



Barriers and Socio... (Mahmud, Z. Y. & Sabo, A. M. 2026) DOI: <https://doi.org/10.59479/jiaheri.v3i1.163>

Barriers and Socio-Demographic Factors Associated with Preventive Cervical Cancer Screening among Women Attending Tertiary Health Facilities in Northwestern Nigeria

Mahmud, Z. Y.¹ & Sabo, A. M.²

Corresponding Email: zubainamahmud@gmail.com

¹ College of Nursing Sciences, Federal Medical Centre, Nguru, Yobe State, Nigeria

² Franco-British International University, Kaduna State, Nigeria

Abstract

Cervical cancer is preventable, yet screening remains underused in many low- and middle-income settings. Women may delay screening because of inaccurate beliefs about the procedure, financial barriers, concerns about privacy and pain, and limited access to reliable information. This study examined perceived barriers and selected socio-demographic differences among women attending tertiary health facilities in Jigawa, Kaduna and Katsina States, northwestern Nigeria. A facility-based cross-sectional survey was reported in the source manuscript. Of 711 women approached or considered eligible, 619 completed questionnaires, giving a response rate of 87.1%. The researchers used a structured questionnaire with socio-demographic items and 11 perceived-barrier items. Descriptive statistics and one-way analysis of variance (ANOVA) were reported. The available manuscript did not provide the full questionnaire, a documented reliability estimate, or complete post-hoc comparisons. The highest reported barrier mean was the belief that screening could cause a sexually transmitted infection ($M = 3.32$, $SD = 1.44$), followed by poverty ($M = 2.91$, $SD = 1.56$), concerns about unsterilized equipment ($M = 2.57$, $SD = 1.24$), weak health-promotion policy ($M = 2.52$, $SD = 1.12$), and bleeding after screening ($M = 2.51$, $SD = 1.07$). Mean overall barrier scores differed by state, $F(2, 616) = 34.25$, $p < .001$; Katsina had the highest reported mean ($M = 28.85$). Differences were also reported by educational level, $F(3, 615) = 13.86$, $p < .001$, and age group, $F(3, 615) = 2.93$, $p = .033$. The findings point to a combination of misinformation, cost concerns and health-service trust issues. Facility-based education, respectful and confidential services, clear explanation of screening procedures, and lower-cost access may help address these concerns.

Keywords: cervical cancer; screening; perceived barriers; socio-demographic factors; Nigeria; women's health.

Introduction

Cervical cancer is largely preventable through human papillomavirus (HPV) vaccination, screening for precancerous changes and timely treatment. However, the benefits of screening depend not only on whether a service exists, but also on whether women know about it, trust it and can reach it when needed. The World Health Organization (WHO, 2021) recommends HPV DNA testing as the preferred primary screening method where programmes can implement it, alongside a continuum of care that connects screening to follow-up and treatment. WHO's elimination strategy also places screening coverage and treatment access at the centre of efforts to reduce avoidable cervical cancer deaths. In Nigeria, screening uptake is affected by overlapping personal,



Barriers and Socio... (Mahmud, Z. Y. & Sabo, A. M. 2026) DOI: <https://doi.org/10.59479/jiaheri.v3i1.163>

social and health-system factors. A systematic review of Nigerian studies identified limited knowledge, misconceptions, fear of the procedure or result, financial constraints and service-related barriers as recurring themes (Mafiana et al., 2022). Qualitative research in low-resource communities in Lagos similarly described concerns about cost, embarrassment, privacy, provider gender, and inadequate information about what screening involves (Olubodun et al., 2022). These concerns are important because simply having a screening facility does not guarantee that women will use it.

Recent Nigerian evidence continues to show that awareness and screening behaviour do not always move together. Agboeze et al. (2022) found that some female undergraduates who had heard about cervical cancer had not been screened, with uncertainty about where services were available among the reported barriers. In a study of women attending antenatal care in northeastern Nigeria, lack of awareness was a major reason for not having been screened, while better knowledge was associated with higher odds of screening (Jomusu et al., 2024). A 2024 study applying the Health Belief Model to Nigerian women in academic settings also highlighted the influence of cost and spousal approval on decisions about screening (Iluno et al., 2024). Together, these studies suggest that information must be accurate, accessible and linked to affordable, acceptable services. Some perceived barriers arise from misunderstandings of the procedure itself. Screening is intended to identify HPV infection or cervical changes; it does not cause HPV infection. High-risk HPV types cause almost all cervical cancers, and vaccination, screening and treatment of precancerous lesions are complementary prevention measures (WHO, 2024). If women fear infection, bleeding or other harm from screening, providers need to respond respectfully, explain infection-prevention procedures and clarify what women should expect before, during and after the test.

The northwestern Nigerian context warrants attention because women's decisions are shaped by local service availability, household resources, cultural expectations and the quality of communication with health workers. The present study therefore examines perceived barriers among women attending tertiary health facilities in Jigawa, Kaduna and Katsina States. It also considers whether the reported total barrier score differs across state, educational level and age group. The intention is to generate practical evidence that health facilities and public-health planners can use to improve communication and access, while recognising that a hospital-based sample cannot represent all women in the region.

Literature Review

Cervical cancer prevention relies on a linked set of interventions rather than a single test. HPV vaccination reduces the risk of infection with cancer-causing HPV types, while screening identifies infection or cervical changes before invasive cancer develops. WHO recommends HPV DNA detection as the preferred primary screening test and emphasises that screening programmes must include appropriate follow-up and treatment for women with positive results (WHO, 2021). This clinical guidance matters for public communication: women should understand that screening is preventive, that a positive result is not the same as a cancer diagnosis, and that timely follow-up is an essential part of care. The evidence from Nigeria points to an information gap that is more complex than simple awareness. In their systematic review, Mafiana et al. (2022) found that women's knowledge of cervical cancer and screening was often incomplete even when they had



Barriers and Socio... (Mahmud, Z. Y. & Sabo, A. M. 2026) DOI: <https://doi.org/10.59479/jiaheri.v3i1.163>

heard of the disease. Misconceptions about causes, uncertainty about eligibility and limited knowledge of where services are provided can reduce perceived need for screening. Agboeze et al. (2022) similarly reported that many female university students were aware of cervical cancer, but previous screening remained uncommon; not knowing where screening could be obtained was a frequently reported barrier. Awareness campaigns are therefore more likely to be useful when they explain the purpose of screening, who should seek it, where it is available and what happens after a test.

Fear and anticipated discomfort are also important. Women may worry about pain, embarrassment, an abnormal result, loss of privacy or being judged by health workers. Olubodun et al. (2022), in a qualitative study in low-resource communities in Lagos, described concerns related to the screening process and the way services were organised. These concerns should not be dismissed as irrational; they may reflect previous experiences of care, uncertainty about procedures or limited opportunity to ask questions. Clear pre-screening explanations, privacy during examination, informed consent and a respectful option to request a female provider where feasible may improve acceptability. Cultural and religious expectations can influence whether women feel comfortable discussing reproductive health or undergoing an intimate examination. These influences are not uniform, and they should not be treated as fixed characteristics of any religious or ethnic group. Rather, communication should be developed with local women, community leaders and health workers so that accurate information is shared in locally understandable language without reinforcing stigma. Modibbo et al. (2016) documented how modesty, provider gender, fear of disclosure and spousal approval could shape screening decisions among Nigerian women. Although older than the main evidence window, this study remains relevant for understanding why a technically available service may not be perceived as socially or personally acceptable.

Financial and geographic barriers can make preventive services difficult to prioritise. Direct screening fees, transport expenses, lost work time and the cost of returning for follow-up may discourage women who are otherwise willing to attend. The Nigerian systematic review by Mafiana et al. (2022) identified financial constraints and service-access problems among recurrent barriers. Iluno et al. (2024) also found that cost and spousal approval could remain concerns even where women expressed motivation to screen. Programmes should therefore consider the full cost of the screening pathway, not just the price of the initial test. Trust in health facilities is another practical issue. The present study's questionnaire included concern that equipment might not be sterilised. Such a response should be interpreted as a perception, not evidence that participating hospitals used unsafe equipment. Nevertheless, it signals a need for providers to explain infection-prevention practices, use appropriate equipment and communicate transparently. The same principle applies to fears that screening itself could cause a sexually transmitted infection. High-risk HPV infection is the cause of most cervical cancers; screening does not create HPV infection (WHO, 2024). A respectful response should correct the misconception without shaming the person who holds it.

Provider recommendation may help convert general awareness into action. Jomusu et al. (2024) reported that health-worker recommendation was a major reason for screening among women attending antenatal care in northeastern Nigeria, while lack of awareness was the leading reason for not having been screened. This suggests that antenatal and gynaecology contacts can be



Barriers and Socio... (Mahmud, Z. Y. & Sabo, A. M. 2026) DOI: <https://doi.org/10.59479/jiaheri.v3i1.163>

used as opportunities for brief education, assessment of screening history and referral. However, screening eligibility and timing should follow current national and clinical guidance; a visit to an antenatal clinic should not automatically be interpreted as an indication for screening during pregnancy.

Evidence from different Nigerian settings should be compared carefully. Studies involving university students, women in urban communities, antenatal clients and women attending tertiary hospitals recruit populations with different ages, educational backgrounds and access to health information. Their reported screening levels and barriers may therefore differ. A hospital-based sample may include women who have better access to health information than women who rarely use formal health services, while still including people who face financial, cultural or service-related constraints. Findings should be interpreted within the sampling frame rather than generalised to every woman in northwestern Nigeria. A further issue is the distinction between perceived barriers and actual screening uptake. A questionnaire about barriers can describe beliefs and concerns, but it cannot by itself establish whether each concern caused non-attendance. To identify independent predictors of screening behaviour, a study would need to measure screening history as an outcome and use an appropriate multivariable model, with relevant confounders considered. In the present paper, the available results primarily describe perceived barrier scores and their differences across selected socio-demographic groups. Accordingly, the analysis is framed as an assessment of reported barriers rather than a causal explanation of screening behaviour.

The literature therefore supports a multi-level response. At the individual level, women need accurate, non-judgmental information. At the service level, screening should be affordable, private, respectful and clearly explained. At the community level, trusted channels can address misconceptions and encourage women to seek professional advice. At the programme level, health authorities need dependable screening pathways, trained staff, equipment, referral systems and monitoring.

Methodology

Study design and setting

The study used a facility-based cross-sectional design to assess perceived barriers to preventive cervical cancer screening among women attending antenatal and obstetrics/gynaecology clinics in tertiary health facilities in Jigawa, Kaduna and Katsina States, Nigeria. Data were collected at one point in time; therefore, the design can describe reported barriers and associations but cannot establish cause-and-effect relationships.

Study population and sample

The source manuscript states that 711 women were included in the recruitment process and that 619 completed questionnaires were analysed. The reported response rate is therefore 87.1%. The target population comprised women attending antenatal and obstetrics/gynaecology clinics in the selected facilities. The sample size was determined using Cochran's formula (Cochran, 1977).

Sampling procedure

A multistage approach was reported. First, three of the seven states in northwestern Nigeria, Jigawa, Kaduna and Katsina were selected by balloting. One tertiary teaching hospital



Barriers and Socio... (Mahmud, Z. Y. & Sabo, A. M. 2026) DOI: <https://doi.org/10.59479/jiaheri.v3i1.163>

was then purposively selected in each state, followed by purposive recruitment of eligible women attending the relevant clinics. Because facilities and participants were selected purposively at the later stages, the sample should be understood as a facility-based sample rather than a probability sample of all women in the three states.

Instrument and variables

Data were collected using a researcher-developed structured questionnaire. The manuscript describes two sections: socio-demographic characteristics and 11 items on perceived barriers to cervical cancer screening, measured on a five-point Likert response scale. The reported socio-demographic variables included age, ethnicity, state, marital status, religion and educational level. The barrier items addressed cultural beliefs, fear of illness or infection, bleeding, concerns about equipment sterilisation, fear that screening could cause a sexually transmitted infection, poverty, education, health-promotion policy, shyness, embarrassment or pain, and awareness of service availability.

Data collection and ethical considerations

Research assistants were reportedly briefed on the study objectives, questionnaire administration and ethical considerations. Questionnaires were completed by respondents themselves or with assistance, and the researcher's supervised collection for completeness. The manuscript states that ethical approval was obtained from the ethics committees of the participating tertiary health facilities and that written informed consent, confidentiality, anonymity and voluntary participation were ensured

Statistical analysis

The analysis was conducted using IBM SPSS Statistics version 27. Frequencies and percentages were used to summarise categorical characteristics, while means and standard deviations were reported for barrier scores. One-way ANOVA was used to compare mean total barrier scores across state, educational level and age group. The reported significance threshold was $p < .05$. The manuscript does not provide checks of ANOVA assumptions, effect sizes, confidence intervals or post-hoc tests. These should be added from the original dataset if available. A reported p value of .000 is presented in this revision as $p < .001$, consistent with standard statistical reporting.

Results

Table 1. Socio-demographic characteristics of respondents

Characteristic	Category	n	%
Age	29–30 years	144	23.3
	30–39 years	174	28.1
	40–49 years	247	39.9
	50 years and above	54	8.7
Ethnicity	Hausa	410	66.2
	Fulani	118	19.1



Barriers and Socio... (Mahmud, Z. Y. & Sabo, A. M. 2026) DOI: <https://doi.org/10.59479/jiaheri.v3i1.163>

State	Other	91	14.7
	Jigawa	196	31.7
	Katsina	217	35.1
	Kaduna	206	33.3
Marital status	Single	115	18.6
	Married	350	56.5
	Widowed	85	13.7
	Divorced	69	11.2
Religion	Islam	426	68.8
	Christianity	146	23.6
	Other	47	7.6
Education	Non-formal	96	15.5
	Primary	116	18.7
	Secondary	156	25.3
	Tertiary	251	40.5

Source: author's field data, 2026

As shown in table 1 above, the largest age category was reported as 40–49 years (247; 39.9%), followed by 30–39 years (174; 28.1%). The age category printed as “29–30 years” contained 144 respondents (23.3%); this category appears to overlap with the 30–39 category and must be checked against the questionnaire and data file. Hausa respondents accounted for 410 (66.2%), while 118 (19.1%) were Fulani and 91 (14.7%) were classified as other ethnicities. Katsina contributed 217 respondents (35.1%), Kaduna 206 (33.3%) and Jigawa 196 (31.7%). Most respondents were married (56.5%) and had tertiary education (40.5%).

Perceived Barriers to Cervical Cancer Screening

Table 2. Reported mean scores for perceived barriers to cervical cancer screening.

Item	Reported barrier	Mean	SD
1	Screening may cause sexually transmitted infection	3.32	1.440
2	Poverty / cost	2.91	1.560
3	Suspected unsterilized equipment	2.57	1.240
4	Weak health-promotion policy	2.52	1.120
5	Bleeding after screening	2.51	1.070
6	Cultural beliefs	2.35	1.440
7	Low educational level	2.22	1.390
8	Fear of becoming ill/infected	2.11	0.970
9	Lack of awareness of services	2.06	0.938
10	Embarrassment / fear of pain	1.97	1.000
11	Shyness	1.90	1.010

Source: author's field data, 2026

Barriers and Socio... (Mahmud, Z. Y. & Sabo, A. M. 2026) DOI: <https://doi.org/10.59479/jiaheri.v3i1.163>

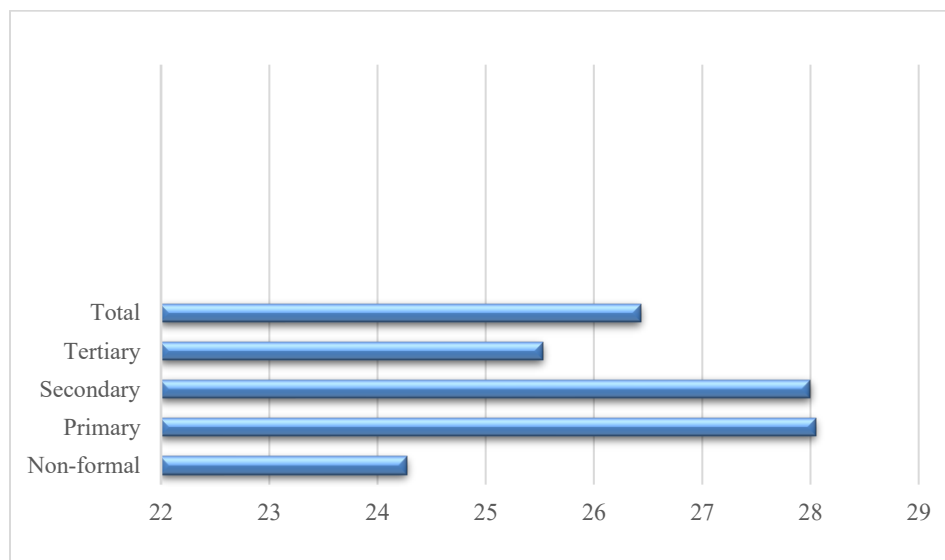


Figure 1. Reported mean scores for the 11 perceived-barrier items.

According to the above figure, the highest mean score was recorded for the belief that cervical cancer screening could cause a sexually transmitted infection ($M = 3.32$, $SD = 1.44$). Poverty was next ($M = 2.91$, $SD = 1.56$), followed by concern about unsterilized equipment ($M = 2.57$, $SD = 1.24$), lack of effective health-promotion policy ($M = 2.52$, $SD = 1.12$) and bleeding after screening ($M = 2.51$, $SD = 1.07$). The lowest reported means were for shyness ($M = 1.90$, $SD = 1.01$) and embarrassment or fear of pain ($M = 1.97$, $SD = 1.00$). These means describe responses to the listed statements; because the scale coding and direction are not fully documented, they should not be interpreted as prevalence estimates or as a definitive ranking of the proportion of women affected.

Table 3. Total barrier scores by state.

State	n	Mean total barrier score	SD	SE
Jigawa	196	24.48	5.86	0.42
Katsina	217	28.85	4.87	0.33
Kaduna	206	25.73	5.94	0.41
Total	619	26.43	5.85	0.24

Source: author's field data, 2026

The reported mean total barrier score was highest in Katsina ($M = 28.85$, $SD = 4.87$), followed by Kaduna ($M = 25.73$, $SD = 5.94$) and Jigawa ($M = 24.48$, $SD = 5.86$). The one-way ANOVA indicated a statistically significant difference among states, $F(2, 616) = 34.25$, $p < .001$. The available results do not include post-hoc tests, so the precise pairwise differences should not be asserted without further analysis.

Table 4. One-way ANOVA for total barrier scores by state.

Source of variation	SS	df	MS	F	p
Between groups	2,119.178	2	1,059.589	34.251	< .001
Within groups	19,056.515	616	30.936		
Total	21,175.693	618			

Source: author's field data, 2026

Barriers and Socio... (Mahmud, Z. Y. & Sabo, A. M. 2026) DOI: <https://doi.org/10.59479/jiaheri.v3i1.163>

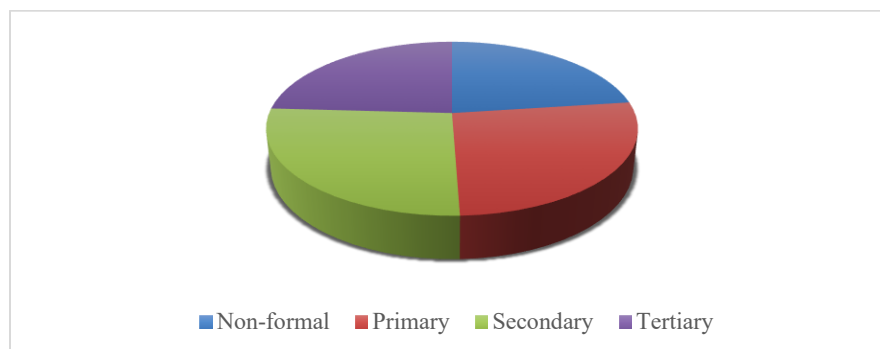


Figure 2. Mean total barrier scores by state.

Table 5. Total barrier scores by educational level.

Educational level	n	Mean	SD	SE
Non-formal	96	24.27	5.82	0.59
Primary	116	28.05	6.67	0.62
Secondary	156	28.00	6.68	0.53
Tertiary	251	25.53	4.28	0.27
Total	619	26.43	5.85	0.24

Source: author's field data, 2026

Mean barrier scores differed across educational groups, $F(3, 615) = 13.86$, $p < .001$. The highest reported mean was among respondents with primary education ($M = 28.05$, $SD = 6.67$), closely followed by those with secondary education ($M = 28.00$, $SD = 6.68$). Respondents with tertiary education had a lower reported mean ($M = 25.53$, $SD = 4.28$), while the non-formal education group had a mean of 24.27 ($SD = 5.82$). These results indicate an overall difference among the groups, but do not establish which individual pairs differed significantly.

Table 6. One-way ANOVA for total barrier scores by educational level.

Source of variation	SS	df	MS	F	p
Between groups	1,340.519	3	446.840	13.855	< .001
Within groups	19,835.174	615	32.252		
Total	21,175.693	618			

Source: author's data analysis, 2026

Barriers and Socio... (Mahmud, Z. Y. & Sabo, A. M. 2026) DOI: <https://doi.org/10.59479/jiaheri.v3i1.163>

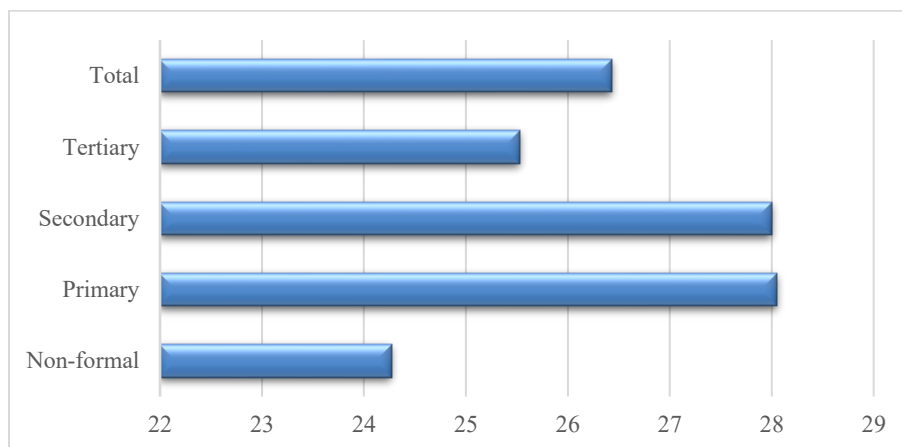


Figure 3. Mean total barrier scores by educational level.

Table 7. Total barrier scores by age group.

Age category (as reported)	n	Mean	SD
29–30 years (as reported)	144	26.03	5.92
30–39 years	174	27.40	6.55
40–49 years	247	26.28	5.24
50 years and above	54	25.04	5.67
Total	619	26.43	5.85

Source: author's data analysis, 2026

According to the above table, the source reported a statistically significant overall difference in total barrier scores by age group, $F(3, 615) = 2.93, p = .033$. The highest mean was reported among respondents aged 30–39 years ($M = 27.40, SD = 6.55$), while respondents aged 50 years and above had the lowest mean ($M = 25.04, SD = 5.67$). The category “29–30 years” is retained as printed in the source but requires correction or confirmation. Because the age labels are inconsistent, interpretation of this comparison should remain provisional.

Table 8. One-way ANOVA for total barrier scores by age group.

Source of variation	SS	df	MS	F	p
Between groups	297.877	3	99.292	2.925	.033
Within groups	20,877.816	615	33.948		
Total	21,175.693	618			

Source: author's data analysis, 2026

Discussion

The findings suggest that the barriers women reported were not limited to the availability of screening. Misunderstandings about whether screening can cause infection, concerns about costs and doubts about equipment safety were among the highest reported mean scores. These concerns are consistent with the broader Nigerian evidence, where inadequate information, fear, financial constraints and health-service factors repeatedly appear as barriers (Mafiana et al., 2022; Olubodun et al., 2022). The present results should be interpreted as perceptions reported by clinic attendees, not as evidence that screening procedures in the participating facilities were unsafe. The



Barriers and Socio... (Mahmud, Z. Y. & Sabo, A. M. 2026) DOI: <https://doi.org/10.59479/jiaheri.v3i1.163>

highest reported mean concerned the belief that screening could cause a sexually transmitted infection. This misconception is important because it can turn a preventive service into a perceived health risk. HPV infection is transmitted through intimate skin-to-skin contact, and persistent infection with high-risk HPV types is the principal cause of cervical cancer; screening does not cause HPV infection (WHO, 2024). Health workers should explain what the test involves, how equipment is prepared and used, and what results mean. Such explanations should be delivered without ridicule, since shame can make people less willing to ask questions or return for care.

Poverty was the second-highest reported barrier mean. The practical cost of screening can include consultation fees, transport, time away from work or caregiving, and costs associated with follow-up. Nigerian studies have similarly identified cost and service accessibility as obstacles to uptake (Iluno et al., 2024; Mafiana et al., 2022). This suggests that education campaigns alone may have limited impact if women who become interested in screening cannot afford the service. Subsidised or free screening days, integration with appropriate existing health services, clear information about fees and reliable referral pathways could reduce this gap.

Concern about unsterilised equipment also deserves a service-level response. The result records a concern among respondents; it does not demonstrate that the facilities used unsterilised equipment. Even so, perceived safety influences trust. Facilities should maintain infection-prevention standards and explain them in ways patients can understand. Privacy, informed consent and respectful communication should be treated as core elements of quality, rather than optional additions to the clinical procedure. The reported state differences indicate that the overall burden of perceived barriers was not uniform across the three study locations. Katsina had the highest mean total barrier score, followed by Kaduna and Jigawa. This may justify examining how screening availability, costs, communication, referral systems and patient experiences differ across facilities. However, the cross-sectional data do not identify why the state means differ. It would be inappropriate to attribute the difference to culture, religion or health-system performance without additional evidence. Post-hoc comparisons and facility-level information are needed to identify where the differences lie.

Differences by educational level were also statistically significant. The primary and secondary education groups had higher reported mean scores than the tertiary group, while the non-formal education group had a lower mean than some other groups. This pattern is not strictly linear, so it should not be reduced to a claim that lower education always produces more barriers. Differences in age, access to information, prior contact with health services or other unmeasured factors may contribute. A multivariable analysis would be needed to assess whether education is independently associated with barrier scores. The age-group comparison was statistically significant at the reported threshold, but the effect appears modest in relation to the observed group means. The reported age labels also contain a likely categorisation error, making the age result provisional until the original data are checked. This is a good example of why statistically significant results should be interpreted alongside data quality, effect sizes and the practical meaning of the observed differences. The results align with evidence from northeastern Nigeria showing that lack of awareness can be a leading reason for not having been screened and that provider recommendation can motivate screening (Jomusu et al., 2024). Routine opportunities in antenatal and gynaecology clinics could therefore be used to ask about screening history, offer brief education and refer eligible women. However, health workers should avoid assuming that



Barriers and Socio... (Mahmud, Z. Y. & Sabo, A. M. 2026) DOI: <https://doi.org/10.59479/jiaheri.v3i1.163>

women attending maternal services already know about screening or that all women have the same eligibility and timing requirements.

Several limitations should temper the conclusions. The study recruited women attending selected tertiary facilities and did not include women who do not attend these services. The cross-sectional design cannot establish causality. The supplied manuscript does not report scale validation, internal consistency, ANOVA assumption checks, effect sizes or post-hoc comparisons. In addition, the age categories and some Likert response percentages are inconsistent. These issues do not make the study unusable, but they mean that the raw dataset and statistical output should be checked before the manuscript is submitted or its findings used for policy decisions.

Conclusion

The most prominent reported perceived barriers included the belief that cervical cancer screening could cause a sexually transmitted infection, poverty, concerns about equipment sterilisation, weak health-promotion policy and bleeding after screening. Overall barrier scores differed by state, educational level and age group in the reported ANOVA results. The findings support a practical response combining accurate health education with affordable, respectful and trustworthy services. Because the study is facility-based and the source contains inconsistencies in age labels and response distributions, the results should be treated as indicative rather than representative of all women in northwestern Nigeria. Verification of the original dataset is necessary before final publication.

At the end of the study, the study recommends that:

Health facilities should provide short, routine education on cervical cancer prevention, explaining the role of HPV, the purpose of screening, what the procedure involves and why screening does not cause a sexually transmitted infection.

Screening providers should explain infection-prevention procedures, protect privacy, obtain informed consent and respond respectfully to concerns about pain, bleeding, modesty and confidentiality. Where staffing permits, women should be informed whether a female provider is available.

State health authorities and facility managers should review the direct and indirect costs of screening and consider subsidised services, periodic free-screening opportunities and integration with existing reproductive-health services, alongside dependable referral and follow-up arrangements.

Health promotion should use locally understandable languages and trusted channels, including antenatal clinics, community health workers and community organisations. Messages should be co-developed with women and should correct misinformation without blaming cultural or religious communities.

Facilities in the three states should review differences in screening access, patient education, costs, waiting times and referral completion. The higher reported mean in Katsina warrants further assessment rather than assumptions about its cause.

Future studies should recruit women from both health facilities and communities, measure screening history directly, document the questionnaire's validity and reliability, and use multivariable analysis to distinguish independent associations from confounding.



Barriers and Socio... (Mahmud, Z. Y. & Sabo, A. M. 2026) DOI: <https://doi.org/10.59479/jiaheri.v3i1.163>

Before submission, the authors should recheck the original SPSS dataset and output, correct the age categories, reconcile all Likert-response percentages, state the Likert coding and total-score calculation, report the questionnaire reliability estimate if available, provide ANOVA assumption checks and post-hoc tests, and add the ethics approval reference numbers and dates.

References

- Agboeze, J., Ezeani, N. N., Nwali, M. I., Ukaegbe, C., & Mu'awiyiah-Babale, S. (2022). Cervical cancer screening knowledge, uptake and barriers among female undergraduates in a Nigerian university. *Nigerian Medical Journal*, 63(3), 220–225. <https://doi.org/10.60787/nmj.63.3.103>
- Cochran, W. G. (1977). *Sampling techniques* (3rd ed.). John Wiley & Sons.
- Iluno, A. C., Oshiname, F. O., Adekunle, A. O., et al. (2024). Cervical cancer screening adoption behaviours among Nigerian women in academics: Using a health belief model. *BMC Women's Health*, 24, Article 534. <https://doi.org/10.1186/s12905-024-03380-w>
- Jomusu, C. A., Noel, N. B., Abubakar, U., Bakari, M. A., & Ameen, H. A. (2024). Knowledge, perception, and uptake of cervical cancer screening among women attending antenatal clinic at a tertiary hospital in north eastern Nigeria. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*, 13(3), 528–534. <https://doi.org/10.18203/2320-1770.ijrcog20240450>
- Mafiana, J. J., Dhital, S., Halabia, M., & Wang, X. (2022). Barriers to uptake of cervical cancer screening among women in Nigeria: A systematic review. *African Health Sciences*, 22(2), 295–309. <https://doi.org/10.4314/ahs.v22i2.33>
- Modibbo, F. I., Dareng, E., Bamisaye, P., Jedy-Agba, E., Adewole, A., Oyeneyin, L., Olaniyan, O., & Adebamowo, C. (2016). Qualitative study of barriers to cervical cancer screening among Nigerian women. *BMJ Open*, 6(1), e008533. <https://doi.org/10.1136/bmjopen-2015-008533>
- Olubodun, T., Balogun, M. R., Odeyemi, A. K., Odukoya, O. O., Ogunyemi, A. O., Kanma-Okafor, O. J., Okafor, I. P., Olubodun, A. B., Ogundele, O. O. P., Ogunnowo, B., & Osibogun, A. (2022). Barriers and recommendations for a cervical cancer screening program among women in low-resource settings in Lagos Nigeria: A qualitative study. *BMC Public Health*, 22, Article 1906. <https://doi.org/10.1186/s12889-022-14314-2>
- World Health Organization. (2021, July 6). New recommendations for screening and treatment to prevent cervical cancer. <https://www.who.int/news/item/06-07-2021-new-recommendations-for-screening-and-treatment-to-prevent-cervical-cancer>
- World Health Organization. (2024, March 5). Human papillomavirus and cancer. <https://www.who.int/news-room/fact-sheets/detail/human-papilloma-virus-and-cancer>