

Cervical Cancer Screening Among Female Staff of Fr. Moses Orshio Adasu University, Makurdi, Nigeria: Knowledge, Attitudes, Practices and Liquid-Based Cytology Findings

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Article information

Date Submitted: 01/09/2026

Date Accepted: 15/09/2026

Date Published: 25/09/2026

ABSTRACT

Background: Cervical cancer remains a significant global public health challenge especially for developing countries. The aim of this study was to determine the knowledge, attitudes, practices regarding cervical cancer and cytological findings following screening among female staff of a University in Benue State. **Methods:** A descriptive cross-sectional study amongst 200 female staff of Fr. Moses Orshio Adasu University Makurdi between February to August 2026. **Results:** The study revealed that 77.0% of the respondents were aware of cervical cancer. Almost one third (31.8%) of them were informed by family/friends. Less than one quarter (23.0%) had ever screened. Reasons for not screening in the past included; lack of awareness (26.0%), no symptoms (16.2%), lack of access to screening facility (14.3%), fear of a positive results (12.3%) and cost (3.9%). However, after health education, majority (96.5%) would accept screening in the future. Most (78.5%) of them agreed that the screening should be made compulsory, while 93.5% would recommend the screening to other women. About half (53.5%) agreed that cervical cancer is preventable and 73.5% had agreed with HPV vaccination. The results of the screening with Liquid based Cytology testing showed that majority (83.5%) were negative, LSIL (8.5%), HSIL (0.5%), ASCUS (6.5%), and ASC-H (1.0%). Academic staff and higher education were significantly related with higher awareness and acceptability of HPV vaccination ($p < 0.05$). **Conclusion:** The study demonstrated a substantial disparity between awareness and actual cervical cancer screening practices. Although, awareness was high, in-depth knowledge of its causes and risk factors was poor. The participants were willing to undergo screening and to recommend it to others and accept HPV vaccination. The findings of pre-malignant lesions on liquid-based cytology supported the establishment and continuation of accessible, institution-based cervical cancer education and screening programmes.

Keywords: Attitude, Cervical Cancer, Cytology, HPV vaccination, Knowledge, Pap Smear, Practice, Screening.

INTRODUCTION

Cervical cancer remains a significant public health challenge globally, particularly in low- and middle-income countries (LMICs) where the burden of

the disease is disproportionately high¹. It is the second most common cancer among women worldwide, with an estimated 604,000 new cases and 342,000 deaths in 2020². Sub-Saharan Africa bears the heaviest brunt of this epidemic, accounting for a substantial proportion of

How to cite this article

*Utoo Bernard Terkimbi, Abah Theresa O'Ofunu and Agwa Moses Nabem. Cervical Cancer Screening Among Female Staff of Fr. Moses Orshio Adasu University, Makurdi, Nigeria: Knowledge, Attitudes, Practices and Liquid-Based Cytology Findings. J Biomed Res Clin Pract: 2026;9(3):211-223. DOI: <https://doi.org/10.5281/zenodo.22962447>



Access to the article

Website: <http://www.jbrcp.org>

doi: DOI: 10.5281/zenodo.22962447

the global incidence and mortality due to a confluence of factors including a high prevalence of human papillomavirus (HPV) infection, limited access to preventive services, and weak health systems among others^{3,4}

Nigeria, as the most populous country in Africa, faces a considerable cervical cancer crisis. It is estimated that approximately 12,000 new cases are diagnosed annually, with about 8,000 deaths⁵. The age-standardized incidence rate is high, and the mortality-to-incidence ratio is alarmingly poor, reflecting late-stage diagnosis and inadequate treatment facilities⁶. This grim reality underscores the critical importance of effective screening programmes. Cervical cancer is a preventable disease; it has a long pre-invasive phase (dysplasia) that can be detected through routine screening and effectively treated, preventing progression to invasive cancer⁷.

Despite the proven efficacy of screening methods such as Visual Inspection with Acetic Acid (VIA), Pap smear, and HPV DNA testing, the uptake of these services in Nigeria remains abysmally low⁸. Several barriers have been identified, including lack of awareness, poor knowledge of the disease and its risk factors, cultural and religious beliefs, fear of the procedure and results, financial constraints, and limited access to screening facilities^{9,10}. The situation is often worse in specific demographic groups, including women in rural areas and those in low socioeconomic strata¹¹.

One group that may be uniquely positioned for targeted intervention is female staff in tertiary institutions. These women often serve as role models and information gatekeepers within their communities. Their level of education, access to information, and socioeconomic status suggest they should have better health-seeking behaviours. However, studies have shown that even within this educated demographic, myths and misconceptions about cervical cancer and screening persist, leading to poor uptake^{12,13}. Furthermore, the presence of a functional health facility on campus provides a convenient platform for offering screening services, yet these are often underutilized¹

Benue State, located in North Central Nigeria, is not insulated from the national trend of high cervical cancer burden and low screening uptake. The state faces challenges typical of the region, including a predominantly agrarian population with varying levels of health literacy and limited specialized healthcare infrastructure¹⁵. A study in the state highlighted a significant gap between knowledge of cervical cancer and the practice of screening among women¹⁶. Understanding the specific barriers and facilitators affecting the staff of a major tertiary institution in Benue State is crucial for developing a context-specific, evidence-based intervention¹⁷.

Therefore, this study is designed to assess the knowledge, attitudes, and practices regarding cervical cancer screening among female staff of a tertiary institution in Benue State. The findings will provide essential baseline data to inform the design of a targeted health promotion and screening programme, which could serve as a model for other institutions in the region and contribute to the national goal of reducing the cervical cancer burden¹⁸.

STATEMENT OF THE PROBLEM

Cervical cancer remains a leading cause of cancer-related deaths among women in Nigeria, despite being largely preventable through early detection and treatment^{2,6}. The low uptake of cervical cancer screening services is a major contributing factor to this high mortality rate⁸. At a tertiary institution in Benue State, there is anecdotal evidence suggesting a low turnout for the screening services that are sometimes made available by the institution's health centre or through periodic health outreaches¹⁹.

While it is often assumed that educated women, such as University staff, are more likely to engage in preventive health behaviours, this may not be the case with cervical cancer screening^{12,13}. There is a lack of empirical data on the specific knowledge, attitudes, and practices of this population in Benue State^{16,20}. Without such data, it is difficult to develop targeted, effective, and sustainable interventions to increase screening uptake¹⁷. The problem this study seeks to address is the knowledge gap

regarding the determinants of cervical cancer screening uptake among female staff at a tertiary institution in Benue State. This study will identify specific barriers, knowledge deficits, and attitudinal factors that hinder screening, thereby providing the evidence base needed for a focused institutional intervention^{21,22}.

Objectives of the Study

The main objective of this study was to assess the knowledge, attitudes, and practices related to cervical cancer screening and cytological findings among female staff of the tertiary institution in Benue State, North Central Nigeria. The specific objectives were: To determine the knowledge of female staff about cervical cancer, its risk factors, assess the attitudes of female staff towards cervical cancer, ascertain the practice of cervical cancer screening among female staff, identify the factors (barriers and facilitators) influencing the uptake of cervical cancer screening and examine the relationship between sociodemographic variables and knowledge, attitudes, and practices.

METHODOLOGY

Study Area: This study was carried out at Fr. Moses Orshio Adasu University (MOAU), Makurdi. The institution comprises of staff ranging from academic and non-academic who work in various faculties, colleges, departments, and administrative units.

Study Design: This study made use of a descriptive cross-sectional study design to assess the knowledge, uptake, and factors associated with cervical cancer screening among staff of a tertiary institution in Benue State, North Central Nigeria. The study period was February–September 2026.

Study Population: This consists of all eligible members of staff aged 25–65 years.

Inclusion Criteria: Female staff aged 25–65 years and above. Permanent or contract staff employed by the institution. They have not been screened in the past 3 months. Staff who gave written informed consent.

Exclusion Criteria: Those who were on leave or out of reach during the sample collection period. Staff previously diagnosed with cervical cancer. Those who

declined participation. They have been screened for the past 3 months. Those who were under aged.

Sample Size Determination: The minimum sample size was determined using the Leslie Fischer formula for single population proportion:

$$n = \frac{Z^2 P(1-P)}{d^2}$$

Where:

n = minimum sample size

Z = standard normal deviate at 95% confidence level (1.96)

P = prevalence of cervical cancer screening uptake from a previous Nigerian study (The prevalence (P) of women with pre-malignant lesions of the cervix in Makurdi done earlier by Utoo et al, 2014 which was 7.7%²³)

d = margin of error (0.05). An additional 10% was added to account for non-response.

$$N = \frac{(1.96)^2 \times 0.077 \times 0.923}{(0.05)^2} = 109.2 + 10.92 = 120.12. \text{ The sample size was raised to 200.}$$

Sampling Technique: A multistage sampling technique was employed. In the first stage, faculties/directorates were selected. In the second stage, departments within the selected faculties were chosen. In the final stage, eligible participants were stratified into academic and non-academic staff. The University has 195 female academic teaching staff and 440 female non-teaching staff (307 senior & 133 junior) making a total of 635 female staff. Through proportionate allocation, $195 \times 200 / 635 = 61$ academic staff were to be screened. Non-academic were to be $440 \times 200 / 635 = 139$. This means 5 academic staff per faculty and 10 non-academic staff per faculty. The proportion of staff eventually screened were-Academic (59) and non-academic (141).

Study Instrument: Data were collected using a structured, pretested, self-administered questionnaire developed after reviewing relevant literature. The questionnaire consisted of four sections: Section A: Sociodemographic characteristics. Section B: Knowledge of cervical cancer and screening. Section C: Uptake of cervical cancer screening. Section D: Factors influencing cervical cancer screening uptake.

Validity of Instrument: Face and content validity were assessed by experts in Community Medicine, Obstetrics and Gynaecology, clinical investigators and Public Health physicians.

Reliability of Instrument: The questionnaire was pretested among staff of another tertiary institution with similar characteristics. Reliability was assessed using Cronbach's alpha coefficient, with a value ≥ 0.70 considered acceptable.

Data Collection Procedure: Data were collected by trained research assistants over a period of 2–4 weeks. Participants completed the questionnaires after providing informed consent. Completed questionnaires were checked daily for completeness and consistency. Thereafter, the participants had LBC test done.

Study Variables: Dependent Variable-Uptake of cervical cancer screening (Yes/No)

Independent Variables: Social-demographic characteristics, Knowledge of causes and risk factors of cervical cancer, Awareness of cervical cancer and screening services, uptake of screening services, Perceived susceptibility, Accessibility of screening services, vaccination.

Data Analysis: The data was entered into Microsoft Excel, cleaned, and analyzed using IBM SPSS version 27. A descriptive statistical analysis was presented in form of frequencies, percentages, means, and standard deviations. Knowledge scores were computed, and respondents scoring $\geq 50\%$ were classified as having good knowledge, while those scoring $< 50\%$ were classified as having poor knowledge. Associations between categorical variables were assessed using the Chi-square test. Statistical significance was set at $p < 0.05$.

Ethical Considerations: Ethical approval was obtained from the Health Research Ethics Committee of Benue State University Teaching Hospital and MOAU before starting the study. A written informed consent was obtained from all participants. Participation was voluntary, confidentiality was maintained through anonymous questionnaires, and participants were free to withdraw from the study at any stage without

consequences.

RESULTS

Most of the women were aged 36–45 (37.5%) years and 46–55 (36.5%) years with average age as 45.33 ± 8.4 years. Above average (52.0%) number of the women were married and majority (89.0%) had tertiary level of education. All of them were Christians with the highest (77.5%) ethnicity being Tiv. Academic staff were 29.5% and non-academic 70.5%. Although most (51.0%) would keep their income confidential, 22.0% were earning above ₦210,000 which was the highest range (see table 1).

As many as 77.0% were aware of cervical cancer. Most (31.8%) of them were informed by family/friends, 23.4% by health workers, 20.8% by internet and 15.6% radio/Television (see table 2). A deeper assessment of the knowledge for causes and risk factors clearly suggest very poor figures (see table 4 and 5). A huge 77.0% of the staff have never ever screened with only 23.0% that have ever screened (see table 3). Reasons for not screening in the past were; lack of awareness (26.0%), no symptoms (16.2%), lack of access to screening facility (14.3%), fear of a positive results (12.3%) and cost (3.9%) (see table 3).

Encouragingly, 96.5% would accept screening in the future. And 78.5% would go ahead to accept that screening should be made compulsory. As much as 93.5% will recommend screening to other women. An encouraging number (73.5%) has agreed with HPV vaccination (see table 6).

The results of the screening with Liquid based Cytology testing suggested; majority 83.5% were negative, 8.5% had low squamous intra-epithelial lesion (LSIL), 0.5% had high squamous intra-epithelial lesion (HSIL), 6.5% had atypical squamous cell of undetermined significance (ASCUS), and 1.0% had atypical squamous cell-cannot exclude high grade intraepithelial lesion (ASC-H) (see table 7).

Statistically, the study demonstrated that academic staff and higher education significantly increased the awareness of participants ($p < 0.05$). Similarly, those with higher education would readily accept HPV vaccination ($p < 0.05$) (see table 8).

Table 1: Socio-demographic characteristics of the staff

SDX	N	%
Age		
26 - 35	27	13.5
36 - 45	75	37.5
46 - 55	72	36.5
56 - 65	26	13.0
Marital Status		
Single	33	16.5
Married	104	52.0
Widowed	45	22.5
Divorced	8	4.0
Separated	10	5.5
Education		
Primary	2	1.0
Secondary	20	10.0
Tertiary	178	89.0
Religion		
Christianity	200	100.0
Islam	0	0.0
Ethnicity		
Tiv	155	77.5
Idoma	20	10.0
Igede	11	5.5
Ibo	6	3.0
Yoruba	2	1.0
Others	6	3.0
Nature of Work		
Academic	59	29.5
Non-Academic	141	70.5
Monthly Income		
<70,000	16	8.0
70-,000-140,000	21	10.5
141,000-210,000	17	8.5
>210,000	44	22.0
Confidential	102	51.0

Table 2: Awareness of cervical cancer and source of information

Awareness?	N	%
Yes	154	77.0
No	46	23.0
Source of information		
• Friends/Family	49	31.8
• Health workers	36	23.4
• Internet	32	20.8
• TV/Radio	24	15.6
• Others	13	8.4

Table 3: Screening practices and acceptability of screening

Ever screened?	N	%
Yes	46	23.0
How Often?		
• Once	27	58.7
• Occasionally	14	30.4
• Regular	5	6.6
No	154	77.0
Reasons?		
• Lack of awareness	40	26.0
• No symptoms	25	16.2
• No access to screening centre	22	14.3
• Fear of results	19	12.3
• Cost	6	3.9
• Others	42	27.2
Acceptability of screening in the future		
Yes	193	96.5
No	7	3.5
Should screening be made compulsory?		
Yes	157	78.5
No	43	21.5
Would you recommend screening to others?		
Yes	187	93.5
No	13	6.5

Table 4: Knowledge of warning signs for cervical cancer

Sign	Yes	No	I don't know
Intermenstrual bleeding	66(33.0)	31(15.5)	103(51.5)
Lowr back pain	33(16.5)	30(15.0)	137(68.5)
Persistent vaginal discharge	58(29.0)	40(20.0)	102(51.0)
Dyspareunia	32(16.0)	46(23.0)	122(61.0)
Heavy menses	57(28.5)	39(19.5)	192(96.0)
Persistent diarrhoea	23(11.5)	72(36.0)	105(52.5)
Postmenopausal bleeding	72(36.0)	22(11.0)	106(53.0)
Chronic Pelvic Pain	54(27.0)	18(9.0)	128(64.00)
Postcoital bleeding	57(28.5)	21(10.5)	122(61.0)
Malena/Haematuria	20(10.0)	52(26.0)	128(64.0)
Weight loss	39(19.5)	29(14.5)	134(67.0)

Table 5: Knowledge of causes of cervical cancer

Item	Strongly Agree	Agree	Not sure	Disagree	Strongly disagree
HPV Infection	37(18.5)	24(12.0)	97(48.5)	24(12.0)	18(9.0)
Smoking	24(12.0)	36(18.0)	87(43.5)	20(10.0)	33(16.5)
Low immunity	32(16.0)	35(17.5)	84(42.0)	17(8.5)	32(16.0)
Drugs	22(11.0)	21(10.5)	117(58.5)	24(12.0)	16(8.0)
Long term use of contraceptives	24(12.0)	37(18.5)	100(50.0)	18(9.0)	21(10.5)
Chlamydia	28(14.0)	54(27.0)	81(40.5)	19(9.5)	18(9.0)
Uncircumcision	14(7.0)	18(9.0)	103(51.5)	22(11.0)	43(21.5)
Early coitarche	27(13.5)	29(14.5)	101(50.5)	13(6.5)	30(15.0)
MSP	36(18.0)	36(18.0)	74(37.0)	25(12.5)	29(14.5)
Multi-parity	11(5.5)	16(8.0)	91(40.5)	26(13.5)	56(28.5)
Partner with MSP	23(11.5)	41(20.5)	76(38.5)	36(18.5)	26(13.0)
Lack of screening	21(10.5)	44(22.0)	86(43.0)	29(14.5)	20(10.0)
CA Cervix can be prevented	54(27.0)	63(26.5)	36(18.5)	34(17.5)	13(6.5)

Table 6: Vaccination against HPV

Item	Yes	No	Not sure
Acceptability of HPV?	147(73.5)	20(10.5)	33(16.5)

Table 7: Results of screening with LBC

Results	N	%
Negative	167	83.5
LSIL	17	8.5
HSIL	1	0.5
ASCUS	13	6.5
ASC-H	2	1.0
Total	200	100.0

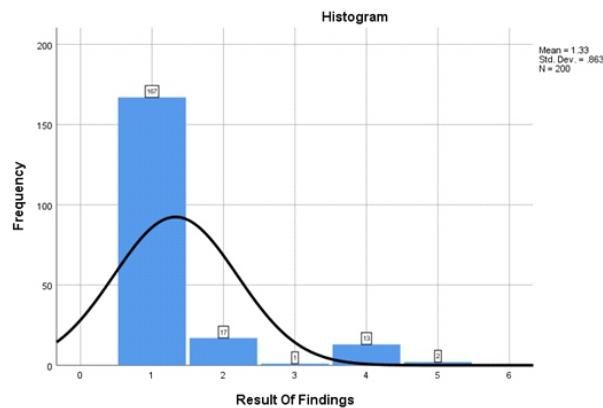

Figure1: Histogram showing the pattern of results

Table 8: Test of statistics involving awareness, education and screening/vaccination

Variable		academic	Non-Academic	Total	X ² /p-value
Awareness	Yes	52	102	154	5.86
	No	7	39	46	0.01
Total		59	141	200	
Awareness	Ever Screened?			Total	X ² /p-value
	Yes		No		
	Yes	48	106	154	0.897
	No	11	35	46	0.344
Total		59	141	200	
Education	Awareness			Total	X ² /p-value
	Yes		No		
	Primary	1	1	2	15.571
	Secondary	4	16	20	0.01
	Tertiary	142	36	178	
Total		147	53	200	
Education	Ever Screened?			Total	X ² /p-value
	Yes		No		
	Primary	0	2	2	
	Secondary	7	13	20	1.593
	Tertiary	45	133	178	0.45
Total		52	148	200	
Education	Acceptance of vaccination			Total	X ² /p-value
	Yes		No		
	Primary	1	1	2	2.02
	Secondary	17	3	20	0.36
	Tertiary	129	49	178	
Total		147	53	200	

DISCUSSION

This study which was conducted amongst 200 academic and non-academic female staff of the University showed a socio-demographic picture of participants that is important for the understanding of the knowledge, attitude and practices regarding cervical cancer screening. The mean age of the participants was 45.33 ± 8.4 years which reflects the middle age bracket that is relevant when considering the strategy of screening as a primary preventive measure for the prevention of cervical cancer²⁴⁻²⁷. The mean age observed in this study was higher than that reported among female staff in another Nigerian university-based study, where the mean age was 32.81 ± 8.16 years among 200 participants²⁴. This is due to the differences in the composition of the study population.

More than half of the participants in the present study (52.0%) were married. This finding is broadly consistent with studies conducted among Nigerian women in which married women constituted a substantial proportion of the study population^{24,28}. Among female teachers in Lagos, for example, 80.2%

of participants were married²⁵. Marriage may also increase women's contact with reproductive and general healthcare services, thereby providing opportunities for cervical cancer education and screening²⁵.

A major finding of the present study was the very high level of educational attainment, with 89.0% of participants having tertiary education. This finding is understandable given that the study was conducted in a University environment. Higher educational attainment may facilitate access to health information and improve the ability to understand information regarding human papillomavirus (HPV), cervical cancer risk factors and the benefits of screening. However, education does not necessarily translate into appropriate screening practice^{12,13,29}. This assertion was clearly demonstrated in the present study in which although 89.0% had tertiary education and 77.0% were aware of cervical cancer, only 23.0% has ever screened. This was also demonstrated statistically ($p > 0.05$).

This report is supported by another study among female University students in southwestern Nigeria where 85.6% were aware of cervical cancer and 53.9% were

aware of cervical cancer screening, actual screening uptake remained low^{26,30}. However, the importance of girl child education is demonstrated in the finding that there was higher awareness amongst the educated participants ($p < 0.05$).

Similarly, it is important to note that, occupation may influence access to health information, health services and workplace-based preventive interventions²⁶. Academic staff are likely to have relatively greater exposure to health information through formal education, professional networks and institutional communication channels^{26,27}; this was demonstrated in this study. Although they were fewer (29.5%) in number than the non-academic staff (70.5%), the former was more aware of cervical cancer ($p < 0.005$).

Regarding income, 51.0% of the participants preferred not to disclose their income, while 22.0% reported an income above ₦210,000, which represented the highest income category. The relatively high proportion of participants who declined to disclose their income may reflect the sensitive nature of financial information. Although it is true that financial resources can influence the affordability and accessibility of cervical cancer screening³¹⁻³⁴; the influence of income may be reduced where screening is provided through institutional or subsidized programmes^{35,36}.

The relatively high level of awareness (77.0%) observed in this study is comparable with findings among female university staff in Nigeria. Ogundipe et al., in a study of 200 female staff of Afe Babalola University, reported that 79.0% were aware of cervical cancer and 60.0% were aware of cervical cancer screening²⁷. Asuzu et al at the University of Ibadan also reported 79.1%²⁶. However, despite this relatively high awareness, attitude to screening was poor which is similar to the findings in the current study in which only 23.0% ever screened and even at that, the pattern was once (58.7%), occasional (30.4%) and only regular in 6.6% of the participants. The findings suggest that simply having heard about cervical cancer does not necessarily imply that women would adopt positive attitudes to health promotion programs^{12,13}. Research has also reported that Opportunistic screening is not as

effective as regular and organized screening^{38,39}.

A detailed assessment of the knowledge of causes and risk factors about cervical cancer in the study showed a very poor knowledge of the diseases. This is consistent with findings among female teachers in Lagos, where 80.2% had poor overall knowledge and only 26.7% correctly identified HPV as a cause of cervical cancer²⁵. In the current study only 30.5% identified HPV as a cause of cervical cancer. These findings reinforce the observation from the present study that educational and occupational status alone do not guarantee adequate knowledge or preventive health behaviour.

The sources of information reported in the present study provide further insight into the pattern of awareness. Family and friends constituted the most common source of information (31.8%), followed by health workers (23.4%), the internet (20.8%), and radio/television (15.6%). This is in contrast to the findings of similar research done amongst nurses at Lagos University Teaching Hospital (LUTH) which found that electronic media and health professionals were major sources of cervical cancer information²⁸. Although, the role of interpersonal communication suggests that informal social networks remain important in disseminating information about cervical cancer, health workers and credible digital health platforms can provide more accurate and actionable information²⁸.

The reasons given by participants for not having undergone screening provide further explanation for the low screening uptake. Lack of awareness was the most frequently reported reason (26.0%), followed by the perception that screening was unnecessary in the absence of symptoms (16.2%), lack of access to a screening facility (14.3%), fear of a positive result (12.3%) and cost (3.9%)^{36,37}. These factors are similar to reports of other studies^{9,10}. These findings demonstrate that the barriers were not exclusively financial. Indeed, the relatively small proportion citing cost suggests that informational, accessibility and psychological barriers may have been more prominent in this population.

The belief that screening is unnecessary in the absence of symptoms is particularly important because cervical

precancerous lesions are often asymptomatic²⁸. WHO emphasizes that screening is intended to detect precancerous lesions before they progress to invasive cancer, making screening fundamentally different from seeking care because of symptoms^{7,28,29}. Thus, increasing awareness alone may be insufficient to improve screening uptake unless interventions also address practical, psychological and health-system barriers.

The finding that 14.3% cited lack of access to screening facilities also indicates that availability of services remains an important component of screening behaviour, even among University employees. It is obvious that lack of access, inadequate screening infrastructure, cost, insufficient knowledge and other health-system barriers will continue to affect cervical cancer prevention. Thus, WHO has emphasized that cervical cancer elimination requires simultaneous expansion of HPV vaccination, screening and treatment services^{31,32}. Therefore, workplace-based screening programmes such as the intervention undertaken in the present study may be particularly useful because they bring preventive services closer to women who might otherwise not seek screening^{32,33}. The fear of receiving a positive result, reported by 12.3% of participants, represents another important psychological barrier. Such fear may arise from anxiety about cancer, anticipated treatment, stigma or misconceptions concerning the implications of an abnormal screening result.

The post-intervention findings demonstrate a substantial improvement in participants' willingness to engage with cervical cancer prevention. Following the intervention, 96.5% indicated that they would accept screening in the future, while only 3.5% declined. Furthermore, 78.5% supported the view that cervical cancer screening should be made compulsory. Although, it will be better for women to willingly access care, legislation for screening had been adopted by some developed countries through the act of parliament to promote cervical cancer screening³⁷.

Majority (93.5%) of the participants indicated that they would recommend screening to other women. This

finding suggests that participants may become important agents of information dissemination within their families, workplaces and communities⁴¹. This is relevant because family and friends were already the most common source of cervical cancer information before the intervention. Thus, empowering participants with accurate information may potentially create a multiplier effect whereby women who receive appropriate education subsequently influence other women in their social networks.

The study showed that 53.5% agreed that cervical cancer can be prevented. It is heartwarming to note that 73.5% of the participants have a positive attitude towards HPV vaccination. In a study done by Eka et al; 96.0% accepted that they would take HPV vaccination³³. HPV vaccination is an essential component of primary prevention, while cervical screening remains an important secondary prevention strategy. WHO recommends HPV vaccination before age 15 and continued screening for precancerous cervical lesions in women at appropriate ages³⁰.

The liquid-based cytology findings provide an important objective component of the present study. Most participants (83.5%) had negative cytology. This finding is higher than the 74.0 %% reported in Jos⁴². Nevertheless, 16.5% had some form of cytological abnormality: 8.5% had low-grade squamous intraepithelial lesion (LSIL), 0.5% had high-grade squamous intraepithelial lesion (HSIL), 6.5% had atypical squamous cells of undetermined significance (ASC-US), and 1.0% had atypical squamous cells—cannot exclude high-grade lesion (ASC-H). The presence of these abnormalities among women who were largely asymptomatic reinforces the importance of screening and challenges the perception reported by 16.2% of participants that screening was unnecessary in the absence of symptoms⁴².

Although LSIL does not mean invasive cervical cancer, its detection provides an opportunity for appropriate risk assessment, follow-up and management^{31,32,36}. Similarly, ASC-US represents an equivocal cytological finding that requires appropriate clinical and laboratory-based follow-up according to the screening algorithm being

used. ASC-H and HSIL are particularly important because they raise greater concern for significant cervical precancer and warrant appropriate diagnostic evaluation and follow-up⁴¹⁻⁴³.

The detection of HSIL and ASC-H, although relatively uncommon in the present study, is clinically significant. The 0.5% HSIL and 1.0% ASC-H findings indicate that potentially important high-grade lesions can be identified even in an apparently healthy working population. This provides strong justification for workplace-based screening programmes in institutions such as Universities. The detection of these abnormalities also demonstrates the value of screening as a preventive strategy because women may have clinically important cervical abnormalities before the development of symptoms.

CONCLUSION

The study demonstrates a substantial disparity between awareness and actual cervical cancer screening practice among female academic and non-academic staff of the University. Although 77.0% were aware of cervical cancer, detailed knowledge of its causes and risk factors was poor and only 23.0% had ever previously undergone screening. Lack of awareness, absence of symptoms, poor access to screening facilities and fear of a positive result were important barriers. Following health education, there was a marked improvement in willingness to undergo screening, recommend screening to others and accept HPV vaccination. Most women had negative liquid-based cytology; however, the detection of LSIL, ASC-US, HSIL and ASC-H demonstrates the continuing value of screening among apparently healthy women. These findings support the establishment and continuation of accessible, institution-based cervical cancer education and screening programmes, with particular emphasis on sustained follow-up of women with abnormal cytological findings.

Implications for university-based screening programmes.

The present findings support an integrated approach to cervical cancer prevention. There should be no

assumption that the high level of education of staff would translate to a positive behavioural change without a deliberate intervention. Secondly, education should not be implemented as a stand-alone intervention; it should be accompanied by accessible screening services and appropriate counselling. Thirdly, an effective follow-up of women with abnormal results should be part of the plan. For cervical cancer, WHO recommends combining HPV vaccination with cervical cancer screening and treatment of precancerous lesions as part of the broader strategy for cervical cancer elimination.

Strengths and limitations

The gains of the study included awareness creation for cervical cancer, education of the women and access to screening. However, although the study assessed the pre and post intervention of the participants, there was no distinctive report categorizing this analysis for better understanding of the worth of the intervention. There were no sufficient funds to escalate the care for the women through follow-up and treatment of positive cases that were identified.

Recommendations

- A regular awareness and screening exercises for the staff of the University community for early detection and treatment of positive cases of preventable diseases.
- The high educational attainment of the participants provides an opportunity for institution-based interventions that combine health education with convenient access to screening.
- Such programmes should address misconceptions about symptoms, explain HPV and its relationship with cervical cancer, provide information about where screening is available, address fear of positive results, and ensure clear referral pathways for women with abnormal cytology.

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