South Afr J Gynaecol Oncol. 2025;17:1-6
https://doi.org/10.36303/SAJGO.387

South Afr J Gynaecol Oncol
ISSN 2074-2835 EISSN 2220-105X

ORIGINAL RESEARCH

The effects of cervical cancer screening campaigns: follow-up discussions with women in Makhuduthamaga sub-district, Sekhukhune District, Limpopo Province, South Africa

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Background: Cervical cancer remains a global burden and is regarded as the fourth most common cancer in women worldwide. The high mortality of cervical cancer among women in the Makhuduthamaga sub-district is a major concern to the researcher. Consequently, a study was conducted to explore the perceptions of women about cervical cancer screening, aiming to discover the possible factors contributing to mortality. The objectives were to gather the perceptions of women regarding cervical cancer screening to empower women about cervical cancer screening in the Makhuduthamaga sub-district.

Methods: A qualitative, descriptive, and exploratory approach was used. Women between the ages of 30 and 70 years from the randomly selected 10 clinics of the Makhuduthamaga sub-district were chosen through purposive sampling. Data obtained from the study were analysed thematically using categorisation.

Results: The findings revealed participants' inadequate knowledge about cervical cancer screening. There was an indication that participants who screened for cervical cancer were fearful of death and loss of the uterus and did not undertake screening for prophylactic purposes. Furthermore, participants did not know to screen for cervical cancer due to ignorance.

Conclusion: Knowledge about cervical cancer influenced participants' decisions about cervical cancer screening. The results revealed a great need for health education for all women, health workers, and home-based carers about the importance of cervical cancer and screening. Cervical cancer screening awareness campaigns are crucial to reduce cancer mortality.

Keywords: cervical cancer screening, perceptions, women, uptake

Introduction

Cervical cancer remains a worldwide health problem and a global concern, with 80% of cases occurring in low-income countries. Even though cervical cancer is preventable through early detection, treatment, and vaccination, it contributes to high mortality among millions of women.[1-3] Dickson et al.[4] highlighted that cervical cancer ranks as the fourth most common cancer among women worldwide, with 604 000 new cases and 342 000 deaths reported in 2020. Cervical cancer is the leading cause of cancer-related deaths among women in sub-Saharan Africa. This observation is supported by Jedy-Agba et al.,[5] who noted that women in this region experience a disproportionately higher incidence and mortality rate compared to other parts of the world. Forney-Gorman et al.[6] found that African-born black women have significantly lower rates of cervical cancer screening compared to African American women. They emphasised the necessity for additional research to address this disparity.

Research findings highlight South Africa's struggle with a high incidence of cervical cancer, notably affecting black women, as reported by Rwamugira et al.[7] Despite this burden, a study by Mabotja Chisale et al.[8] in Johannesburg revealed that women who undergo cervical cancer screening are typically older, possess more knowledge about screening, and perceive the disease as severe. However, the research also identifies challenges, such as delays in managing abnormal Pap smears, referral complexities, and issues with result quality and retention. Addressing these obstacles is central to alleviating the escalating cervical cancer cases.[8]

This study investigates the challenges faced in achieving cervical cancer screening targets in the Makhuduthamaga sub-district, South Africa. Despite a target of screening two women per day to meet the annual goal set by the Limpopo Provincial Department of Health, the target remains unmet. This study utilises a qualitative description method to examine the effects of cervical cancer screening campaigns and explore women's perceptions of screening in the region.

Cervical cancer screening campaigns

Cervical cancer is preventable, and various screening methods, such as Pap smears and direct visual inspection, are used in African countries with screening programmes. However, South Africa has a cervical cancer screening policy that gives asymptomatic women aged 30 years and older an opportunity to have three Pap smears at a one-year interval in nurse-led primary healthcare clinics.[9] Despite the available clinics that offer cervical cancer screening free of charge and cervical cancer being the most common worldwide health problem, the uptake of cervical cancer screening remains low.

In this study, while working in a hospital in the Makhuduthamaga sub-district, Sekhukhune District, Limpopo Province, South Africa, the researcher witnessed that most women admitted died of cervical cancer in the hospital. The researcher was

concerned about the high number of women's cervical cancer-related deaths, which could be prevented at an early stage if diagnosed. This raised two research questions: 1) Are registered nurses in clinics having challenges screening women for cervical cancer? 2) Are women aware of the importance of cervical cancer screening?

Cervical cancer screening campaigns were conducted to raise awareness about the importance of cervical cancer screening as a way of increasing the uptake of screening, thus reducing cancer-related morbidity and mortality in the Makhuduthamaga sub-district. The study aimed to outline the effects of cervical cancer screening campaigns in the Makhuduthamaga sub-district, Sekhukhune District, Limpopo Province, South Africa, and explore the perceptions of women about cervical cancer screening through individual interviews.

The study will encourage and motivate health service providers to conduct cervical cancer screening campaigns, thus reducing worldwide cancer-related morbidity and mortality. The findings of this study, conducted in the Makhuduthamaga sub-district, will add value and influence in bringing or adding new ideas to other worldwide cervical cancer-related studies aimed at reducing cancer-related deaths.

Materials and methods

Research method and design

A qualitative, descriptive study method was applied using an interview guide. The researcher took some initiatives to work in the primary healthcare clinic to minimise cervical cancer morbidity and mortality as a preventive measure by implementing the cervical cancer screening policy. The researcher led and conducted cervical cancer screening campaigns for a week in each of the 10 fixed and two mobile clinics, which served as a sampling method.

The cervical cancer screening campaign comprised a team of three professional nurses who conducted the campaigns for a week at each clinic in the Makhuduthamaga sub-district. The team travelled to each clinic every morning and ensured the availability of cervical cancer screening resources, such as cytology kits, sterilising machines, and Pap smear packs when visiting each clinic. The team encouraged women to get cervical cancer screening by giving health talks and ensuring that all willing women were screened for cervical cancer before leaving the clinic.

A total of 739 women were screened within three months. The staff in each clinic was encouraged to participate in the cervical cancer screening campaigns, and conducting Pap smears and analysing Pap smear results became their learning opportunity.

Study setting

The study was conducted among the 10 randomly selected primary healthcare clinics from the 21 primary healthcare clinics in the rural Makhuduthamaga sub-district, Sekhukhune District, Limpopo Province, South Africa, under the Department of Health, where cervical cancer screening is provided free of charge. Women who visited the clinic were purposely chosen and individually interviewed in a private room using an interview guide to obtain information about their knowledge of cervical cancer screening.

Participants

The study participants were women aged 30 years and above, purposely chosen as the target group according to the National Cervical Cancer Screening Policy Guidelines.[10] The study participants were chosen to achieve a good balance between the quality of the analysis and the population within the study setting. An informed consent form for voluntary participation was signed by 23 participants after all aspects necessary for participation were read and explained.[11]

Data collection and instruments

Semi-structured, in-depth interviews were conducted in a private room, following the stages of the interviewing process as described by DeJonckheere and Vaughn.[12] Qualitative data were collected using open-ended questions to explore participants' thoughts, feelings, and beliefs regarding cervical cancer screening, delving deeply into personal and sensitive issues.[12] Women aged 30 years and older were purposely chosen as the study's target population.

Before the interviews, each participant granted permission for audio recording. Data were captured using a tape recorder, a prerequisite for subsequent analysis.[13] While English was the primary language for data collection, local languages were used when necessary to clarify.[14] The researcher ensured data validity, accuracy, and consistency by paraphrasing during interviews.[15] Probing and clarification techniques were employed throughout the interviews. Data collection took place over two weeks in February 2015, achieving data saturation by the 11th participant, though interviews continued until 23 participants were included.[16]

A validated, semi-structured interview guide was developed by the researcher to give direction to the questions asked and areas of focus for the researcher during the interview. However, follow-up questions and paraphrasing were applied to participants' responses to validate and elicit more information.[17] The instrument consisted of the following interview questions, which assisted the researcher in focusing on the research objectives:

Questions
1. Age
2. Kindly explain to me your understanding of cervical cancer screening
3. Did you ever undergo cervical cancer screening?
3.1 Yes?
3.2 No?
3.3 Why?
4. Do you think screening for cervical cancer is important?
5. Describe the possible consequences of not screening for cervical cancer
6. Can you encourage someone to undergo cervical cancer screening?

6.1 Yes?
6.2 No?
6.3 Why?

The interview process was audio recorded, while the researcher transcribed some information and lasted between 25 and 30 minutes on average. After data collection was completed, the questionnaires were placed in a sealed envelope, numbered sequentially, and taken for transcription in a safe place.

Data management and analysis

Questionnaires, numbered, sealed in an envelope, and kept in a safe place, were analysed sequentially according to the numbering to maintain order and taken for transcription. Audio data was transcribed after individual interviews with all 23 participants after two weeks to refer the researcher to participants' exact words during the analysis.[12] The researcher listened to the audio tape and repeatedly read the transcripts to familiarise herself with the data.

The analysis process comprised condensation to reduce the text and abstraction to reconstitute the text in a higher level of abstraction by coding, categorisation, and theme development.[18] The study supervisor agreed on the themes and coding to ensure qualitative rigour.

Content analysis occurred concurrently with data collection, and participants' responses were coded into themes and sub-themes. Emerged themes and sub-themes were coded to reach the final analysed data. Further classification, indexing, conversion of qualitative data into smaller, manageable units for review, and data coding into categories were applied.[19]

Results

Demographic profile

Women aged 30 and above participated in the study. The ages of the total sample (n = 23) ranged from 30 to 65 years, and the ranges of 30–40 and 41–50 comprised nine women each, while 51–60 had three women, and 61–70 had only two women. The details are presented in Table I. The median age for this data is 11.5, which falls within the interval (30–40).

Table I: Study participants' age distribution

Age category	Number
30–40	9
41–50	9
51–60	3
61–70	2
Total	23
Midian age = 1/2 (total frequency) = 1/2 (23) = 11.5	

Themes and sub-themes

Themes emerged from the questions asked, and sub-themes were coded based on participants' responses regarding their perceptions of cervical cancer screening. Themes included the understanding of cervical cancer screening, women who underwent cervical cancer screening, the importance of cervical cancer screening, the possible consequences of not screening for cervical cancer, and encouragement of other women to undergo cervical cancer screening. The themes and sub-themes that emerged from the data are presented in Table II.

Theme 1: Understanding cervical cancer screening

The study reflected participants' different views about their understanding of cervical cancer screening. Some participants' responses revealed a lack of knowledge, while other responses reflected that they were knowledgeable and informed about cervical cancer screening. Women's lack of knowledge could limit their intent to screen for cervical cancer and negatively impact their health status. However, some participants considered the encouragement of screening by professional nurses as being forced to do so, as indicated in the quotes below.

"I do not know much about cancer, but what I know is that it is dangerous."

"As adults, we are forced to do cervical cancer screening as we are even old no more menstruating as blood may clot and lead to cancer as blood is no more reduced in our body, so it is important to do screening."

"I do not know anything about cancer of cervix. I know nothing, my child. I only heard about it. I only know about cancer of the breast."

"I understand a little bit about it, as I once visited one clinic and did it to check if I have cancer or not. It is a test which they take blood in the uterus to test if you have cancer or not."

"I do not know anything about screening. That is why I volunteered for the interview, for you to explain to me to understand. I used to hear from radios, but I did not pay attention."

Theme 2: Undergone cervical cancer screening

Only eight of the 23 participants (8/23, 35%) did not screen for cervical cancer due to a lack of knowledge. Only 10 of the 23 participants (10/23, 43%) screened for cervical cancer because they heard information from the media and clinic. Five participants screened for cervical cancer, for reasons such as fear of death. Participants also shared diagnostic purposes for cervical cancer screening, as reflected in the responses below.

"Yes. Because I had an offensive per vaginal discharge and lower abdominal pains, and when I heard nurses talking about it, I had courage to screen."

"Yes. I did them. Twice when I was 32 years and 44 years. I was once assaulted, so I wanted to know if my uterus was not injured, and I also had two abortions. Nurses encouraged us to do the tests."

"Yes. Because I know cancer of cervix kills women."

Theme 3: The importance of cervical cancer screening

All 23 participants considered cervical cancer screening important, with eight of them giving reasons, while three

Table II: Themes and sub-themes

Themes	Sub-themes	Women's responses
Understanding cervical cancer screening	Lack of knowledge Knowledgeable and informed	P1: "I do not know much about cancer, but what I know is that it is dangerous." P10: "To speak the truth, I know nothing about it. I do not want to lie." P11: "I do not know anything about Pap smear."
Undergone cervical cancer screening	Fear of cancer-related death and complications (5/23)	P2: "Yes. Because I know cancer of cervix kills women."
	Cervical cancer screening and early diagnostic purposes Encouraged by media and nurses (10/23)	P2: "Yes. Because I know cancer of cervix kills women." P7: "Yes. Nurses encouraged us to do the tests."
	Lack of knowledge (8/23)	P10: "No. To speak the truth, I know nothing about it. I do not want to lie." P11: "No. I do not know anything about Pap smear."
The importance of cervical cancer screening	Cervical cancer prevention Awareness and early diagnosis of cervical cancer	P3: "Yes. It is important to know if you have cancer of cervix." P4: "Yes. To know your health status." P8: "Yes. A lot. To know your health status." P10: "Yes. It is important, as you indicated, because I may be having cancer of the cervix and not knowing."
Consequences of not screening for cervical cancer	Cancer complications and death	P2: "Your uterus will rot, and you will die." P11: "You will end up having cancer unknowingly, you will die, and you will be offensive and unable to stay with other people." P13: "A person may die of cancer of the cervix as you might have had the cancer of the cervix at the late stage when you reach the clinic." P14: "You will end up having an illness like some sores in the private parts." P15: "If you do not do cervical cancer screening, you may have a problem with your uterus and have offensive per vaginal discharges and start menstruating of which you are not supposed to."
Encouragement of other women for cervical cancer screening	Early detection and diagnosis of cervical cancer Importance of screening Safety and prevention of cervical cancer and death	P2: "Yes. If she delays, the uterus will be complicated by the time she does screening, then she will die." P11: "Yes. So that one does not discover the problem late when cancer has already progressed and also that one may get help at an early stage." P13: "Yes. A lot because we have lost some of our relatives due to cancer, and now I see the need for cervical cancer screening." P14: "Yes. If a person has the signs." P15: "Yes. A lot. If she does not know, she is sick and does not know, you can encourage her to screen and do other tests." P16: "Yes. To preserve your life as I already gained the information and be able to raise our children. If you are sick, there is nothing you can do." P17: "Yes. Because cancer of the cervix is dangerous and we should all do the tests at all times, to check our health status to know our health problems."

could not give reasons. Participants stated that fear of cancer complications and death, cervical cancer prevention, and awareness and early diagnosis of cervical cancer are reasons why cervical cancer screening is important. The following quotes were from participants stressing the importance of cervical cancer screening.

"Yes. If you do not screen, by the time you do it, it will be late as the uterus will be rotten by then if you do not screen early."

"Yes, because when you are pregnant, you may have abortions and not know the problem, that is why we must screen."

"Yes. Too much because you can lose many things. If your uterus can be rotten, you will never have kids, but I do not know if cancer can stop menstruation."

"Yes. It is important because prevention is better than cure, unlike to come to clinic when the condition has complicated."

"Yes. To know your health status."

Theme 4: Consequences of not screening for cervical cancer

Ironically, participants seemed to be aware of the consequences of not screening for cervical cancer despite displaying a lack of knowledge regarding screening. Complications of cervical cancer and death were major concerns cited by participants, as indicated in Table II.

Theme 5: Encouragement of other women for cervical cancer screening

All participants responded that it was important to encourage other women to get cervical cancer screening to prevent some complications. Participants' reasons for encouraging other women to get screened include early detection and diagnosis of cervical cancer, the importance of screening, safety and prevention of cervical cancer, and death. Participant quotes are presented in Table II.

Discussion

This study explored the effects of cervical cancer screening campaigns, and follow-up discussions with women were held

regarding cervical cancer screening. In our study sample, 23 women from the 10 clinics in the Makhuduthamaga sub-district were interviewed according to five themes, where sub-themes emerged from the women's responses. The sub-themes included a lack of knowledge about cervical cancer screening, being knowledgeable and informed about cervical cancer screening, fear of cancer-related death and complications, cervical cancer screening and early diagnostic purposes, encouragement by media and nurses, cervical cancer prevention, and awareness of cervical cancer. In the study, the sub-themes of a lack of knowledge versus knowledge, fear of cancer-related death and complications, early diagnosis, prevention, and awareness purposes emerged as major concerns.

Despite the high cancer mortality affecting women in various countries, most women in this study had inadequate knowledge about cervical cancer screening. In this study, 68% of participants did not know about cervical cancer screening, which led to a low uptake of cervical cancer screening. Women's lack of knowledge about cervical cancer screening in this study concurs with the studies conducted in South Africa, which found that cervical cancer knowledge and awareness are low among South Africans despite a high cervical cancer prevalence.[20]

According to Ogbonna, the knowledge of cervical cancer screening is lower, with 10.8% of the students in the sub-Saharan region of UK universities having knowledge of cervical cancer.[21] The results of a lack of knowledge about cervical cancer in the sub-Saharan countries are also emphasised by Yimer et al.,[22] who stated that it is among the factors that contributed to the low uptake of cervical cancer screening in sub-Saharan Africa. A meta-analysis of seven studies confirmed that knowledge about cervical cancer increased the uptake by nearly five times.[22]

According to the findings, women appear to have a fear of cancer-related death and complications, as 15/23 (65%) women repeated this sub-theme when responding to themes such as having undergone cervical cancer screening, the consequences of cervical cancer, and encouragement about cervical cancer screening. The study's findings are supported by Ropeik, who stated that "it is widely believed that a cancer diagnosis is a death sentence and that there is nothing we can do," and patients reflected their fear of cancer by stating that "scared, death, feeling that you can't control it, it's out of your control."[23] However, Ropeik gave an encouraging statement that screening for cancer gives us something we can do, i.e. positive action to allay fears.[23]

The fear of cancer-related death is supported by Statistics South Africa, as cancer is a rising crisis in South Africa, with 1.1 million new cases being reported in Africa alongside approximately 700 000 cancer-related deaths on the continent each year.[24] Furthermore, Ho estimated that by 2030, deaths from cancer will edge up to 1 million per year and that 70% of cancer deaths will occur in low- to middle-income countries where resources are limited.[25] Therefore, it is crucial for all women above the age of 25 to screen for cervical cancer yearly.

In the study findings, the sub-themes such as early diagnosis, prevention, and awareness of cervical cancer screening amounted to 8/23 (34.7%). These sub-themes were repeated in women's responses in the themes such as encouragement, importance, and having undergone cervical cancer screening. In the study conducted in the Eastern Cape Province, Mbulawa et al.[20] stated that cervical cancer is among the cancers that can be prevented by effective screening, early diagnosis, and the treatment of precancerous lesions. The study findings revealed a very low percentage compared to the number of deaths that occur in a year in South Africa.[20]

The low results of women having knowledge about early diagnosis, prevention, and treatment in this study concur with the poor access to and utilisation of screening services by women in the sub-Saharan region.[24] The multilevel strategies identified by Atnafu et al.[26] to be implemented in the sub-Saharan region across the individual level (users), community and organisational levels (providers and community users), system and policy levels for the prevention and management of cervical cancer programmes should be researched in South Africa for possible adoption based on the research study.

Cervical cancer screening campaigns

Cervical cancer screening campaigns are the best strategy for encouraging women to screen for cervical cancer. The motivation and courage observed by professional nurses and other health workers during cervical cancer screening campaigns improved the uptake of cervical cancer screening among women.

What this study adds

This study highlights the effects of cervical cancer screening campaigns and participants' views on understanding cervical cancer screening. The study revealed the level of knowledge about cervical cancer screening among women in the Makhuduthamaga sub-district and shows the need for cervical cancer screening awareness campaigns to empower the public and improve the uptake of cervical cancer screening in developing countries.

Limitations

The study was conducted in 10 purposely selected clinics in the Makhuduthamaga sub-district, which formed its representativeness. The purposeful selection of participants was limited to the study, as the selection was based on availability and voluntary participation. If the researcher had had enough time to interview more participants, more interesting information could have been obtained to offer a broader view of the study. The data volume made analysis and interpretation time-consuming. Consequently, the researcher obtained study leave for adequate analysis and interpretation time.

Conclusion

The study used a descriptive, qualitative research method to outline the effects of cervical cancer screening campaigns and explore women's perceptions regarding cervical cancer screening. The findings revealed the central role of cervical cancer screening campaigns in improving the uptake of cervical cancer screening. The lack of knowledge about cervical cancer screening among women influences the uptake of cervical cancer

screening in the Makhuduthamaga sub-district, Sekhukhune District, Limpopo Province, South Africa.

Conflict of interest

There are no financial or personal interests that may have inappropriately influenced the writing of this article.

Funding source

None.

Ethical approval

Study approval was obtained from the University of South Africa Higher Degree Committee College of Human Sciences and permission from the Department of Health of the Limpopo Province (Ref: 012714–039 HSDC/343/2014).

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References

1. Tapera O, Dreyer G, Kadzatsa W, et al. Cervical cancer knowledge, attitudes, beliefs and practices of women aged at least 25 years in Harare, Zimbabwe. BMC Womens Health. 2019;19(91). https://doi.org/10.1186/s12905-019-0790-6.
2. Bray F, Ferlay J, Soerjomataram I, et al. Global cancer statistics 2018: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. CA Cancer J Clin. 2018;68(6):394-424. Erratum in: CA Cancer J Clin. 2020;70(4):313. https://doi.org/10.3322/caac.21492.
3. Ewaisha R, Panicker G, Maranian P, Unger ER, Anderson KS. Serum immune profiling for early detection of cervical disease. Theranostics. 2017;7(16):3814-23. https://doi.org/10.7150/thno.21098.
4. Dickson KS, Boateng EN, Acquah E, Ayebeng C, Addo IY. Screening for cervical cancer among women in five countries in sub-Saharan Africa: analysis of the role played by distance to health facility and socio-demographic factors. BMC Health Serv Res. 2023;23(61). https://doi.org/10.1186/s12913-023-09055-w.
5. Jedy-Agba E, Joko WY, Liu B, et al. Trends in cervical cancer incidence in sub-Saharan Africa. Br J Cancer. 2020;123(1):148-54. https://doi.org/10.1038/s41416-020-0831-9.
6. Forney-Gorman A, Kozhimannil KB. Differences in cervical cancer screening between African-American versus African-born black women in the United States. J Immigr Minor Health. 2016;18(6):1371-7. https://doi.org/10.1007/s10903-015-0267-0.
7. Rwamugira J, Maree JE, Mafutha N. The knowledge of South African men relating to cervical cancer and cervical cancer screening. J Cancer Educ. 2019;34(1):130-6. https://doi.org/10.1007/s13187-017-1278-4.
8. Mabotja MC, Levin J, Kawonga M. Beliefs and perceptions regarding cervical cancer and screening associated with Pap smear uptake in Johannesburg: a cross-sectional study. PLoS One. 2021;16(2):e0246574. https://doi.org/10.1371/journal.pone.0246574.
9. Kaila I, Maree JE. An exploration into the level and characteristics of pain experienced by South African women treated for cervical cancer. Int J Afr Nurs Sci. 2018;8:141-8. https://doi.org/10.1016/j.ijans.2018.05.005.
10. National Department of Health. National guideline for cervical cancer screening programme [Internet]. 2018. Available from: https://www.kznhealth.gov.za/cervicalcancer.pdf. Accessed 8 April 2018.
11. Sievenpiper LJ. A randomized controlled trial of the effect of replacing sugar-sweetened beverage with non-nutritive sweetened beverage or water on gut microbiome and metabolic outcomes: strategies to oppose SUGARS with non-nutritive sweeteners or water (STOP SUGARS NOW) study. STOP SUGARS NOW Study; 2018 [updated 2018 June 1].
12. DeJonckheere M, Vaughn LM. Semistructured interviewing in primary care research: a balance of relationship and rigour. Fam Med Community Health. 2019;7(2):e000057. https://doi.org/10.1136/fmch-2018-000057.
13. Loubere N. Questioning transcription: the case for the systematic and reflexive interviewing and reporting (SRIR) method. Forum Qual Soc Res. 2017;18(2):22.
14. Yow WQ, Lim TZM. Sharing the same languages helps us work better together. Palgrave Commun. 2019;5(154). https://doi.org/10.1057/s41599-019-0365-z.
15. Mohamed M, Oussalah M. A hybrid approach for paraphrase identification based on knowledge-enriched semantic heuristics. Lang Res Eval. 2020;54:457-85. https://doi.org/10.1007/s10579-019-09466-4.
16. Saunders B, Sim J, Kingstone T, et al. Saturation in qualitative research: exploring its conceptualization and operationalization. Qual Quant. 2018;52(4):1893-907. https://doi.org/10.1007/s11135-017-0574-8.
17. McGrath C, Palmgren PJ, Liljedahl M. Twelve tips for conducting qualitative research interviews. Med Teach. 2019;41(9):1002-6. https://doi.org/10.1080/0142159X.2018.1497149.
18. Vespestad MK, Clancy A. Exploring the use of content analysis methodology in consumer research. J Retail Consum Serv. 2021;59:102427. https://doi.org/10.1016/j.jretconser.2020.102427.
19. Luo A. What is content analysis and how can you use it in your research [Internet]. Scribbr; 2019 [updated 2023 June 22]. Available from: https://www.scribbr.com/methodology/content-analysis/. Accessed 4 November 2019.
20. Mbulawa ZZA, Mahlangu LL, Makhabane E, et al. Poor cervical cancer knowledge and awareness among women and men in the Eastern Cape Province rural community. Int J Environ Res Public Health. 2023;20(20):6916. https://doi.org/10.3390/ijerph20206916.
21. Ogbonna FS. Knowledge, attitude, and experience of cervical cancer and screening among sub-Saharan African female students in a UK University. Ann Afr Med. 2017;16(1):18-23. https://doi.org/10.4103/aam.aam_37_16.
22. Yimer NB, Mohammed MA, Solomon K, et al. Cervical cancer screening uptake in sub-Saharan Africa: a systematic review and meta-analysis. Public Health. 2021;195:105-11. https://doi.org/10.1016/j.puhe.2021.04.014.
23. Ropeik D. Why our cancer-phobia is outdated and harmful: understanding where the fear comes from and what it does to us can help [Internet]. Sussex Publishers; 2023. Available from: https://www.psychologytoday.com/za/blog/how-risky-is-it-really/202311/cancerphobia-our-fear-of-cancer-is-outdated-and-harmful. Accessed 8 March 2024.
24. statssa.gov.za [Internet]. Cancer in South Africa (2008-2019), 2023. Pretoria: Statistics South Africa; 2023. p. 1-93.
25. Ho U. New report paints grim, but incomplete picture of cancer in SA [Internet]. Spotlight; 2023. Available from: https://www.spotlightnsp.co.za/2023/05/24/new-report-paints-grim-but-incomplete-picture-of-cancer-in-sa/. Accessed 8 March 2024.
26. Atnafu DD, Khatri R, Assefa Y. Drivers of cervical cancer prevention and management in sub-Saharan Africa: a qualitative synthesis of mixed studies. Health Res Policy Syst. 2024;22(21). https://doi.org/10.1186/s12961-023-01094-3.