

## Knowledge of Cervical Cancer and Screening Practices among Women in Bindura District, Mashonaland Central Province, Zimbabwe

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### ABSTRACT

Cervical cancer (CaCx) is the most common cancer among women and is also the major cause of death worldwide. It is the most common cancer among black Zimbabwean women accounting for 29.4% of the cases. The purpose of this study was to determine the knowledge of cervical cancer and screening practices among women in Bindura District, Zimbabwe. A descriptive cross-sectional research study was conducted. The study sample consisted of 100 consenting women who were selected from Bindura Hospital, Chipadze and Chiwaridzo Council Clinics using simple random sampling method. Data were collected by face-to-face interviews using a questionnaire as a guide. Data were processed using Statistical Package Social Sciences (SPSS) software version 20 and analyzed descriptively. Data revealed that knowledge of risks factors and preventive measures for cervical cancer was poor as only (31%) had high knowledge levels. Although the majority of the respondents (77%) had heard about cervical cancer screening only (22%) were screened, the major reason cited being lack of knowledge. Perception of risk for cervical cancer was poor as (58%) of the respondents did not perceive to be at risk of cervical cancer. The study revealed that cervical cancer knowledge level was very low and screening practices were very poor. Therefore, health care providers need to intensify awareness on cervical cancer through health education across women of all age groups. The government should also make cervical cancer screening available and accessible at most health care facilities.

Keywords: cervical cancer; knowledge; screening practices; perception

### INTRODUCTION

Cervical cancer is the most common cancer among women and is also the major cause of death worldwide. Cervical cancer is the fourth most common cancer among women globally, with an estimated 604 000 new cases and 342 000 deaths in 2020. About 90% of the new cases and deaths worldwide in 2020 occurred in low- and middle-income countries (Sung et al, 2020). Cervical cancer is the leading cause of cancer death for women in Zimbabwe. There were 3 043 (29.4%) new cases in 2020 of cervical cancer according to the estimates by the International Association for Cancer Research (GLOBOCAN Project, 2020). According to Chokunonga et al, (2013) in the Zimbabwe National Cancer Registry, TRIENNIAL REPORT (2010 - 2012) cervical cancer is the most common cancer among women in Zimbabwe, accounting for about 11.4% of all cancer cases among black women. In Zimbabwe free cervical cancer screening programmes using VIA were introduced in the country beginning 2013. At Bindura Provincial Hospital this program started in April 2013. Despite this scaling up of cervical screening services in order to reduce morbidity and mortality from cervical cancer, uptake of cervical screening services has remained low among women in Bindura District.

A study carried out by Gundani and Chipfuwa (2013) at Bindura Provincial Hospital Opportunistic Infection Clinic (OIC) in April to May 2012 revealed that cervical cancer screening attendance rates were very low. Of the 70 study participants who were interviewed at the OIC 97.1% of them did not know about cervical cancer screening which can contribute to low uptake of the services. This study was also supported by unpublished records which show that although the estimated number of women of child bearing age in Bindura District is 40636 only 1715 women, (4.22%), have been screened for cervical cancer since the introduction of free screening using VIA in April 2013 up to the end of August 2013. Incidences of cervical cancer can only be reduced if uptake of cervical cancer is increased and the screening is linked with

early provision of treatment to prevent the development of cancer. Furthermore, according to World Health Organization - Cervical Cancer Country Profiles, (2021), Zimbabwe recorded 57 100 total cervical cancer deaths in 2019. By 2021 Zimbabwe had a National screening programme for cervical cancer with the Primary screening test being Visual Inspection with Acetic Acid (VIA) targeting ages from 30 – 50 years. However, there is no programme/guidelines which exist to strengthen early detection of first symptoms at primary health care level, neither is there clearly defined referral system from primary care to secondary and tertiary care. By 2019 only 1 in 10 (10%) women had been screened of cervical cancer in the last 5 years (WHO, 2021). Available data shows that cervical cancer is more prevalent in Zimbabwe and screening uptake is low. Therefore the aim of this study was to determine the knowledge level of cervical cancer and screening practices among women in Bindura District, Zimbabwe.

A study By Touch and Oh (2018) among Cambodian women revealed that women in the Kampong Speu province of Cambodia had a low awareness of cervical cancer screening and rarely practiced cervical cancer screening. However, the willingness to get Pap test and HPV vaccination is high. In another study by Kumari, Ojha and Bista (2022) among women attending a gynaecology clinic at a Tertiary Level Hospital, Nepal revealed that 44.1% had adequate level of knowledge. Statistically significant correlation ( $p$  value  $<0.05$ ) was noted between knowledge and education, age and living status. The level of knowledge was higher in married women. Hundred percent of the respondents in this study showed a positive attitude towards cervical cancer screening. Furthermore, the level of practice was low (17.6%). Another study in Nepal revealed similar findings were knowledge and screening practices for breast and cervical cancer among Nepali women were poor (Rademaker, Bhandary & Harder, 2021).

A study by Heena et al (2019) in Saudi Arabia revealed that only (4.0%) participants appeared to had good level knowledge of cervical cancer (in terms of risk factors, vulnerability, signs and symptoms, ways of prevention, and ways of screening) and (14.7%) participants had fair level knowledge. Furthermore, only (26.2%) participants had undergone Pap smear testing. Similar findings were found in a study in Gondar town, Ethiopia were only (19.87%) of the participants were found having a good knowledge of cervical cancer and its prevention. The study concluded that the overall knowledge of women towards cervical cancer was inadequate hence the need for large scale awareness campaign (Mengesha, Messele and Beletew, 2020). Taneja et al (2021) among women in India revealed that only (20.31%) had good knowledge and (43.64%) had positive attitude regarding Cervical Cancer screening. Furthermore, only 13.22% had undergone Cervical Cancer screening. Studies by Rimande-Joel et al, (2019) & Siddig et al, (2023) in Nigeria and Sudan respectively revealed that the participant's knowledge and attitudes levels are mainly driven by their occupation, age educational level, family income, religion, and marital status altogether. However, knowledge about cervical cancer did not translate to right belief and good practice. Furthermore, Iddrisu et al(2023) reported that a combination of socio-cultural and economic factors influences the delay in reporting cancer in Ghana. Novelia et al(2022) reported that increase in knowledge translated to good practices.

A cross-sectional study conducted by Mabelele, Materu, Ng'ida and Mahande(2018) in Tanzania showed that knowledge of cervical cancer was low, where 82.7% of the women scored less than 50%. However, the majority (82.4%) were aware about cervical cancer. Only 14.3% of participants practiced cervical cancer screening hence the recommendation for strategies for awareness creation about cervical cancer which may help to improve knowledge and utilization of cancer screening practices. Surakatu et al (2022) did a study in Nigeria which revealed that the majority of the participants (80.2%) had an overall poor knowledge of cervical cancer. Although the majority (91.2%) had positive attitude towards cervical cancer screening, screening practices were poor as only 9.9% had been screened. When formal screening programs are not in place, cervical screening is mostly "opportunistic," which means women attending the clinics for other ailments are directed by the healthcare workers for cervical cancer screening. Therefore, there is need for formal screening programs in Zimbabwe like VIAC clinics.

A study by Gwavu, Murray & Okafor (2023) in a Qualitative Study in South Africa reported that while the majority of participants were aware of cervical cancer and Pap smears, they lacked more specific knowledge of what this cancer is or its related causes. Although some participants had had a Pap smear done, they neither knew how the procedure was done nor the reasons for it. Notably, those with previous experience indicated that they had regular screenings. The findings emphasised women's limited knowledge of cervical cancer and Pap smears.. It is highly recommended to have Pap smear done in women above 21 years of age . Also, HPV vaccine can be taken by women until the age of 26 years (CDC, 2022). A situation analysis by Kuguyo et al, (2017) on cervical cancer in Zimbabwe revealed that the general knowledge and understanding of cervical cancer is poor in Zimbabwe. The analysis concluded that the limitations in resources, infrastructure, manpower, delays in treatment and patient knowledge play a role in the high morbidity and mortality of cervical cancer in Zimbabwe. Furthermore, the researchers recommended that the Ministry of Health needs to increase funding to expedite the availability of HPV vaccine and screening programs. Community engagement initiatives

to raise awareness on cervical cancer should be established to provide education on how to prevent the development of cervical cancer, as well as promote screening for early detection.

One of the studies done in Zimbabwe by Tapera et al, 2019 revealed different levels of knowledge of causes (23%), risk factors (71%), prevention (72%), screening (73%) and treatment (80%) of cervical cancer. Reasons of low screening uptake among them: lack of knowledge, beliefs that cervical cancer was not treatable, misconception that cervical cancer was caused by witchcraft or avenging spirits, fear of the unknown, limited screening services and negative health worker attitudes. Furthermore, the study concluded that despite relatively high levels of knowledge of cervical cancer prevention, screening and treatment, specific knowledge of causes, risk factors, access to primary care and routine utilization of screening services remains suboptimal (Tapera et al, 2019). A cross-sectional questionnaire survey in Chegutu district, Zimbabwe reported that about 5.8% of women had undergone screening and (41%) had poor knowledge regarding risk factors, groups, symptoms and prevention. The major barriers of cervical cancer screening were the unavailability of screening services at local health institution (84%), long distances to such facilities (86.5%) and religious prohibition (39.7%) (Nyamambi, Murendo, Sibanda & Mazinyane, 2020). These findings concur with results by Mutambara et al, (2017). A study by Fitzpatrick et al, (2020) in rural Zimbabwe reported that most women (81%) in rural Zimbabwe have heard of cervical cancer, but the number that had been screened was low (5%). A study by Mapanga, Girdler-Brown and Singh (2019) reported similar findings. It is against this background that the researcher sought to determine the knowledge of cervical cancer and screening practices among women in Bindura District, Mashonaland Central Province, Zimbabwe.

## METHOD

This review followed the Meta-analyses Of Observational Studies in Epidemiology (MOOSE) standards. We comprehensively searched Scopus, PubMed, and Web of Science English-language publications published until October 15, 2022. The quality of the retrieved studies was assessed using the approach of Gascon et al. The initial search yielded papers with citations, of which five papers were included in the final analysis. The following terms were utilized throughout our systematic search: HIV or AIDS, cross-referenced with fair practice, treatment, therapy, or intervention in the title or abstract of the articles. We restricted the search to only English-language articles published over the last ten years (2012–2022) and to works solely published in English.

## METHODS

### Study Design

The researcher used a descriptive research design using a questionnaire to generate quantitative data to gain insight into participants' awareness and knowledge related to cervical cancer and cervical cancer screening.

### The Sample

The study sample was 100 (n=100) women of child bearing age (18-49 years), attending postnatal clinic, family planning clinic and immunization sessions at Chiwaridzo polyclinic, Chipadze clinic and Bindura Hospital.

### Sampling Procedures

The researcher used simple random sampling in which each unit in the sample is given a number; these are then put in a proverbial hat and numbers are drawn one at a time until the size of the sample, specified in advance, is reached (Parahoo, 2006). The inclusion criteria were all women aged 18-49 years attending postnatal clinic, family planning clinic and immunization sessions at Chiwaridzo polyclinic, Chipadze clinic and Bindura Hospital.

### Research Instrument

A questionnaire with 3 sections: Section A: Demographic data, Section B: knowledge of cervical cancer screening and Section C: Cervical cancer screening practices was used to collect the data. The questionnaire was constructed by the researcher from relevant literature. According to the designed instrument the knowledge scores ranged from 0 – 28 with 0-13 being low knowledge, 14-20 being moderate knowledge and 21-28 being high knowledge.

### Validity and Reliability of the Instrument

In order to test validity and reliability a pilot study was carried out. Some questionnaires were distributed among 10 women of childbearing age who visited the postnatal clinic, family planning clinic, and immunization clinic. The chosen mothers in the pilot study were not part of the target group or study population. Cronbach's alpha ( $\alpha$ ) is an estimate of

reliability, specifically the internal consistency, of a test or scale (Johnson, 2021). A Cronbach's alpha ( $\alpha$ ) of 0.87 was found. Content validity was ensured by giving the questionnaire to experts in the Health Sciences Department for verification and validation. A content validity ratio (CVR) of 0.85 was observed (Glen, 2021).

### **Data collection**

After obtaining approval from the Zimbabwe Open University Ethics Review Committee, permission to carry out the study was further sought from the Medical Superintendent, Bindura Provincial Hospital. Verbal permission was sought from the Nurse-in-Charge of the Antenatal Clinic (ANC) and Postnatal Clinic (PNC). Informed consent forms were then distributed to the participants as they visit the hospital and clinics for ANC and PNC services. Guided interviews were then conducted in private and quiet rooms in the clinics. It took about 5 to 10 minutes to complete the questionnaire.

### **Ethical Considerations**

Ethical Approval was obtained from the Zimbabwe Open University Ethics Review Committee. Permission was also granted by management of the study setting. Study was conducted in accordance with ethical standards laid down by 1964 Declaration of Helsinki (World Medical Association, 2013).

### **Data Analysis**

Polit and Beck (2017) defined data analysis as the systematic organization and synthesis of research data and testing of hypothesis using that data. Data was analysed using Statistical Package for Social Sciences (SPSS, version 25) and descriptive statistics.

## **RESULTS**

A total of 100 women attending antenatal and postnatal clinic were recruited for the study. The response rate was 100%. Data was analysed using SPSS package and presented in tables and figures.

### **Demographic data**

Table 1 show that the majority of the respondents (37%) were aged between 18 and 25 years. Eighty eight percent (88%) of the women were married. Most of the respondents (69%) had secondary education, 20% had primary education, and 7% had tertiary education whilst 4% did not attend school. The highest number of participants (57%) were not employed, 18% were employed whilst 25% were self-employed. Nineteen percent (19%) of the participants earned USD100 to USD200, 10% earned USD201 to USD300, 3% earned USD301 to USD400, 7% earned USD401 and above and 57% had no income. In terms of religion, Christians constituted the highest number of respondents (83%), 3% were Moslems and 14% were non-believers (Table 1).

### **Knowledge about cervical cancer risk factors**

Thirty-three percent (33%) of the respondents correctly identified that early sexual debut predisposed them to cervical cancer. Sixty-one percent (61%) stated correctly that multiple sexual partners predispose to cervical cancer. Sixty-three percent (63%) correctly identified that a partner with multiple partners predisposes to cervical cancer. The majority of the respondents (70%) correctly identified sexually transmitted diseases as a risk factor. Fifty four percent (54%) of the respondents correctly stated that HIV infection predisposes to cervical cancer whilst (34%) did not know. Thirty two percent (32%) correctly identified smoking as a risk factor and (45%) did not know. Fifteen percent (15%) correctly stated that multiparity predisposes to cervical cancer, (44%) did not agree and (41%) did not know (Table 2).

Table 1. Demographic Data (N=100)

Variable	Frequency (n)	Percentage (%)
<b>Age (years)</b>		
18 – 25	37	37.0
26 – 33	33	33.0
34 – 41	18	18.0
42 – 49	12	12.0
<b>Marital Status</b>		
Single	5	5.0
Married	88	88.0
Divorced	2	2.0
Widowed	5	5.0
<b>Highest Academic Qualification</b>		
Did not attend	4	4.0
Primary level	20	20.0
Secondary level	69	69.0
Tertiary Level	7	7.0
<b>Employment status</b>		
Employed	18	18.0
Unemployed	57	57.0
Self employed	25	25.0
<b>Income per month</b>		
US\$100 and less	19	19.0
US\$101 -200	4	4.0
US\$201 – 300	10	10.0
US\$301 – 400	3	3.0
US\$410 and above	7	7.0
No income	57	57.0
<b>Religion</b>		
Christian	83	83.0
Moslem	3	3.0
None	14	14.0

Table 2. Knowledge of Cervical Cancer (N=100)

Variable	Response (%)		
	Correct	Incorrect	Do not know
<b>Risk Factors</b>			
Early sexual debut	33	15	52
Multiple sex partners	61	7	32
Partner who has multiple partners	64	8	28
Sexually Transmitted Infection	70	6	24
HIV infection	54	12	34
Smoking	32	23	45
Multi-parity	15	44	41
<b>Prevention</b>			
Delay sexual debut	33	17	50
One faithful sexual partner	68	13	19
Regular screening for CaCx	98	0	2
Correct consistent condom use	49	18	33
Vaccination for prevention	84	5	18
Frequency of CaCx Screening	22	33	45
Where is CaCx Screening done	49	13	38

**Total Knowledge Scores about Cervical Cancer (N=100)**

Twenty-seven percent (27%) of the participants had low knowledge, 42% had moderate knowledge, and 31% had high knowledge (Table 3).

Table 3. Total Knowledge Scores (N=100)

Variable	Low knowledge		Moderate knowledge		High knowledge	
Knowledge score	0-13		14-20		21-28	
	Frequency	%	Frequency	%	Frequency	%
	27	27	42	42	31	31

**Cervical Cancer Screening Uptake (N=100)**

The majority of the participants (78%) had never been screened and only (22%) had ever been screened for cervical cancer (Figure 1).

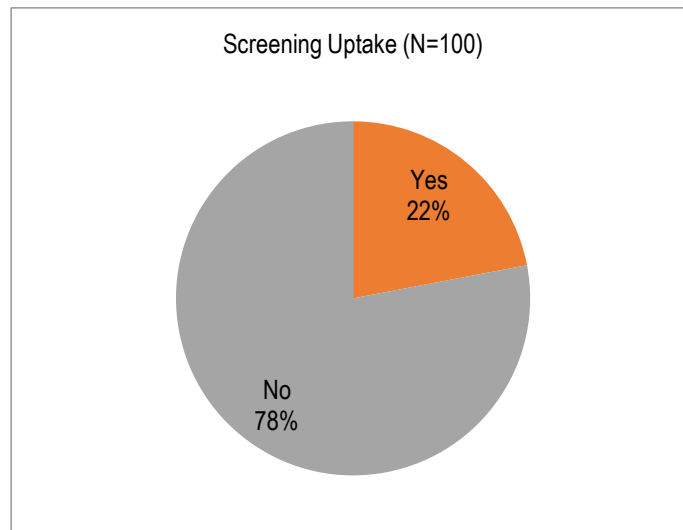


Figure 1. Ever been Screened (N=100)

**Reasons for failure to be screened (N=78)**

Of the seventy eight percent (78%) not screened for cervical cancer, (17%) stated that they had no time to go due to other commitments, 8% said they were not advised by anyone to take up the test, and (11%) did not perceive themselves to be at risk. Three percent (3%) thought that the procedure is painful, (14%) thought it was too expensive to get to the nearest testing facility, (1%) was afraid of a positive result whilst (23%) did not know about it (Table 3).

Table 3. Reasons for Failure to be Screened (N=78)

Reasons for failure to be screened	Percentage (%)
No time to go for test	17.0
Thought the programme was over	1.0
Not advised to do so	8.0
Did not see the need	11.0
Thought that procedure is painful	3.0
Too expensive to get to the nearest testing facility	14.0
Fear of a positive result	1.0
Did not know about it	23.0
<b>Total</b>	<b>78.0</b>



**Perceived risk of cervical cancer (N=100)**

Forty two percent (42%) of the participants thought they were at risk, 14% perceived themselves to be not at risk whilst 44% did not know whether they are at risk or not (Figure 2).

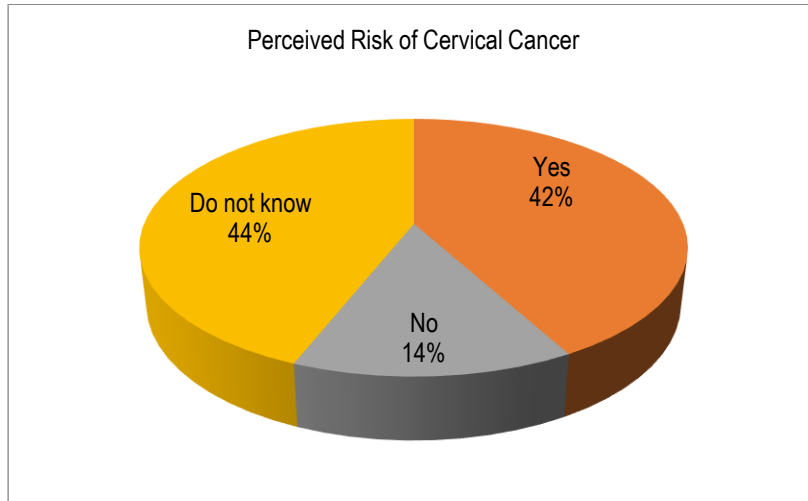


Figure 2. Are You at Risk of Cervical Cancer (N=100)

**Intention to be screened for cervical cancer in the future (N=100)**

Table 4 shows that the majority of the respondents (78%) would want to be screened in future, (1%) did not know and (1%) was not willing (Table 4).

Table 4. Intention to be Screened for Cervical Cancer in Future (N=100)

Screening in future	Frequency(n)	Percentage (%)
Don't know	1	1.0
No	1	1.0
Yes	98	98.0
<b>Total</b>	<b>100</b>	<b>100.0</b>

**DISCUSSION**

The majority of the respondents (88%) were married, (96%) had formal education, (57%) were unemployed, (57%) had no income and a large number (83%) were Christians. These demographic characteristics have a bearing on one's knowledge and screening practices on cervical cancer as reported by Rimande-Joel et al, (2019) & Siddig et al, (2023). Participants' age, educational status, marital status, monthly income, religion, and knowledge were associated factors for cervical cancer screening practice; the main reason they did not get screened was that they felt healthy.

Quite a number of respondents (52%) did not know that early sexual debut is a risk factor for cervical cancer, while 70% and 64% correctly identified Sexually Transmitted Infection (HPV) and partner who has multiple partners as risk factors respectively. Generally, knowledge on risk factors for CaCx was poor. These findings are in line with findings reported by Nyamambi et al, (2020) & Mutambara et al, (2017). Furthermore, these findings are inconsistent with Tapera et al, (2019) who reported relatively high levels of knowledge of specific of causes and risk factors of cervical cancer. Some of the respondents could identify CaCx preventive measures such as regular screening for CaCx (98%) and vaccination for prevention (84%) however more than half (78%) could not identify regular screening of CaCx as a preventive measure. Quite a number (51%) could not identify where CaCx screening is done (Tapera et al, 2019). These findings are consistent with reports by Mabelele et al, (2018) in Tanzania which showed that knowledge of cervical cancer was low. Gwavu et al, (2023) also reported similar findings in a study in South Africa. Interestingly, the study revealed that only (31%) of the respondents had high knowledge levels with only 42% having moderate knowledge levels (Gwavu et al, 2023). These results show that while targeted action is required in urban Zimbabwe, the rest of the country, and the region in general, also require cervical cancer knowledge dissemination. These findings are consistent with reports by Kuguyo et

al, (2017) in Zimbabwe which revealed that the general knowledge and understanding of cervical cancer is poor in Zimbabwe. Furthermore, Surakatu et al (2022) reported similar findings in Nigeria where (80.2%) had an overall poor knowledge of cervical cancer. Nyamambi et al, (2020) had similar findings with the study.

The majority of the participants (78%) had never been screened and only 22% had ever been screened for cervical cancer. This shows that cervical screening practices are very poor among these women attending ANC and PNC. These findings are consistent with findings by Chipfuwa et al (2014) were only (4.22%) had been screened for cervical cancer. Kumari et al (2022) also reported that the level of practice was low (17.6%). Similar findings were reported by Rademaker et al, (2021); Taneja et al, (2021); Mabelele et al, (2018); Mutambara et al, (2017) & Mapanga et al, (2019). Cervical cancer screening is highly recommended by the World Health Organization (WHO) to prevent invasive cervical cancer. Women who are aware about Cervical Cancer they are more likely to take up measures of prevention by seeking medical attention and early screening.

Furthermore, women having knowledge of Cervical Cancer were most likely to get early detection and seeking early medical advise. Also there was positive attitude because women were willing to participate in screening programs if provided. Major reasons for not getting tested of cervical cancer were: no time to go for test (17%), did not see the need (11.0%), too expensive to get to the nearest testing facility (14.0%) and (23.0%) did not know about it. These barriers to cervical cancer screening are consistent with what was reported by Nyamambi et al (2020) in rural Chegutu, Zimbabwe. Mutambara et al, (2017); Fitzpatrick et al, (2020); Tapera et al, 2019 & Mapanga et al, (2019) reported similar findings. The findings are consistent with what was reported by Siti Nurjanah et (2022) were (60.0%) of the participants did not participate in the early detection of cervical cancer using the Acetic Acid Visual Inspection (IVA) method. Perceived risk of cervical cancer was reported by (42%) of the respondents. Moreover, (98%) of the respondents expressed willingness to be screened for cervical cancer in future. This shows a positive attitude towards screening as reported by Surakatu et al, (2022) in Nigeria were the majority (91.2%) had positive attitude towards cervical cancer screening.

## CONCLUSION

The research findings indicated that the women had very low knowledge levels regarding cervical cancer and cervical cancer screening was poor. Therefore, Health Care personnel should ensure that adequate and appropriate information through health education is given so that women are informed about the importance of regular screening so that early detection and treatment for cervical cancer can help prevent death from a preventable disease.

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## DISCLOSURE AND CONFLICTS OF INTEREST

Authors hereby declare no conflict of interests.

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