

Factors Affecting Cervical Cancer Screening Amongst Women Attending Postnatal Clinic at Windhoek Central Hospital, Namibia.

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Abstract

Cervical cancer is one of the most debilitating diseases known to mankind. Many industrialized countries have reduced the incidence of cervical cancer through preventive measures. This study adopted a descriptive cross-sectional and phenomenological design to explore the

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factors influencing cervical cancer screening amongst 200 conveniently chosen women who attended the postnatal ward at Windhoek Central Hospital in Windhoek. The study instrument was a researcher-administered questionnaires and interview guide. The quantitative data was analysed with SPSS and qualitative data were analysed by Tanner and Diekelmann method. Of the 200 women who participated in the study, only 59 (29.5%) had undergone screening for cervical cancer in the past 12 months, whereas 141 (70.5%) had never had screening at any point in their lives. There was a significantly low rate of screening in women younger than 25 years, There was no correlation between cervical cancer screening and prior knowledge of screening services before the study. Identified barriers to screening are fear surrounding cervical cancer screening, socioeconomic status and lack of awareness of cervical cancer screening. Despite a higher proportion of women who are aware about cervical cancer screening services, there was a low practice of screening among women attending the postnatal. Efforts to increase women's participation in cervical cancer screening must target the barriers identified by this study.

Keywords: cervical cancer, cervical cancer screening, pap smear, Human Papillomavirus

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A study in 2019, found that Namibia has, on average, about 236 women diagnosed with cervical cancer, and a minimum of 135 women dying annually from the disease (Namibia Human Papillomavirus and Related Cancers, Fact Sheet, 2019). Therefore, the present study aimed to explore the factors influencing cervical cancer screening amongst women who attended the postnatal ward at Windhoek Central Hospital in Windhoek.

Literature Review

The World Health Organization (2020) describes cervical cancer as one of the most debilitating disease known to mankind. In developing countries cervical cancer is the second most common cancer (WHO, 2020). Similarly, cervical cancer is the second most common cause of cancer-related deaths in women in developing countries, yet it can be prevented at different levels namely, prevention of acquisition of human papilloma virus (HPV) which is now well known to be the cause of cervical cancer; early detection and management of precancerous conditions particularly CIN II & CIN III and; treatment of early malignant conditions (early-stage cancer). Screening for precancerous conditions is done any time for non-pregnant women but it is also one of the preventive health care services provided to women at the end of the postnatal period.

However, even though various screening tests do exist for early detection of premalignant conditions of the cervix, cancer of the cervix still remains the

third leading cancer present in women and the second leading cause of cancer-related deaths among women in developing countries (WHO, 2020). Internationally, cervical cancer remains a persistent problem. According to the World Health Organization (2019), every 60 seconds a patient is diagnosed with cervical cancer and if this problem is not addressed, the mortality rate is expected to rise by nearly 50 percent in 2040.

In India, a cross-sectional study was conducted by Varughese et al. (2016), which investigated women living in Punjab. Of the 304 women interviewed, only 28.9% had heard of cervical cancer, while only 12.2% knew that it is preventable, and 95.7% of them had never heard of a pap smear before. The study concluded that having insufficient knowledge about cancer and screening is by far the greatest obstacle. A Ghanaian study focused on the awareness and factors affecting cervical cancer screening highlighted why cervical cancer cases is escalating (Prempeh, 2018). Of the 395 women that completed the questionnaire, 92.2% had never attended screening clinics and only 11.6% had adequate knowledge of cervical cancer. The study showed that women above 35 years were less willing to go for screening than younger women. The study recommended that by enhancing and improving the availability of screening services, more women would utilize the services. (Prempeh, 2018).

According to Bouassa et al. (2017) cervical cancer cases are on the rise in Sub-Saharan Africa, with an average of 75 000 newly diagnosed cases annually. A study by Mcfarland et al. (2016) gathered published data from 17 articles dated 2006 to 2015 and assessed the major factors hindering women in ten Sub-Saharan African countries from going for screening. The

most evident findings were that clinicians fail to educate patients on screening adequately and to motivate them to utilize the screening services. Patients only consider going for screening for cultural and/or religious purposes or if the patient experiences any gynaecological problem. Health facilities are also not accessible to all or even available to people living in remote areas.

Objectives of the Study

To assess the knowledge women in Namibia have about cervical cancer screening.

To find out the perception of women in Namibia towards cervical cancer screening.

To identify the barriers to cervical cancer screening among women attending the PNW.

Method and design

A mixed-method's approach was chosen for this study because qualitative and quantitative data sets are combined to increase its validity. A cross sectional and exploratory phenomenological design was used.

The study settings

The study was conducted at the Windhoek Central Hospital (WCH) Post Natal Ward. The hospital is the national referral hospital in the country. Being a national referral hospital, patients with complaints that cannot be managed in regional hospitals from all over Namibia are referred to Windhoek Central Hospital.

Study Population and Sampling Procedure

All the Women of childbearing age who were admitted to the postnatal ward of the WCH between April and June 2022 and met the inclusion criteria were enrolled onto the study after consenting. A total of 200 women participated in the study. The selection criteria were as follow: Women aged 18 years and above admitted on post-natal ward in Windhoek Central Hospital.

Data Collection Tool

A pre-tested questionnaire that was created in English and translated into Afrikaans was used to gather the survey data while an interview guide was used for the Key Informant Interviews. The instrument was based on the questionnaire used in the study by Ahmed et al. (2013). For mothers who did not speak English and Afrikaans, the researcher or a suitably trained medical student translated the information into the local language.

Data Collection

In the study, a mixed (both quantitative and qualitative) method of data collection was used. **Quantitative component:** All study participants were given a questionnaire containing closed-ended questions, which they could

either read and respond to themselves or, in the case of participants who couldn't read or understand English, the researcher could ask the questions in the language they understand and write down their responses.

Qualitative component: Data was collected through semi-structured face-to-face interviews which were conducted by the researchers in the tearoom for privacy and confidentiality. The aim and ethical aspects of the study were explained to the participants and consent was obtained before data collection commenced. All interviews were captured using a voice recorder and field notes.

Data Analysis

Quantitative Data Analysis

Quantitative data obtained from the questionnaires was initially checked for correctness and then analysed on SPSS version 17. Statistical analysis was performed to calculate relative risk, 95% confidence interval and the p-value. Associations between variables such as educational level, socioeconomic status, etc. and the actual cervical cancer screening behavior were established.

Qualitative Data Analysis

Qualitative data analysis was done through coding for key clauses from the interview, using a code book, before transcription. Through this, the main factors identified that influenced cervical cancer screening were (1) fear surrounding cervical cancer screening, (2) socioeconomic status and (3) awareness levels of women regarding cervical cancer screening. Based on the

results, conclusions and recommendations were made on the factors affecting cervical cancer screening uptake.

Ethics

Permission to carry out a study on human subjects was sought and obtained from the Ministry of Health and Social Services, UNAM Research Ethics Committee (UREC) and WCH. Only patients that gave their consent were included in the study. All patients were informed that they were free to opt out of the study at any moment and that treatment would not be withheld from them for not participating in the study. Confidentiality as well as the privacy of the patients, were adhered to by conducting the interview in a private room at the hospital's maternity ward. All information collected from participants was stored in a locked cabinet that was only accessible to the researcher.

Results

Quantitative Data

Out of 200 PNW who participated in the study, a majority (65%) came from Windhoek), while the rest were referrals from other regions. Most of the participants (31.5%) were less than 25 years of age, and 18% were over 40 years. Regarding marital status, 173 (86%) of the participants were not married, 21 (10.5%) were married and one (%) was a divorcee. The biographical data is shown in table 1 (below).

Table 1*Characteristics of Study Participants*

Characteristic	Total Participants	Frequency
Residence		(%)
Urban	130	65
Rural	70	35
Total	200	100
Age range(years)		(%)
<20	63	31
21-30	60	30
31 -40	59	29.5
>40	18	9
Total	200	100
Marital status		(%)
Unmarried	173	86.5
Married	21	10.5
Divorced	0	0
Cohabiting	5	2.5
Widow	1	0.5
Total	200	100
Level of Education		(%)
No Formal Education	5	2.5
Primary Level	23	11.5
Secondary Level	130	65
Tertiary Level	42	21
Total	200	100
Employment Status		

Employed	66	33
Unemployed	134	67
Total	200	100
Approximate income (NAD)		
0-500	123	61.5
501-1 500	35	17.5
1 501-5000	30	15
5 001-10 000	6	3
>10 000	6	3
Total	200	100

Most patients had some form of education, with only 5 (2.5%) having no formal education. The majority of women had secondary-level education (65%). A majority (134; 67%) participants were unemployed, whereas 33% had some form of employment. Regarding income, most women had incomes of N\$500 or less (61.5%), with the joint-lowest income being in the N\$5 001-10 000 and >10 000 groups. The majority of women had good knowledge about both cervical cancer and cancer in general. Only 34 (17%) of the women had never heard of cancer, compared to 163 (81.5%) who had. Forty six patients (23%) had heard of someone they knew who had been diagnosed with cervical cancer, and 141 (70.5%) were aware of the disease. Only 59 patients (29.5%) had ever undergone a cervical cancer screening, despite the fact that the majority of patients (67.5%) were aware of the service.

Table 2 (below) displays the degree of knowledge that study participants' participants have about cervical cancer and its screening.

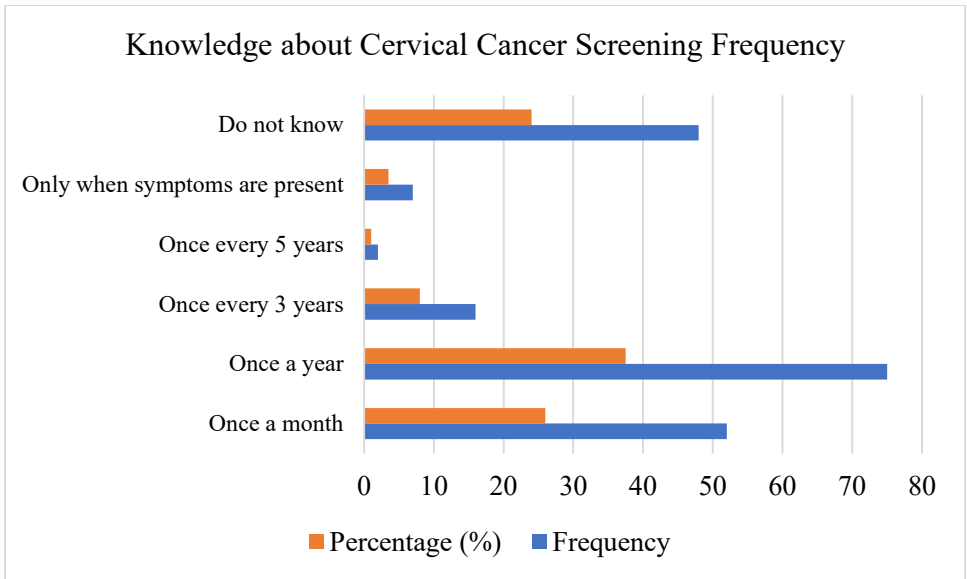
Table 2*Knowledge & Awareness Levels Before Educational Intervention*

Questions	Responses		
	Yes (%)	No (%)	Total (%)
Heard of term “Cancer”	163 (81.5)	37(81.5)	200 (100)
Know any types of Cancer.	146 (73)	54(27)	
Know of anyone who has been diagnosed with any type of Cancer.	110 (55)	90 (45)	
Heard of Cervical Cancer	141 (70.5)	59 (29.5)	
Know of anyone diagnosed with Cervical Cancer	46(23)	154(77)	
Heard of Cervical Cancer Screening	135(67.5)	65(32.5)	
Ever been screened for Cervical Cancer	59(29.5)	141 (70.5)	

Participants however had poor levels of knowledge regarding how frequently cervical cancer screening should be performed, with only 8% of participants correctly selecting the three years option. Forty-eight (24%) participants did not have any knowledge about cervical cancer screening frequency at all.

Figure 1

Knowledge about Cervical Cancer Screening Frequency



Of the 130 participants from Windhoek, 86 (66.2%) have never been screened although this is not statistically significant (p-value 0.6625). Similarly, a large but statistically not significant number (55) of women from rural areas have never had screening for cervical cancer, which represents 78.6% of all women from rural areas (p-value 0.6625). The age range with the highest percentage of participants who have had cervical cancer screening in their lives is women older than 40 years (55.6%), which is statistically significant (p-value 0.011). Conversely, 81% of women younger than 25 years never had any screening, whereas only 19% in that age group have ever been screened, which is statistically significant (p-value 0.028).

The majority of women who participated in the study were unmarried. Of these, a statistically significant proportion (74%) had never had any screening for cervical cancer (p-value 0.006). Most married women also never had cervical cancer screening (57.1%), but this was not statistically significant. The association between these selected demographic data and cervical cancer screening behavior is shown in table 3 (a).

Table 3(a)

Association between Demographic Characteristics and Cervical Cancer Screening in Women

Characteristics	Total (200)	Screened (%)	Not screened (%)	OR	95%CI	*P-Value
Residential Area						
Urban	130	44 (33.8)	86 (66.2)	1.88	1.1993-2.5527	-----
Rural	70	15 (21.4)	55 (78.6)	0.53	-0.1437-1.2097	0.6625
Total	200	59(29.5)	141(70.5)			
Ages (Years) of participants						
≤25	64	12 (19)	51(81)	0.45	-0.2704-1.11716	0.028
25-30	60	19 (31.7)	41(68.3)	1.16	0.5025-1.8145	0.660
30-40	59	18 (30.5)	41(69.5)	1.07	0.4080-1.7335	0.840
>40	18	10 (55.6)	8 (44.4)	3.39	4.3786-2.4071	0.011
Total	200	59(29.5)	141(70.5)			
Marital Status						
Not married	173	45(26)	128(74)	0.33	-0.5014-1.1543	0.006
Married	21	9 (42.9)	12(57.1)	0.194	1.0111-2.8589	0.156
Divorced	0	0 (0)	0 (0)	0		
Cohabiting	5	4 (80)	1(20)	10.8	7.9684-12.9684	0.012
Widowed	1	1 (100)	0(0)	7.26	4.0413-10.4715	0.121
Total	200	59(29.5)	141(70.5)			

*P-value t statistically significant at 0.05

In terms of educational background as a factor influencing cervical cancer screening behavior in women, a higher but statistically not significant proportion of women who had no formal education (60%) had screening in the past, and only 40% had not (p-value 0.107). One hundred and thirty-four (67%) women were unemployed. Of these, a significant proportion (77.6%) never had cervical cancer screening, with only 22.4% having been screened. Additionally, of the participants who were employed, only 36.4% had ever been screened, and 63.6% had never been screened, which is also statistically significant (p-value 0.036). A significant proportion of women who are aware (61.5%) about cervical cancer screening still never had any form of screening (p-value 0.000) and a significant proportion of those who were not aware about screening services had similarly never been screened (93.8%).

The association between educational level, socioeconomic status and awareness level, and cervical cancer screening in women is shown in table 3b.

Table 3 (b)

Association between Educational Level, Socioeconomic Status and Awareness Level, and Cervical Cancer Screening in Women.

Characteristics	Total (200)	Screened (%)	Not screened (%)	OR	95%CI	*P-Value
Educational level						
None	5	3 (60)	2 (40)	4.02	2.2020-5.8357	0.107
Primary level	23	3 (13)	20 (87)	0.35	-0.9045-1.6064	0.089
Secondary level	130	36 (27.7)	94 (72.3)	0.56	0.3121-1.6064	0.895
Tertiary level	42	42 (33.3)	28 (66.7)	1.38	0,6481-2.1132	0.386
Total	200	84(42)	144(58)			
Employment status						
Employed	66	24(36.4)	42(63.6)	1.98	1.3356-2.6263	<i>0.017</i>
Unemployed	134	30(22.4)	104(77.6)	0.40	-0.354-1.0239	<i>0.036</i>
Total	200	54(27)	146(73)			
Approximate income(NS)						
0-500	123	29(23.6)	94(76.4)	0.61	-0.0245-1.2345	<i>0.116</i>
500-1500	35	11(31.4)	24(68.6)	1.26	0.4677-1.2604	<i>0.567</i>
1500 -5000	30	9(30)	21(70)	1.16	0.3042-2.0063	<i>0.739</i>
5000 -10000	6	2(33.3)	4(33.3)	1.33	-0.3964-3.05567	<i>0.745</i>
>10000	6	4(66.7)	2(33.3)	5.61	3.8806-7.3351	<i>0.029</i>
Total	200	55(27.5)	145(72.5)			
Screening awareness						
Aware	135	52(38.5)	83(61.5)	9.55	8.4848-10.6236	<i>0.049</i>
Not Aware	65	4(6.2)	61(93.8)	0.10	-0.9647-1.1740	<i>0.000</i>
Total	200	56(28)	144(72)			

Qualitative Data

After conducting a qualitative analysis of the data, three (3) main themes regarding the fear associated with cervical cancer screening; the socioeconomic status of women, their awareness levels of cervical cancer screening emerged as critical influences on women's attitudes toward cervical cancer and screening behaviour.

Theme 1: Fear surrounding cervical cancer screening

The participants' understanding of cervical cancer screening varied widely. Some of the people who knew something about it before the interview knew that it entailed using an equipment to collect secretions from the cervix to determine whether there was malignant development. Some further stated that these discharges are taken to a lab for examination. Others claimed that in order to determine whether one has malignant cells, cells are drawn from the vagina using a plastic syringe and examined under a microscope. Participants were reluctant to go for cervical cancer screening because they believed it would be an uncomfortable process that would traumatize their vagina. An interviewed said: “I am afraid my female parts would get hurt and never work again.”

Others pointed out that it might harm nerves, causing leg or lower back pain. Whilst one woman stated that “I have heard that the instruments they use may result in cancer, so I will rather not go as I am too afraid of contracting cancer.” There were other worries connected to cervical cancer screening, including worries of infertility as a result of the instrument used during the surgery and irregular uterine bleeding afterwards. There were fears regarding the

trustworthiness of the results of screening, with some women intimating that they did not believe that the results were accurate.

Additionally, some individuals admitted to having fear about learning the reality regarding the condition of their cervix. A cross-sectional study done in Namibia's sister country, Zimbabwe, revealed that 41% preferred to rather not go for screening, as they are afraid of what the results might be (Murendo et al., 2020). They would sooner die without learning they had cancer than endure the mental anguish that comes with a diagnosis as fatal as cervical cancer.

Theme 2: Socioeconomic status and beliefs about cancer screening

Upon assessment of the participants socioeconomic status, there was a general hesitancy to be screened for cervical cancer due the costs surrounding screening. Some of the respondents pointed to poverty as the cause of their inability to initiate disease screening and treatment. This could be because the majority of the respondents are unemployed. The majority of participants who resided in remote areas claimed that simply paying for transportation prevented them from seeking cervical cancer screening. One participant pointed out that "I would rather use my taxi money to send my child to school, than waste my money to go for a test that might not mean anything to me."

Additionally, a majority of participants reported having monthly incomes of less than N\$1,000 and feeling strapped for cash, making it impossible for them to use screening services. Participants beliefs also played a role. One of the participants stated that:" If I should get cancer, it is because I did something wrong. Cancer is a punishment from God". Interestingly, a study done in Ghana on the barriers to the uptake of cervical cancer screening and treatment, found

also that some women believed that they should not go for screening, as cervical cancer is a punishment from God (Binka et al., 2019).

Most women also stated that they are generally scared of being diagnosed with cervical cancer as it has a very negative social connotation. An interviewee stated that “...our tradition does not allow us to be *instrumented* like that by others, even if they are doctors.” Others stated that they do not have time to go and schedule screening appointments because they are too busy with work and household responsibilities.

Theme 3: Awareness levels of women regarding cervical cancer screening

There was a general reluctance to actually being screened, despite the fact that the majority of participants had a general understanding of cervical cancer screening services. The majority of participants showed that they had a very basic understanding of the principle but were unable to explain the pap smear technique. Even those who had a basic understanding of screening could not comprehend its significance or the reasons why it was advised that they undergo testing. One woman stated that “...only women who are ‘sensitive to cancer’ need to go for screening regularly.” Others believed that “one can go only when they feel symptoms or see something unusual.” Fewer women, however, showed clear comprehension of the benefits of cervical cancer screening and the necessity of regular screening for early detection and rapid treatment of cervical cancer. One such woman stated that “...most women die of cancer because they do not go for regular checkups to check if they have cancer or not.”

A qualitative study done in Uganda on the knowledge, facilitators and barriers to cervical cancer screening revealed that the study participants’ knowledge

about cervical cancer causes, signs and symptoms, testing methods and prevention was poor (Ndejjo et al., 2017). According to Ndejjo et al. (2017), many participants attributed the cause of cervical cancer to use of contraception while others believed it was due to witchcraft. Participants stated that the absence of awareness efforts throughout the nation is a contributory factor to lack of knowledge about cervical cancer.

A majority of women stated that the briefing that came before the interview sessions for the current study was when they first learned about cervical cancer and screening for the disease. Others claimed to have learned about it from family members or from relatives who had cervical cancer, while still others credited media outlets like radio, television, and social media.

Discussion

Cervical cancer continues to be a leading cause of cancer-related deaths in women, despite the availability of screening services designed to detect it early. In most nations, the media is used to educate women about screening, and they typically learn about it through interactions with other women (Ogunbode & Ayinde, 2015). Only 2.5% of women in this study had no formal education, which is lower than the 21.2% identified by Ahmed et al. (2013) in their study.

The purpose of this study was to examine the knowledge, attitudes, and screening practices of women of childbearing age who visited the postnatal ward of Namibia's Windhoek Central State Hospital (WCH). The prevalence of prior cervical cancer screening in the current research was modest, at 29.5%. This is consistent with the results of a research conducted in Kenya to

assess the acceptability of cervical cancer screening, which discovered a low screening rate of 21%. (Ndjuguna et al., 2017). At the Coptic Hospital in Kenya, a different study that showed poor screening acceptance rate was conducted. Although higher than what was discovered in the current study, it showed a rate of 44%, which still only accounts for less than half the sample group. These results, however, differ from those of a related study carried out in Nigeria, which discovered an extremely low screening rate of 9.7%. (Ezechi et al., 2013).

The study discovered that although 67.5% of participants had heard of cervical cancer screening before, only 38.5% of them had actually undergone the procedure. Similarly, Ahmed et al. (2013) reported that while 67.3% of women had heard of cervical cancer screening, only 32.7% had actually undergone the procedure. However, in contrast to other research that were more retrospective, this one was a snapshot investigation. On the other hand, Huchko et al. (2015) discovered that cervical cancer screening had an unusually high adoption rate of 87%. This claimed rate of cervical cancer screening, however, was only made public after substantial community awareness initiatives that may have tainted the data and did not apply to the current study's design.

This study showed that older women were more likely to go for cervical cancer screening than younger women, with screening uptake being significantly higher among women over 40 (55.6%) than among those under 25 (19%). The screening procedures were also found to be influenced by employment status, with jobless women having a much lower screening rate, at just 77.6%. Additionally, women who made more than N\$10,000 per month had a much greater rate of prior screening (66.7%), suggesting that monthly income may

possibly be important. All of these results are in line with those of a study by George (2021), which discovered that older age at marriage and conception was associated with good screening behavior and that women with higher levels of education and socioeconomic status showed better compliance with cervical cancer screening. On the other hand, Ndjuguna et al. (2017) discovered that being older decreased the likelihood of consenting to screening.

During the qualitative data gathering process, it was determined that socioeconomic position, women's awareness levels, and the fear associated with cervical cancer screening are some of the contributing factors to the low uptake of cervical cancer screening. This is similar to the findings of Yi et al., (2011) as cited in Ndjuguna et al., (2017), who identified socioeconomic status, marital status and the level of education as significantly contributing to the attitudes and therefore practices of screening among Cambodian women in the United States of America. Similarly, Ndjuguna et al. (2017) identified additional factors such as anxiety over how intrusive the pap smear procedure is, waiting time, service provider barriers where the patient unexpectedly encountered a male nurse or doctor, or where no or very little information regarding the procedure was provided to the women.

Conclusion and Recommendations

To conclude, women visiting the postnatal ward of the Windhoek Central State Hospital had a poor screening rate for cervical cancer despite a higher percentage of awareness about the service availability. Age, employment status, and socioeconomic status have been identified as the factors that influence these women's cervical cancer screening outlook, while women's awareness levels,

and the fear associated with cervical cancer screening have been identified as factors. Although more extensive research is required to determine the factors impacting women's cervical cancer screening, it is clear that introduction of awareness programs at healthcare institutions and among the general public could potentially enhance present practices and attitudes. In order to do this, the researchers suggest that all medical professionals participating in women's care, regardless of the department, tell women about cervical cancer and the screening options available to them.

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