International Journal of Africa Nursing Sciences 24 (2026) 100932

Contents lists available at ScienceDirect

International Journal of Africa Nursing Sciences

journal homepage: www.elsevier.com/locate/ijans

Pregnant women's beliefs and perceptions of cervical cancer screening: A descriptive phenomenological study

Joana Kyei Dompim [a,b], Abigail Kusi Amponsah [a,c], Edward Appiah Boateng [a], Alberta Dotse Makafui [a], Linda Gyaa [a], Veronica Dzomeku [a], Victoria Bam [a], Jerry Armah [a,*]

[a] School of Nursing and Midwifery, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana
[b] School of Nursing and Public Health, College of Health Sciences, University of KwaZulu-Natal, Durban, South Africa
[c] Department of Nursing Science, University of Turku, Finland

ARTICLE INFO

Keywords:
Cervical cancer
Cervical cancer screening
Pregnant women
Sub-Saharan Africa

ABSTRACT

Background: Cervical cancer is more prevalent in low- and middle-income countries, with Sub-Saharan Africa having the highest rates. Screening, including HPV testing, is vital for early detection, but low- and middle-income countries face challenges in expanding HPV vaccination and screening. Research on cervical cancer screening among pregnant women in Ghana is limited, and this study aims to explore their beliefs and perceptions to improve screening practices and health promotion.

Method: A descriptive phenomenological approach was utilized in recruiting twelve (12) purposively sampled pregnant women at the antenatal units of the Korle Bu Teaching Hospital and the Kaneshie Polyclinic. Participants were engaged in face-to-face semi-structured interviews which were audiotaped after seeking informed consent from participants. The audiotaped interviews were transcribed verbatim and inductively analysed into themes.

Results: Five themes emerged from the study: "General knowledge and awareness level" focused on participants' understanding of cervical cancer and screening. "At-risk population for cervical cancer" explored perceptions of vulnerable groups. "Views on cervical cancer screening" examined participants' beliefs about cervical cancer screening. "Lack of experience and knowledge gap" revealed no participant had undergone screening. "Public awareness advocacy and protection" highlighted participants' reports on the importance of self-care and public awareness.

Conclusion: Participants showed some knowledge of cervical cancer and its screening, recognized the importance of education, yet a gap between knowledge and action exists, necessitating targeted interventions.

1. Introduction

Cervical cancer remains a significant global health challenge, ranking as the fourth most common cancer among women worldwide. In 2022, there were approximately 660,000 new cases and 350,000 deaths attributed to the disease, with around 94 % occurring in low- and middle-income countries (LMICs) (World Health Organization, 2024). This burden is exacerbated by persistent infections with high-risk strains of human papillomavirus (HPV), which is the primary causative agent, alongside cofactors such as smoking, immunosuppression (including HIV), multiple sexual partners, early sexual debut, and long-term use of oral contraceptives (Bowden et al., 2023; Hewavisenti et al., 2023). The global discrepancy in cervical cancer burden is widening, with high income countries (HICs) benefiting from robust screening programs and HPV immunization, while LMICs lag due to limited resources (Bedell et al., 2019). Advancements in screening, such as extended intervals (every 5–10 years starting at age 30) and integration of HPV testing, have reduced incidence by up to 80 % in screened populations (Fontham et al., 2020).

Women's knowledge, beliefs, and perceptions usually influence screening uptake, as HPV infections are often asymptomatic, highlighting the need for education (Awua et al., 2016; Osei et al., 2021). Global studies reveal common barriers, including low perceived susceptibility, fear of results, cultural stigmas linking screening to promiscuity, and misconceptions about fertility impacts (Adewumi et al., 2022; Muresu et al., 2025; Veeravagu et al., 2025). For example, in

* Corresponding author.
E-mail address: armahjerry2@gmail.com (J. Armah).

https://doi.org/10.1016/j.ijans.2025.100932
Received 29 November 2023; Received in revised form 27 September 2025; Accepted 5 December 2025
Available online 6 December 2025

Turkey, moderate perceptions of susceptibility correlated with higher screening motivation via the Health Belief Model (Yüksel & Özaydın, 2025), while in Iran and Indonesia, superstitious beliefs and fears of marital disruption deterred participation (Afsah & Kaneko, 2025; Khazaee-Pool et al., 2018). Among pregnant women, who represent a high-opportunity group for health interventions during prenatal care, research is limited but indicates that tailored education can enhance uptake (Omondi et al., 2022).

1.1. Background of study

Cervical cancer in pregnancy refers to cases detected during the current pregnancy as well as cases discovered 6–12 months following birth (Beharee et al., 2019). Pregnancy complications due to cervical cancer are uncommon. At the time of diagnosis, around 1 %-3% of women diagnosed with cervical cancer are pregnant or postpartum. However, in recent years, pregnancies at older ages are more common, which has led to an increase in the incidence of gynaecological malignant tumours during pregnancy (Beharee et al., 2019). With an estimated 530,000 new cases each year, cervical cancer accounts for 7.9 % of all cancers in females. Also, with rates varying from 2 per 100,000 in Western Europe and New Zealand to 27.6 per 100,000 in Sub-Saharan Africa, the death rate is highly variable throughout different parts of the world (World Health Organization, 2016; Yimer et al., 2021). As knowledge of the disease's natural history, the causal role of infection with high-risk HPV strains, and advancements in screening test technology have grown, so too have recommendations for cervical cancer screening. The screening interval has been extended, and HPV testing is now included in screening methods, among other significant improvements (Fontham et al., 2020). Although expanding HPV vaccination could reduce the number of cervical cancer cases in the future, LMICs still have relatively low HPV vaccination rates. So, for a swift decline in cervical cancer incidence and mortality, effective cervical cancer screening must be increased in LMICs (Brisson et al., 2020; Bruni et al., 2016; Huh et al., 2017; Lemp et al., 2020).

Women in Sub-Saharan Africa are disproportionately afflicted by cervical cancer, which has an unevenly distributed global burden due to higher incidence and mortality rates there compared to other regions. The greatest age-standardised incidence rate (ASR) of cervical cancer is found worldwide in Southern Africa (43.1 per 100,000) (International Agency for Research on Cancer, 2018). According to a study that included 11 countries, just 33 % of women in Sub-Saharan Africa survived cervical cancer five years after their diagnosis. Cervical cancer was the leading cause of cancer death in Sub-Saharan African women in 2018, accounting for 21.7 % of all cancer deaths there (International Agency for Research on Cancer, 2018; Jedy-Agba et al., 2020).

According to research, early disease can be efficiently detected by routine screening (Ahmed et al., 2013). Moreover, the successful prevention of HPV and cervical cancer depends greatly on women's awareness of the disease, their knowledge of the conditions it is associated with, and their willingness to undergo screenings. Almost 70 % of cancer patients in Ghana are discovered to have the disease after their tumours have reached an advanced stage (Osei et al., 2021). However, the majority of HPV infections that result in cervical cancer are asymptomatic and do not present any early warning signs or symptoms that might prompt a victim to seek medical attention. This justifies the importance of widespread education and screening in the fight against cervical cancer (Awua et al., 2016; Osei et al., 2021; Ozyer et al., 2013). The urgency of this study lies in addressing the critical gap in cervical cancer screening among pregnant women, a high-opportunity group for health interventions during prenatal care, where engagement with healthcare systems is frequent and sustained. Pregnant women represent a unique population for targeted screening, as prenatal visits provide a strategic window to deliver education and overcome barriers like stigma or fear, yet their specific beliefs, perceptions, and practices remain underexplored in Ghana and similar settings (Omondi et al., 2022). The lack of tailored interventions for this group contributes to persistently high cervical cancer mortality in LMICs, where early detection through screening could significantly reduce the burden. Medical professionals may take advantage of this chance to encourage pregnant women to receive routine treatment and cervical cancer screenings (Omondi et al., 2022). To improve cervical cancer screening in hospitals, it will be helpful to understand the cervical cancer screening knowledge, beliefs, and practices among women receiving prenatal health services.

1.2. Objectives of study

The primary objective of this study is to explore the beliefs and perceptions of pregnant women regarding cervical cancer screening. This includes assessing their knowledge, attitudes, and practices related to screening, with a focus on identifying barriers and facilitators to uptake during prenatal care.

2. Methods

2.1. Study design

A descriptive phenomenological approach was adopted in conceptualizing this study. This design was considered most effective since it recognizes participants' subjective perceptions of the problem, the variety of experiences they have, and presents the findings in a way that directly reflects or approaches the terminology used in the initial research question (Bradshaw et al., 2017). The study commenced on February 2023 and ended in October 2023. The COREQ guidelines was adopted in order to ensure quality in reporting this study (Tong et al., 2007).

2.2. Study setting and population

The study was conducted at the antenatal clinics of the Korle Bu Teaching hospital and the Kaneshie Polyclinic. The study involved pregnant women who attend the antenatal clinics of both hospitals. These facilities were chosen because they are key health facilities located in the Greater Accra region of Ghana.

Kaneshie Polyclinic is in Kaneshie in the Greater Accra Region of Ghana. It is one of several polyclinics in the region which provides medical care services to residents of Kaneshie and nearby communities. Their services include OPD, dental care, eye clinic, adolescent health, maternity service, laboratory service and community psychiatry.

The Korle Bu Teaching Hospital is the third largest referral center in Africa. Also, there are approximately 250 inpatient admissions per year and 1,500 outpatient visits on average. The hospital offers cutting-edge scientific treatment methods in several subspecialties, including neurosurgery, pediatric surgery, dental/oral maxillofacial, ophthalmology, and nuclear medicine. The Obstetrics and Gynecology department is structured into five units, each led by a senior consultant. Other consultants and doctors are evenly distributed among these units. Each unit holds a designated antenatal clinic day, which also serves as their duty day. Early pregnancy cases are initially attended to at the gynecology clinic and then transferred to the antenatal clinic between fourteen to twenty weeks of gestation (Korle Bu Teaching Hospital, 2023).

2.3. Sampling and sample size

A purposive sampling was adopted in recruiting participants who met the inclusion criteria for the study. The inclusion criteria were (1) Pregnant women seeking antenatal services at the Korle Bu Teaching Hospital or Kaneshie Polyclinic, (2) Pregnant women who are at least 18 years of age, (3) Pregnant women who would want to participate voluntarily. The exclusion criteria were (1) Pregnant women seeking antenatal care in other facilities aside the study setting, (2) Pregnant women unable to provide informed consent due to cognitive or language

barriers, (3) Pregnant women with a confirmed diagnosis of cervical cancer prior to the study, (4) Pregnant women participating in another concurrent study on cervical cancer screening. The sample size for the study was determined by data saturation. Saturation was identified when no new themes were arising from interviews conducted and was achieved on the twelfth(12) participant.

2.4. Instrumentation and data collection

The process of gathering data was guided by a semi-structured interview guide developed in accordance with the study's objectives. To evaluate the validity of the interview guide, the instrument was pretested on five pregnant women in a different hospital who met the inclusion criteria for our study. Based on the results of the preliminary testing and the advice of two experts who each have at least eight years of experience in qualitative research and over ten years in maternal health, adjustments were made to the instrument as necessary. The researchers approached each volunteer who met the requirements for inclusion and went over every detail of the study with them. Individuals who agreed to take part in the study were sought out and interviewed, with each session lasting on average 20 min in a small conference room at the clinic. One interviewer (A.D.M) who has five years of experience in qualitative research conducted the interviews, while an assistant (L. G) recorded the interviews and compiled reports. Neither of these researchers had a relationship with any of the participants. With the consent of participants, all interviews were audio recorded and transcribed later for data analysis.

2.5. Data analysis

All audiotaped interviews were transcribed in Microsoft Word. The transcribed data were read continually to guarantee that the exact statements made by participants were captured. Three researchers analysed the data using Braun and Clarke (2006) reflexive thematic analytic approach. This strategy began with an open coding of the transcript followed by an axial coding. Identified codes were grouped under respective categories, and interrelated codes were grouped to form themes. Themes were revised to ensure that they represented the ideas presented in their respective codes and some were further clustered as subthemes under one bigger theme.

2.6. Ethical consideration

The Kwame Nkrumah University of Science and Technology (KNUST), School of Medicine and Dentistry's Committee on Human Research Publication and Ethics (CHRPE) provided ethical approval. To gain administrative approval, a request to conduct the study at the institutions were filed to the hospitals' administrators. Only when written consent was acquired were participants recruited for the study. To maintain confidentiality, participant quotes were presented as those of anonymous individuals by assigning pseudonyms to them. Non-maleficence was ensured by using sensitive questioning technique to prevent emotional distress and probing too much into participants' private lives. Finally, justice was ensured by recruiting a diverse sample of participants with varying sociodemographic characteristics to enable fair distribution of research burden and benefits.

2.7. Trustworthiness

Lincoln and Guba (1985) evaluative criteria were used in ensuring trustworthiness in the study. Credibility was achieved by ensuring that the interviewer had the experience and expertise in conducting the interviews. Also, participants' quotes were indicated in the final report to indicated that participants were actively involved in the data collection process. Transferability was ensured by providing detailed descriptions of the context, participants, data collection, and analysis processes. Dependability was ensured by maintaining a clear and comprehensive audit trail of all research activities, decisions, and changes over the course of the study. Other researchers and theories were involved in the process of triangulation to achieve confirmability.

3. Results

3.1. Sociodemographic characteristics of participants

There were twelve participants involved in the study and were aged between 22–40 years. Nine participants were married and ten were Christians. The highest level of education reported was the tertiary and the Junior High School (JHS) was the lowest level recorded. Parity of participants ranged between 0–3. Refer to Table 1.

3.2. Themes and subthemes

Five themes and four subthemes emerged from the study (Refer to Table 2).

3.3. General knowledge and awareness level

This theme described the dimension of content that pertains to participants' understanding and awareness of cervical cancer and cervical cancer screening. The theme focused on participants' descriptions of what they know about cervical cancer. Almost all the participants reported to have heard about cervical cancer and were aware of its existence, although they had limited knowledge about the condition. They further reported that their main sources of information were the television, radio and one participant stated the hospital to be the source of information. This was evident in their quotes as:

"*Please, I have heard it before. I heard it over the radio, but I don't know how it looks like or seen it before*." **(Daniella)**
"*I heard it at the hospital*." **(Adwoa)**
"*Yes, they mentioned that too, that if you go to the hospital, you can be screened*." **(Akua)**

However, a participant further reported that, even though she was aware of the existence of cervical cancer, she had no idea that there was screening available for the condition.

"*I had no idea there was screening*." **(Daniella)**

3.4. At-risk population for cervical cancer

This theme explored perceptions of participants on groups of individuals who exhibit specific characteristics or factors that increase their susceptibility to developing cervical cancer. Two subthemes emerged from this theme: "Population and personal risk" and "Uncertainty about risk".

Table 1
Characteristics of participants.

Pseudonyms	Age (years)	Marital status	Religion	Level of education	Parity
Patience	26	Married	Christian	Tertiary	Two
Adwoa	26	Married	Christian	JHS	One
Cecilia	27	Co-habiting	Muslim	JHS	One
Ama	40	Married	Christian	Tertiary	Three
Daniella	36	Married	Christian	Tertiary	Three
Gina	36	Married	Christian	Tertiary	Two
Juliet	29	Married	Muslim	SHS	One
Abena	22	Single	Christian	SHS	One
Akua	32	Married	Christian	Tertiary	One
Yaa	28	Married	Christian	SHS	Three
Patricia	28	Married	Christian	SHS	One
Esther	26	Single	Christian	SHS	None

Table 2
Themes and subthemes.

Themes	Subthemes
General knowledge and awareness level	
At-risk population for cervical cancer	• Population and personal risk • Uncertainty about risk
Views on cervical cancer screening	
Lack of experience and knowledge gap	
Public awareness advocacy and protection	• Education and Promotion of screening • Self-care advocacy

3.4.1. Population and personal risk

Participants were of the view that women in their reproductive ages were most likely to develop cervical cancer, indicating the possible lifestyle changes which further increased risk. Others also perceived that any woman was at risk whiles some believed that anybody at all was at risk of developing cancer. Some of the participants' quotes were:

"*Oh, yes I can be affected because the discussion they had about it on the show meant that there is no actual cause but lifestyles like changing or having more than one sexual partner and also the things we insert into our vaginas can lead to you getting it.*" **(Akua)**.
"*Erhhhhh, I believe it can affect everyone, but I don't know if there are things to do to prevent it, but I know anyone at all can get it.*" **(Patience)**.
"*Yes, once it is a condition, everyone can get it.*" **(Daniella)**.

Considering the personal risks, there were varying views reported by participants. Participants believed that once it was a condition that affected women and had something to do with lifestyle changes, they were at risk. However, a participant also had the perception that even though it was a condition among females, she still did not see herself to be at risk.

"Yes, because so far as they say it affects women of menstrual age, it is possible." **(Ama)**.
"Though I'm a lady, I will not say I'm at risk." **(Abena)**.
"Oh, it is possible for me to get the condition because of our diets and personal hygiene…" **(Adwoa)**.

3.4.2. Uncertainty about risk

Participants had some uncertainties regarding the population at risk for developing cervical cancer and whether they were at risk or not. Some participants believed that older women were the population at risk and the uncertainty arises when talking about the younger generation. Another participant also had the perception that since she had not been diagnosed with it, she was not sure of her status. They had quotes such as:

"*Ermmm, since I haven't been diagnosed yet, I can't really tell whether I have or not.*" **(Esther)**.
"*Oh what I heard was that mostly our mothers are at risk, but I don't know for we the younger ladies.*" **(Patricia)**.

3.5. Views on cervical cancer screening

This theme explored participants' beliefs and perceptions on cervical cancer screening. Generally, participants were of the belief that screening for cervical cancer is a good thing. They were of the view that all women of the age group that were at risk should go for screening due to its potential benefits. One participant said:

" *Cervical cancer is real so we ladies should take care of ourselves and go for screening. It's not anything bad.*" **(Abena)**.

Another participant also stated:

"*Because as they mentioned that it affects women, then I think every woman of that age should go for screening because early detection helps in cure.*" **(Ama)**.

3.6. Lack of experience and knowledge gap

This theme aimed to describe participants experiences with cervical cancer screening if they had attended any. Interestingly, all of the participants reported to have not attended any screening for cervical cancer even though they were aware of its potential benefits. This was evident in their quotes as:

"*Because I haven't gone through it before, I can't really tell.*" **(Patience)**.
"*No, I have not gone for a screening.*" **(Yaa)**.

3.7. Public awareness advocacy and protection

The theme explored further information and thoughts participants had about cervical cancer and its screening which may have not been discussed in the course of the interview. Two subthemes emerged from this theme: "Education and Promotion of screening" and "Self-care advocacy".

3.7.1. Education and Promotion of screening

According to participants, there is the necessity for public health interventions in educating women on cervical cancer and promoting screening for the condition. They stated that they were aware of the importance of conducting such screenings and further reported that educating the public, especially women will help them. Participants stated:

"*The screening should be made known so that every woman can patronize, and education and advertisement for the public will also help.*" **(Patience)**.
"*Because the host of the television program said it affects women, it will be good for all women to go for screening.*" **(Ama)**.
"*If we are educated about the causes and preventive measures, it will help.*" **(Gina)**.

3.7.2. Self-care advocacy

This subtheme emerged from the consistent reports from participants on the importance of adhering to personal hygiene and maintaining good reproductive health. Since they had the knowledge that cervical cancer affects the cervix, they reported on the significance of undertaking preventive measures such as sticking to one sexual partner, regular check-ups, and avoid insertion of foreign materials into the vagina. Quotes supporting participants reports are:

"*As for me because it affects the cervix of women, and every woman has a cervix, so every woman should be careful, and again, they said putting things down there and changing sexual partners, so we should be careful.*" **(Akua)**.
"*Oh, what I can say is that we have to take good care of ourselves so that we don't contract the disease.*" **(Patricia)**.
"*So far as it is a condition associated with women, we all must be careful and take good care of ourselves. If it is one sexual partner you take, it should be just one. Once in a while, we must visit the hospital for check-ups…*" **(Juliet)**.

4. Discussion

The study aimed to explore the beliefs and perceptions of pregnant women on cervical cancer screening. The findings from this qualitative study highlight participants' understanding and awareness of cervical cancer and cervical cancer screening. While the participants reported

having heard about cervical cancer and being aware of its existence, they demonstrated limited knowledge about the condition. This is consistent with existing literature on health knowledge and awareness, which often shows that while people may have some awareness of certain health conditions, their knowledge about the specifics and available preventive measures may be lacking (Ghahramani et al., 2022; Trevethan, 2017). The reliance on television and radio as sources of information has also been reported by other studies, emphasizing the role of mass media in health communication (Leask et al., 2010; Venkat & Janakiram, 2021). Television and radio are accessible to many individuals and can play a crucial role in disseminating health-related information to the public (Berg et al., 2021). However, the limited knowledge reported by the participants indicates that there may be gaps in the effectiveness of these communication channels in conveying comprehensive and detailed information about cervical cancer. The participant who reported not being aware of the availability of screening for cervical cancer raises a significant concern. It indicates a potential lack of information dissemination and awareness campaigns focused on promoting cervical cancer screening. Existing literature emphasizes the importance of increasing awareness about screening programs, as early detection and prevention are critical in reducing the burden of cervical cancer (Coronado Interis et al., 2015; Taneja et al., 2021).

The study explored participants' perceptions of which groups of individuals are more susceptible to developing cervical cancer. The belief that women in their reproductive ages are most at risk is consistent with reports by Zhang et al. (2020) and Ampofo et al. (2023), that cervical cancer is commonly associated with sexually active women, particularly those infected with high-risk HPV types. The awareness of lifestyle factors impacting risk is also consistent with previous research, as certain behaviours, such as smoking and multiple sexual partners, have been linked to increased cervical cancer risk (Beyene et al., 2021; Opoku et al., 2016). However, the diverse views on personal risk are noteworthy. Some participants felt personally vulnerable due to their gender and lifestyle choices, while others did not perceive themselves to be at risk despite fitting the typical profile. This highlights the complexity of individual risk perception, which has been extensively studied in health psychology literature (Ferrer & Klein, 2015; Shiloh et al., 2013). Individual risk perception can influence health behaviours and decisions related to preventive measures, including screening uptake (Shiloh et al., 2013). Participants' uncertainties about the specific population at risk and their own risk status are not uncommon, as public awareness and understanding of cervical cancer risk factors and demographics can be varied. Addressing misconceptions and uncertainties through targeted health education campaigns may be crucial in improving risk perception accuracy and encouraging appropriate health-seeking behaviours (Anthonj et al., 2022).

The study also revealed a positive attitude towards screening, with participants expressing the belief that it is a beneficial practice for women within the affected age group. This aligns with existing studies which emphasize the importance of promoting positive attitudes towards screening programs to increase uptake and improve early detection rates (Afaya et al., 2022; Lott et al., 2020; Ramathuba et al., 2015). However, the study's findings also shed light on a significant barrier to screening participation. Despite the participants' positive views on screening, none of them reported having attended any cervical cancer screening. This highlights a gap between knowledge and action, which has been observed in various healthcare settings (Greene & Wilson, 2022; Kelly & Barker, 2016). Literature on health behaviour suggests that knowledge alone may not always translate into behaviour change, and there can be various reasons behind this discrepancy (Greene & Wilson, 2022; Haines et al., 2004). The lack of screening experience among participants may be attributed to various factors, such as lack of access to screening facilities, fear or discomfort associated with the screening process, or simply not perceiving oneself to be at risk. These factors have been documented in previous studies as barriers to cervical cancer screening uptake (Ampofo et al., 2020; Kamanga et al., 2023; Salem et al., 2017). To address this knowledge-action gap, it is essential to develop targeted interventions that not only focus on promoting awareness of cervical cancer screening benefits but also address the specific barriers that deter individuals from getting screened. This may involve implementing community-based education programs, improving access to screening services, and addressing misconceptions or fears associated with the procedure.

Participants highlighted the importance of public health interventions in educating women about cervical cancer and promoting screening for early detection. This is consistent with studies which emphasizes the role of public awareness campaigns in increasing knowledge about cervical cancer, its risk factors, and the benefits of regular screening (Binka et al., 2016; Ducray et al., 2021). Participants also revealed their awareness of the significance of cervical cancer screenings and the need to educate women in the community about these screenings. This has been reported by Ebu et al. (2019) and Osei et al. (2021) that highlight the crucial role of health education in encouraging preventive health behaviours, including regular screenings. Educating women about cervical cancer, its risk factors, and the availability of screening services can empower them to take charge of their health and seek early detection and treatment if needed (Calys-Tagoe et al., 2020). The study also revealed participants' recognition of the importance of personal hygiene and maintaining good reproductive health as preventive measures against cervical cancer. These self-care practices, such as sticking to one sexual partner and regular check-ups, have been associated with a potential reduction in cervical cancer risk (Asgarlou et al., 2016; Aweke et al., 2017).

5. Conclusion

Positive attitude towards screening demonstrated the potential benefits of raising awareness, yet none of them reported attending any cervical cancer screening, revealing a gap between knowledge and action. This discrepancy suggests the need to address specific barriers that prevent individuals from getting screened, such as access to facilities, fear, or lack of risk perception. Overall, the findings highlight the importance of comprehensive health education and targeted interventions to improve knowledge, promote positive attitudes towards screening, and address barriers hindering participation. By addressing these factors, public health authorities can work towards increasing screening uptake, facilitating early detection, and reducing the burden of cervical cancer among pregnant women and the broader community.

6. Strengths and limitations of study

This study had some notable strengths such as capturing diverse and subjective views that quantitative methods might overlook. This highlighted the psychological complexities and made findings more relatable in tailoring interventions. Also, it addressed a critical gap in a high-opportunity group and revealed how beliefs influence behaviour in resource-limited settings. This enhances a translational value for pregnant women during prenatal care where opportunities for interventions are high.

In addition to these strengths, some limitations were identified. Firstly, pregnant women may be inclined to respond in a socially desirable manner, especially when discussing sensitive topics like cervical cancer screening. This bias could lead to participants providing answers they believe researchers want to hear, rather than expressing their true beliefs and perceptions. Moreover, while data saturation is a commonly used criterion for determining sample size in qualitative studies, it may be subject to interpretation. Different researchers may identify saturation differently, potentially impacting the final sample size and the representativeness of the themes identified.

7. Recommendations for research, policy, and practice

- Adopt a mixed-methods approach to gain a comprehensive understanding of the knowledge-action gap observed in this study. Quantitative data can provide insights into the prevalence of screening uptake and identify specific demographic or cultural factors associated with non-participation.
- Develop and implement targeted health education campaigns focused on cervical cancer and screening, especially for pregnant women.
- Enhance access to cervical cancer screening facilities, particularly in underserved areas. Policymakers should prioritize the availability of screening services, ensuring affordability, and reducing barriers, such as long waiting times.
- Healthcare providers should engage in comprehensive counselling sessions with pregnant women to address their specific concerns and misconceptions about cervical cancer and screening.

Funding statement

Study was self-funded by researchers.

Ethical statement

The study adhered to relevant ethical guidelines and detailed how participants were treated. An informed consent was obtained, and approvals were secured from an institutional review board. There was no potential conflict of interest.

CRediT authorship contribution statement

Joana Kyei Dompim: Writing – review & editing, Supervision, Methodology, Data curation. **Abigail Kusi Amponsah:** Writing – review & editing, Supervision, Project administration, Methodology. **Edward Appiah Boateng:** Writing – review & editing, Supervision, Project administration. **Alberta Dotse Makafui:** Methodology, Investigation, Conceptualization. **Linda Gyaa:** Writing – original draft, Methodology, Formal analysis, Data curation. **Veronica Dzomeku:** Methodology, Formal analysis, Conceptualization. **Victoria Bam:** Writing – review & editing, Supervision, Project administration, Methodology. **Jerry Armah:** Writing – original draft, Formal analysis, Data curation, Conceptualization.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgement

We are grateful to the participants, KNUST and the authorities of Korle Bu Teaching hospital and Kaneshie Polyclinic for making this study possible.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.ijans.2025.100932.

References

Adewumi, K., Nishimura, H., Oketch, S. Y., Adsul, P., & Huchko, M. (2022). Barriers and facilitators to cervical cancer screening in western Kenya: A qualitative study. *Journal of Cancer Education, 37*(4), 1122–1128. https://doi.org/10.1007/s13187-020-01928-6

Afaya, A., Seidu, A. A., Sang, S., Yakong, V. N., Afaya, R. A., Shin, J., & Ahinkorah, B. O. (2022). Mapping evidence on knowledge of breast cancer screening and its uptake among women in Ghana: A scoping review. *BMC Health Services Research, 22*(1), 526. https://doi.org/10.1186/s12913-022-07775-z

Afsah, Y. R., & Kaneko, N. (2025). Exploring cervical cancer screening awareness, beliefs, barriers, and practices among Indonesian Muslim women in Japan: A qualitative study. *BMC Public Health, 25*(1), 1084. https://doi.org/10.1186/s12889-025-22285-3

Ahmed, S. A., Sabitu, K., Idris, S. H., & Ahmed, R. (2013). Knowledge, attitude and practice of cervical cancer screening among market women in Zaria, Nigeria. *Nigerian Medical Journal, 54*(5), 316–319. https://doi.org/10.4103/0300-1652.122337

Ampofo, A. G., Adumatta, A. D., Owusu, E., & Awuviry-Newton, K. (2020). A cross-sectional study of barriers to cervical cancer screening uptake in Ghana: An application of the health belief model. *PLoS One1, 15*(4), Article e0231459. https://doi.org/10.1371/journal.pone.0231459

Ampofo, A. G., Boyes, A. W., Asibey, S. O., Oldmeadow, C., & Mackenzie, L. J. (2023). Prevalence and correlates of modifiable risk factors for cervical cancer and HPV infection among senior high school students in Ghana: A latent class analysis. *BMC Public Health, 23*(1), 340. https://doi.org/10.1186/s12889-022-14908-w

Anthonj, C., Setty, K. E., Ferrero, G., Yaya, A., Mingoti, A.-M., Poague, K. I. H., Marsh, A. J., & Augustijn, E.-W. (2022). Do health risk perceptions motivate water - and health-related behaviour? a systematic literature review. *Science of the Total Environment, 819*, Article 152902. https://doi.org/10.1016/j.scitotenv.2021.152902

Asgarlou, Z., Tehrani, S., Asghari, E., Arzanlou, M., Naghavi-Behzad, M., Piri, R., Gareh Sheyklo, S., & Moosavi, A. (2016). Cervical cancer prevention knowledge and attitudes among female university students and hospital Staff in Iran. *Asian Pacific Journal of Cancer Prevention, 17*(11), 4921–4927. https://doi.org/10.22034/apjcp.2016.17.11.4921

Aweke, Y. H., Ayanto, S. Y., & Ersado, T. L. (2017). Knowledge, attitude and practice for cervical cancer prevention and control among women of childbearing age in Hossana Town, Hadiya zone, Southern Ethiopia: Community-based cross-sectional study. *PLoS One, 12*(7), Article e0181415. https://doi.org/10.1371/journal.pone.0181415

Awua, A. K., Sackey, S. T., Osei, Y. D., Asmah, R. H., & Wiredu, E. K. (2016). Prevalence of human papillomavirus genotypes among women with cervical cancer in Ghana. *Infectious Agents and Cancer, 11*, 4. https://doi.org/10.1186/s13027-016-0050-4

Bedell, S. L., Goldstein, L. S., Goldstein, A. R., & Goldstein, A. T. (2019). Cervical cancer screening: Past, present, and future. *Sexual Medicine Reviews, 8*(1), 28–37. https://doi.org/10.1016/j.sxmr.2019.09.005

Beharee, N., Shi, Z., Wu, D., & Wang, J. (2019). Diagnosis and treatment of cervical cancer in pregnant women. *Cancer Medicine, 8*(12), 5425–5430. https://doi.org/10.1002/cam4.2435

Berg, S. H., O'Hara, J. K., Shortt, M. T., Thune, H., Brønnick, K. K., Lungu, D. A., Røislien, J., & Wiig, S. (2021). Health authorities' health risk communication with the public during pandemics: A rapid scoping review. *BMC Public Health, 21*(1), 1401. https://doi.org/10.1186/s12889-021-11468-3

Beyene, T., Akibu, M., Bekele, H., & Seyoum, W. (2021). Risk factors for precancerous cervical lesion among women screened for cervical cancer in south Ethiopia: Unmatched case-control study. *PLoS One1, 16*(7), Article e0254663. https://doi.org/10.1371/journal.pone.0254663

Binka, C., Nyarko, S. H., & Doku, D. T. (2016). Cervical cancer knowledge, perceptions and screening behaviour among female University students in Ghana. *Journal of Cancer Education, 31*(2), 322–327. https://doi.org/10.1007/s13187-015-0852-x

Bowden, S. J., Doulgeraki, T., Bouras, E., Markozannes, G., Athanasiou, A., Grout-Smith, H., Kechagias, K. S., Ellis, L. B., Zuber, V., Chadeau-Hyam, M., Flanagan, J. M., Tsilidis, K. K., Kalliala, I., & Kyrgiou, M. (2023). Risk factors for human papillomavirus infection, cervical intraepithelial neoplasia and cervical cancer: An umbrella review and follow-up Mendelian randomisation studies. *BMC Medicine, 21*(1), 274. https://doi.org/10.1186/s12916-023-02965-w

Bradshaw, C., Atkinson, S., & Doody, O. (2017). Employing a qualitative description approach in health care research. *Global Qualitative Nursing Research, 4*, Article 2333393617742282. https://doi.org/10.1177/2333393617742282

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Brisson, M., Kim, J. J., Canfell, K., Drolet, M., Gingras, G., Burger, E. A., Martin, D., Simms, K. T., Bénard, É., Boily, M. C., Sy, S., Regan, C., Keane, A., Caruana, M., Nguyen, D. T. N., Smith, M. A., Laprise, J. F., Jit, M., Alary, M., Bray, F., Fidarova, E., Elsheikh, F., Bloem, P. J. N., Broutet, N., & Hutubessy, R. (2020). Impact of HPV vaccination and cervical screening on cervical cancer elimination: A comparative modelling analysis in 78 low-income and lower-middle-income countries. *Lancet, 395*(10224), 575–590. https://doi.org/10.1016/s0140-6736(20)30068-4

Bruni, L., Diaz, M., Barrionuevo-Rosas, L., Herrero, R., Bray, F., Bosch, F. X., de Sanjosé, S., & Castellsagué, X. (2016). Global estimates of human papillomavirus vaccination coverage by region and income level: A pooled analysis. *The Lancet Global Health, 4*(7), e453–e463. https://doi.org/10.1016/s2214-109x(16)30099-7

Calys-Tagoe, B. N. L., Aheto, J. M. K., Mensah, G., Biritwum, R. B., & Yawson, A. E. (2020). Cervical cancer screening practices among women in Ghana: Evidence from wave 2 of the WHO study on global AGEing and adult health. *BMC Women's Health, 20*(1), 49. https://doi.org/10.1186/s12905-020-00915-9

Coronado Interis, E., Anakwenze, C. P., Aung, M., & Jolly, P. E. (2015). Increasing Cervical Cancer Awareness and Screening in Jamaica: Effectiveness of a Theory-based Educational intervention. *International Journal of Environmental Research and Public Health, 13*(1), Article ijerph13010053. https://doi.org/10.3390/ijerph13010053

Ducray, J. F., Kell, C. M., Basdav, J., & Haffejee, F. (2021). Cervical cancer knowledge and screening uptake by marginalized population of women in inner-city Durban,

South Africa: Insights into the need for increased health literacy. *Womens Health (Lond), 17*, Article 17455065211047141. https://doi.org/10.1177/17455065211047141

Ebu, N. I., Amissah-Essel, S., Asiedu, C., Akaba, S., & Pereko, K. A. (2019). Impact of health education intervention on knowledge and perception of cervical cancer and screening for women in Ghana. *BMC Public Health, 19*(1), 1505. https://doi.org/10.1186/s12889-019-7867-x

Ferrer, R., & Klein, W. M. (2015). Risk perceptions and health behavior. *Current Opinion in Psychology, 5*, 85–89. https://doi.org/10.1016/j.copsyc.2015.03.012

Fontham, E. T. H., Wolf, A. M. D., Church, T. R., Etzioni, R., Flowers, C. R., Herzig, A., Guerra, C. E., Oeffinger, K. C., Shih, Y.-C. T., Walter, L. C., Kim, J. J., Andrews, K. S., DeSantis, C. E., Fedewa, S. A., Manassaram-Baptiste, D., Saslow, D., Wender, R. C., & Smith, R. A. (2020). Cervical cancer screening for individuals at average risk: 2020 guideline update from the American Cancer Society. *CA: A Cancer Journal for Clinicians, 70*(5), 321–346. https://doi.org/10.3322/caac.21628

Ghahramani, A., de Courten, M., & Prokofieva, M. (2022). The potential of social media in health promotion beyond creating awareness: An integrative review. *BMC Public Health, 22*(1), 2402. https://doi.org/10.1186/s12889-022-14885-0

Greene, C., & Wilson, J. (2022). The use of behaviour change theory for infection prevention and control practices in healthcare settings: A scoping review. *Journal of Infection Prevention, 23*(3), 108–117. https://doi.org/10.1177/17571774211066779

Haines, A., Kuruvilla, S., & Borchert, M. (2004). Bridging the implementation gap between knowledge and action for health. *Bulletin of the World Health Organization, 82*(10), 724–731. discussion 732.

Hewavisenti, R. V., Arena, J., Ahlenstiel, C. L., & Sasson, S. C. (2023). Human papillomavirus in the setting of immunodeficiency: Pathogenesis and the emergence of next-generation therapies to reduce the high associated cancer risk [Review]. *Frontiers in Immunology, 14*. https://doi.org/10.3389/fimmu.2023.1112513

Huh, W. K., Joura, E. A., Giuliano, A. R., Iversen, O. E., de Andrade, R. P., Ault, K. A., Bartholomew, D., Cestero, R. M., Fedrizzi, E. N., Hirschberg, A. L., Mayrand, M. H., Ruiz-Sternberg, A. M., Stapleton, J. T., Wiley, D. J., Ferenczy, A., Kurman, R., Ronnett, B. M., Stoler, M. H., Cuzick, J., Garland, S. M., Kjaer, S. K., Bautista, O. M., Haupt, R., Moeller, E., Ritter, M., Roberts, C. C., Shields, C., & Luxembourg, A. (2017). Final efficacy, immunogenicity, and safety analyses of a nine-valent human papillomavirus vaccine in women aged 16-26 years: A randomised, double-blind trial. *Lancet, 390*(10108), 2143–2159. https://doi.org/10.1016/s0140-6736(17)31821-4

International Agency for Research on Cancer. (2018). *Cancer Tomorrow*. https://gco.iarc.fr/tomorrow/home.

Jedy-Agba, E., Joko, W. Y., Liu, B., Buziba, N. G., Borok, M., Korir, A., Masamba, L., Manraj, S. S., Finesse, A., Wabinga, H., Somdyala, N., & Parkin, D. M. (2020). Trends in cervical cancer incidence in sub-Saharan Africa. *British Journal of Cancer, 123*(1), 148–154. https://doi.org/10.1038/s41416-020-0831-9

Kamanga, P., Zhang, B., & Stones, W. (2023). Factors associated with low utilisation of cervical cancer screening among urban women in Lilongwe, Malawi: A cross sectional study. *BMC Women's Health, 23*(1), 183. https://doi.org/10.1186/s12905-023-02324-0

Kelly, M. P., & Barker, M. (2016). Why is changing health-related behaviour so difficult? *Public Health, 136*, 109–116. https://doi.org/10.1016/j.puhe.2016.03.030

Khazaee-Pool, M., Yargholi, F., Jafari, F., & Ponnet, K. (2018). Exploring iranian women's perceptions and experiences regarding cervical cancer-preventive behaviors. *BMC Women's Health, 18*(1), 145. https://doi.org/10.1186/s12905-018-0635-8

Korle Bu Teaching Hospital. (2023). Korle Bu Teaching Hospital: About us. https://kbth.gov.gh/brief-history/.

Leask, J., Hooker, C., & King, C. (2010). Media coverage of health issues and how to work more effectively with journalists: A qualitative study. *BMC Public Health, 10*(1), 535. https://doi.org/10.1186/1471-2458-10-535

Lemp, J. M., De Neve, J.-W., Bussmann, H., Chen, S., Manne-Goehler, J., Theilmann, M., Marcus, M.-E., Ebert, C., Probst, C., Tsabedze-Sibanyoni, L., Sturua, L., Kibachio, J. M., Moghaddam, S. S., Martins, J. S., Houinato, D., Houehanou, C., Gurung, M. S., Gathecha, G., Farzadfar, F., Dryden-Peterson, S., Davies, J. I., Atun, R., Vollmer, S., Bärnighausen, T., & Geldsetzer, P. (2020). Lifetime prevalence of cervical cancer screening in 55 low- and middle-income countries. *JAMA, 324*(15), 1532–1542. https://doi.org/10.1001/jama.2020.16244

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Sage.

Lott, B. E., Trejo, M. J., Baum, C., McClelland, D. J., Adsul, P., Madhivanan, P., Carvajal, S., Ernst, K., & Ehiri, J. (2020). Interventions to increase uptake of cervical screening in sub-Saharan Africa: A scoping review using the integrated behavioral model. *BMC Public Health, 20*(1), 654. https://doi.org/10.1186/s12889-020-08777-4

Muresu, N., Sechi, I., Puci, M. V., Dettori, M., & Piana, A. (2025). Beliefs and perceptions in attending the cervical screening: The COMUNISS project experience. *Cancers, 17*(2), 190. https://www.mdpi.com/2072-6694/17/2/190.

Omondi, A. A., Shaw-Ridley, M. D., & Soliman, A. (2022). Factors influencing cervical cancer screening among pregnant women in Nairobi. *Kenya. African Journal of Reproductive Health, 26*(11), 47–55.

Opoku, C. A., Browne, E. N., Spangenberg, K., Moyer, C., Kolbilla, D., & Gold, K. J. (2016). Perception and risk factors for cervical cancer among women in northern Ghana. *Ghana Medical Journal, 50*(2), 84–89. https://doi.org/10.4314/gmj.v50i2.6

Osei, E. A., Appiah, S., Gaogli, J. E., & Oti-Boadi, E. (2021). Knowledge on cervical cancer screening and vaccination among females at Oyibi Community. *BMC Women's Health, 21*(1), 148. https://doi.org/10.1186/s12905-021-01296-3

Ozyer, S., Uzunlar, O., Ozler, S., Kaymak, O., Baser, E., Gungor, T., & Mollamahmutoglu, L. (2013). Awareness of Turkish female adolescents and young women about HPV and their attitudes towards HPV vaccination. *Asian Pac J Cancer Prev, 14*(8), 4877–4881. https://doi.org/10.7314/apjcp.2013.14.8.4877

Ramathuba, D. U., Ratshirumbi, C. T., & Mashamba, T. M. (2015). Knowledge, attitudes and practices toward breast cancer screening in a rural South African community. *Curationis, 38*(1). https://doi.org/10.4102/curationis.v38i1.1172

Salem, M. R., Amin, T. T., Alhulaybi, A. A., Althafar, A. S., & Abdelhai, R. A. (2017). Perceived risk of cervical cancer and barriers to screening among secondary school female teachers in Al Hassa, Saudi Arabia. *Asian Pacific Journal of Cancer Prevention, 18*(4), 969–979. https://doi.org/10.22034/apjcp.2017.18.4.969

Shiloh, S., Wade, C. H., Roberts, J. S., Alford, S. H., & Biesecker, B. B. (2013). Associations between risk perceptions and worry about common diseases: A between- and within-subjects examination. *Psychol Health, 28*(4), 434–449. https://doi.org/10.1080/08870446.2012.737464

Taneja, N., Chawla, B., Awasthi, A. A., Shrivastav, K. D., Jaggi, V. K., & Janardhanan, R. (2021). Knowledge, attitude, and practice on cervical cancer and screening among women in India: A review, 10732748211010799 *Cancer Control, 28*. https://doi.org/10.1177/10732748211010799.

Tong, A., Sainsbury, P., & Craig, J. (2007). Consolidated criteria for reporting qualitative research (COREQ): A 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care, 19*(6), 349–357. https://doi.org/10.1093/intqhc/mzm042

Trevethan, R. (2017). Deconstructing and assessing knowledge and awareness in public health research. *Front Public Health, 5*, 194. https://doi.org/10.3389/fpubh.2017.00194

Veeravagu, T., Hamdiui, N., Stein, M. L., Crutzen, R., & Timen, A. (2025). Barriers, facilitators, needs, and preferences in seeking information regarding cervical cancer prevention programs among Turkish, Moroccan, and Syrian immigrant women: A scoping review. *BMC Public Health, 25*(1), 1242. https://doi.org/10.1186/s12889-025-22359-2

Venkat, M., & Janakiram, C. (2021). Mass media coverage in health & oral health-related advertisements: A content analysis in Kerala, India. *Journal of Oral Biology and Craniofacial Research, 11*(3), 451–456. https://doi.org/10.1016/j.jobcr.2021.06.001

World Health Organization. (2016). *Cervical cancer*. https://www.who.int/health-topics/cervical-cancer#tab=tab_1.

World Health Organization. (2024). *Cervical cancer*. https://www.who.int/news-room/fact-sheets/detail/cervical-cancer.

Yimer, N. B., Mohammed, M. A., Solomon, K., Tadese, M., Grutzmacher, S., Meikena, H. K., Alemnew, B., Sharew, N. T., & Habtewold, T. D. (2021). Cervical cancer screening uptake in Sub-Saharan Africa: A systematic review and meta-analysis. *Public Health, 195*, 105–111. https://doi.org/10.1016/j.puhe.2021.04.014

Yüksel, G. H., & Özaydın, A. N. (2025). Assessment of health beliefs and motivations for cervical cancer screening. *Healthcare, 13*(7), 804. https://www.mdpi.com/2227-9032/13/7/804.

Zhang, S., Xu, H., Zhang, L., & Qiao, Y. (2020). Cervical cancer: Epidemiology, risk factors and screening. *Chin J Cancer Res, 32*(6), 720–728. https://doi.org/10.21147/j.issn.1000-9604.2020.06.05