significance was set at $p < 0.05$.

Results

The demographic analysis in Table 1 provides a comprehensive overview of key characteristics observed among the 106 respondents surveyed. With a mean age of 30.45 ± 3.911, the majority (66%) falls below the age of 30, while those aged above 40 constitute only 0.9%. Marital status analysis indicates that a significant majority (95.3%) of respondents were married. Additionally, the educational profile reveals that 72.6% had completed a bachelor's degree, whereas 27.4% held a master's degree.

In terms of religious affiliation, Hinduism is predominant among the respondents, with 91.5%, and the majority (87.7%) identify as Brahmin/Chhetri. Buddhism is followed by 7.5%, and Christianity is observed in 0.9% of the population. Family structures are relatively balanced, with 52.8% living in joint families. Moreover, only 12.3% of respondents reported a family history of cervical cancer, indicating a relatively low prevalence within the surveyed group.

Table 1. Socio-demographic characteristics of respondents (n=106)

Variables	N	%
Age in year		
<30	70	66
31-35	22	20.8
36-40	13	12.3
>40	1	0.9
Mean ± SD = 30.45±3.911, Min=22, Max= 46		
Ethnicity		
Brahmin/Chhetri	93	87.7
Madhesi	2	1.9
Dalit	3	2.8
Newar	1	0.9
Janajati	7	6.6
Religion		
Hinduism	97	91.5
Buddhism	8	7.5
Christianity	1	0.9
Educational level		
Bachelors	77	72.6
Masters	29	27.4
Marital status		
Married	101	95.3
Unmarried	5	4.7
Family structure		
Joint	56	52.8
Nuclear	50	47.2
Family history of cervical cancer		
Yes	13	12.3
No	93	87.7

Table 2. Respondent knowledge of cervical cancer (n= 106)

Knowledge variable	Correct response	
	N	%
Concept of cervical cancer		
Cervical cancer is a non-communicable disease	98	92.5
Cervical cancer can be prevented	100	94.3
Cervical cancer is curable if diagnosed in early stage	94	88.7
Cervical cancer can be detected in early-stage	91	85.8
The causative organism of cervical cancer is HPV	93	87.7
Risk factors of cervical cancer		
Early age of marriage (< 20 years)	95	89.6
Starting sexual life at an early age (<16 years)	87	82.1
First pregnancy before 20 years	87	82.1
Giving birth to more babies (> 4 babies)	86	81.1
Multiple sexual partners	93	87.7
Poor personal hygiene	88	83.0
Signs and symptoms		
Vaginal bleeding in between menstruation	91	85.8
Unusual vaginal discharge	101	95.3
Pain during sexual intercourse	93	87.7
Bleeding after sexual intercourse	96	90.6
Post-menopausal bleeding	86	81.1
Cervical cancer screening		
Screening should be started age between 30-60 years	53	50.0
Screening should be started 3 years after assuming a sexual relationship	53	50.0
Appropriate timing is 7-10 days after menstruation	67	63.2
Appropriate interval of screening is every 3-5 years	7	6.7

Table 2. presents the respondents' knowledge about cervical cancer. The majority, 100 (94.3%) of respondents believe that cervical cancer is preventable. 94 (88.7%) of respondents correctly answered that cervical cancer is curable if it is detected at an early stage. Similarly, 93 (87.7%) had knowledge that the causative organism of cervical cancer is Human Papilloma Virus (HPV). Regarding the respondents' knowledge on risk factors of cervical cancer, 89.6% of the respondents perceive that early age marriage is one main risk factor for cervical cancer. Likewise, 87.7% of the respondent think that multiple sexual partners, poor personal hygiene (83%), starting sexual life early (82.1%), pregnancy before the age of 20 (82.1%) ,and giving birth to more babies (81.1%) as risk factors for developing cervical cancer. Similarly, a significant number of respondents had knowledge of sign symptoms of cervical cancer like unusual vaginal discharge (95.3%) , bleeding after sexual intercourse (90.6%), pain during sexual intercourse (87.7%), vaginal bleeding in between menstruation (85.8%) ,and knowledge on post-menopausal bleeding (81.1%).

Likewise, for knowledge of cervical cancer screening, the majority 67 (63.2%) of respondents correctly answered that the appropriate timing for screening is 7-10 days after menstruation. Similarly, half 53 (50%) of the respondents knew that cervical cancer screening should be started at the age between 30-60 years and a similar percentage also knew that screening should be started at 3 years after assuming a sexual relationship. Whereas, only 7 (6.6%) had knowledge on an appropriate interval of cervical cancer as every 3-5 years.

Table 3. Level of knowledge regarding cervical cancer (n=106)

Level of knowledge	Frequency	Percentage
Good knowledge	68	64.2
Moderate knowledge	27	25.5
Poor knowledge	11	10.4

Table 3. shows 68 (64.2%) of respondents had a good level of knowledge on cervical cancer whereas, 27 (25.5%) had moderate knowledge and only 11 (10.4%) had poor level of knowledge regarding cervical cancer.

Table 4. Association between levels of knowledge with selected variables (n=106).

Variables	Level of knowledge			*Test Stats	p-value
Age group	**Low**	**Moderate**	**High**		
<30	8 (72.7%)	17 (63%)	45 (66.2%)	3.092	0.797
31-35	2 (18.1%)	6 (22.2%)	14 (20.6%)		
36-40	1 (9.1%)	3 (11.1%)	9 (13.2%)		
>40	0 (3.7%)	1 (3.7%)	13 (12.3%)		
Marital status					
Married	10 (9.9%)	26 (25.7%)	65 (64.4%)	0.453	0.797
Unmarried	1 (20%)	1 (20%)	3 (60%)		
Religion					
Hinduism	10 (10.3%)	21 (21.6%)	66 (68%)	14.532	0.006
Buddhism	0 (0%)	6 (75%)	2 (25%)		
Christianity	1 (100%)	0 (0%)	0 (0%)		
Education					
Bachelor	9 (11.7%)	16 (20.8%)	52 (67.5%)	2.978	0.562
Master	2 (6.9%)	11 (37.9%)	16 (55.2%)		
Family history					
No	10 (10.8%)	24 (25.8%)	59 (63.4%)	0.204	0.903
Yes	1 (7.7%)	3 (23.9%)	9 (69.2%)		

* indicates Chi-Square test or Fishers Exact test

Table 4. presents the association between the levels of knowledge with different variables. A significant statistical association was found only with the level of knowledge and religion (p= 0.006).

Table 5. Sources of knowledge (n=106)

Variables **	Frequency	Percentage
Mass media	16	15.1
Family members	29	27.4
Health workers	54	50.9
Friends Participated in the awareness program	52 16	49.1 15.1

** Multiple responses

Table 5. shows half 54 (50.9%) of the respondents had gained knowledge from health workers followed by friends 52 (49%), family members 29 (27.4%) and only 16 (15.1%) from participating in an awareness program.

Discussion

The present study reveals that, out of 106 respondents, the majority, 94.3% had knowledge of the fact that cervical cancer could be prevented and 88.7% of respondents had correctly answered that cervical cancer is curable if diagnosed in early stage. Similar findings were also reported in a recent study conducted in Gondar town, North West Ethiopia in which about 87.9% and 84.3% of the study participants pointed cervical cancer was preventable and curable respectively. More than half of the participants 71.3% were not aware of HPV infection (Negash et al., 2023).

Regarding the risk factors of cervical cancer, the present study reveals that the majority of the respondents had knowledge of the risk factors for cervical cancer. But the contrasting result was reported in the study conducted in the Kingdom of Saudi Arabia by Aldhafar et al. (2016) and in Riyadh by Alammar et al. (2018) where most of the participants had inadequate knowledge of risk factors for cervical cancer.

Likewise, in the majority of the respondents, a com-

paratively high level of knowledge was found regarding signs and symptoms of cervical cancer (Table 2.) than the study conducted in Saudi Arabia (Aldhafar et al., 2016) where 50.6% of participants were aware of vaginal bleeding between menstruation, 25.8% of painful sexual intercourse, 55.1% of postmenopausal bleeding, and 21.1% of bleeding during or after intercourse as a symptom of cervical cancer.

The present study revealed that the majority of the respondents (63.2%) were aware of cervical cancer screening tests. But the contrast result was found by Sherpa et al. (2020) where only 33% of the respondents had heard about cervical cancer screening tests. Similarly, Toye et al. (2017) also found school teachers' knowledge about cervical cancer screening was poor.

The findings of this study reveal that 64.2% had a good level of knowledge, 25.5% had moderate level of knowledge and only 10.4% had poor knowledge of cervical cancer. Whereas, the contrasting result was found in the study conducted by Ehwarieme and Emina (2022) revealing that only 14.5% have good knowledge, 58.2% female teachers have fair knowledge ,and 27.3% female teachers have poor knowledge of cervical cancer. Likewise, the study conducted in Nigeria also found a low to moderate level of knowledge about cervical cancer among school teachers (Enebe et al., 2021).

Regarding the association between levels of knowledge with selected demographic variables. There is a significant association between levels of knowledge and religion (p=0.006). There were no significant associations between the level of knowledge and other demographic variables.

The main sources of information regarding cervical cancer were health workers, friends , family members , and awareness programs (Table 5.). Similar findings were also found in the study conducted among female secondary school teachers in Enugu, Nigeria, which showed that healthcare workers (37.2%), mass media (30.2%), and friends (17.6%) as a medium to get information about cervical cancer (Enebe et al.,2021). But the contrast was found in the study conducted by Soeung et al.(2022) in Cambodia which reported that the most common sources of information were relatives, friends, and colleagues, followed by doctors, television, and the internet.

Conclusion

The majority of female school teachers had a good level of knowledge on cervical cancer. A significant statistical association was found in the level of knowledge and religion (p= 0.006). Since the respondents were female school teachers, they play a significant role in public alertness regarding awareness and prevention of cervical cancer which could ultimately contribute to reducing cervical cancer-related mortality and morbidity in the country.

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