Research Article ISSN 2833-0390

International Journal of Research in Oncology

Behavioral Patterns and Perceptions on Cervical Cancer Screening Among Women under a Protracted Armed-Violence in Ekona, Cameroon

Adeh Nsoh Sylvester[1], Bih Ketly Adeh[1] and Tem Randy Tem[2]

[1]*Holy Trinity Foundation Clinic, Ekona.*

[2]*St Joan of Arc Higher Institute of Medical and Management Science, Buea.*

***Correspondence:**
Adeh Nsoh Sylvester, Holy Trinity Foundation Clinic, Ekona.

Received: 14 Apr 2025; **Accepted:** 27 May 2025; **Published:** 06 Jun 2025

Citation: Adeh NS, Adeh BK, Tem TR. Behavioral Patterns and Perceptions on Cervical Cancer Screening Among Women under a Protracted Armed-Violence in Ekona, Cameroon. Int J Res Oncol. 2025; 4(2): 1-7.

ABSTRACT

Introduction: *Globally, screening is currently the most cost-effective tool for early detection of cervical cancer. Unfortunately, uptake is low in Cameroon. Perceptions and health-behavior may be explanatory but their levels remain unknown in Ekona.*

Methods: *This was a descriptive cross-sectional study on behavioral patterns and perceptions vis-à-vis cervical cancer screening among women in Ekona. Sampling was multi-staged, ending in a simple random sample of 368 participants, a sample size based on Yamane's formula. Data was collected using self-administered questionnaires.*

Results: *The study revealed high approval of frequent cervical cancer screening but its importance was less affirmed (87.5% and 56.2% of 365 women respectively). Reportedly, cervical cancer screening services (CCSS) were mostly used with an objective of diagnosing an infection (53.2% of 283 respondents). Geographical inaccessibility, psychological indisposition and forgetfulness of screening dates (42%, 40% and 31,9% respectively), were the most prevalent limitations to uptake of a service.*

Conclusion: *Frequent use of CCSS was highly accepted while its importance was relatively less affirmed. Checking for an infection was the most prevalent motivation for using a service while use was, reportedly, limited by psycho-geographical inaccessibility and forgetfulness of screening dates. Further studies are recommended.*

Keywords

Cervical cancer screening, perceptions, Behavior, Ekona, Cameroon.

Introduction

Remarkable gains have been made in the fight against cervical cancer but morbidity and mortality from the disease remain high, particularly in Sub-Saharan Africa (SSA), which lacks disease-specific trained staff. In this region, the disease is responsible for significant proportions of premature deaths in adults between 30–69 years old [1,2]. Over 800,000 new cases were estimated in 2022 but 660,000 were recorded [3-5]. Evidence indicates that ninety-four (94) percentage or 350,000 cervical cancer deaths occurred in low- and middle-income countries in 2022 [6-12]. In fact, Gaffney et al., [13] stated in 2018, that a woman dies every hour from cervical cancer and the number is likely to rise. Projections expect an incidence increase to over 1.2 million cases by 2030 [2]. This rise in incidence has been attributed to an increase in life expectancy, lifestyle changes, and improved treatment of infectious diseases [3]. However, variations are noted across countries.

Cameroon recorded 1,787 deaths from cervical cancer in 2022, making the disease the leading cause of female deaths and a public health problem [14,15]. A study, in 2005, that analyzed 18-months cancer data, found approximately thirty new cases of cancer every month, with cervical cancer accounting for 40,18% [16]. Most of the affected were illiterates, of low-income status, and presented in an advanced stage. Only 17.5% had previously been screened for any cancer.

Effective cervical screening programs that are accessible and affordable, remain a strong active approach for early case detection. Screening women aged 21-65 years [17] or from 30 years old,

lowered to 25 for those living with the Human Immunodeficiency Virus (HIV) [14], can detect cervical cancer at a stage that it can readily be treated. Pre-cancerous lesions rarely provoke symptoms but can be diagnosed during screening, making this cancer one of the most preventable [17-19]. One third of cervical cancer cases can benefit from early detection through screening and prompt treatment [20]. Unfortunately, effective population-level cervical cancer screening programs are lacking. This lack, along with limited awareness on prevention, limited access to health care, poverty and low socio-economic status explain the continuous rise in the incidence [6].

Cameroon has a National Strategic Plan for cervical cancer control, but no national cancer screening program [20]. She rather relies on sporadic, unfortunately poorly attended cervical cancer screening (CCS) campaigns, planned and implemented by civil society organizations and Non-Governmental Organizations [21,22]. An uptake as low as 19.6% was reported in Kumbo in 2017. Some studies [16,21-23], have looked into the determinants of the low uptake. Unfortunately, these studies all focused on urban centers, underscoring an urgent need for a focus on rural settings which prompted the present study whose main objective is to measure behavioral patterns and perceptions on cervical cancer screening in Ekona town.

Ekona, a town hard hit by the protracted armed conflict affecting the English-speaking regions of Cameroon, is located along the Buea-Kumba portion of the national road number 8, precisely about 12 kilometers from Muyuka, its administrative headquarters. The privileged geographical location of Ekona at the foot of the Cameroon mountain, provides a rich dark very fertile volcanic soil attractive to both large-scale and subsistent farmers who constitute a larger proportion of the 14100 people living in the town. Modern health care is largely provided to this population by a state-owned Medical Center and two private health facilities, namely the Good Samaritan Health Center and the larger, more equipped and functional Holy Trinity Foundation Clinic.

Materials and Methods

Study type and Site

The study was a cross-sectional descriptive survey conducted from February 2024 to July 2024 in Ekona. Ekona was purposively selected because of the presence of a community-entry facilitator (the Holy Trinity Foundation Clinic) as well as the researchers' desire to site the study in a rural setting due to a plethora of urban-Cameroon cervical cancer screening studies like [16,21-23], with no traceable in a rural setting.

The Study Population

Women aged 20-65 were the universe of the study. Cameroon's recommended age group for cancer screening is 25-65 years [23] but this study broadened the range because the policy is not respected. Women younger than 25 years old do uptake cervical cancer screening. In fact, in 2023, the ACOG [17] recommended the screening of women 20-65 years old. Within this age cohort, women who had lived in Ekona for at least two years, and were willing to sign a consent and participate in the study were eligible to be sampled (inclusion criteria). Women younger than 20 or older than 65 years old as well as women within the required age group who refused to sign a consent to participate, or demanded material and/or financial incentives or had spent less than two years in Ekona were illegible (exclusion criteria).

Sample Size Calculation

The Yamane's formula (1967) was used to calculate the sample size. This formula is mathematically expressed as $n=N/1+N*(e)^2$ where n= sample size, N=population, e=margin of error (MOE)=10%, *=90% confidence interval and P=1 as assumed. For this study, N =3525, which was the number of women aged 20-65 years living in Ekona, deduced as 25% of the 14100 persons living in the town [24]. A sample size of about 360 women was obtained on application of the formula. A majorization of eight was made to end up with a final sample of 368 women aged 20-65 years.

Sampling

Ekona is divided into thirteen quarters with eleven in the bigger part of the town called Ekona Mbenge and two in another part of the town called Ekona yard. Ekona yard is about one kilometer from Ekona Mbenge. The two are separated by palms spanning a distance of about one kilometer. Each quarter has a women's association whose membership is compulsory to all the women of the quarter. Each association convenes weekly. Respondents of this study were drawn only from the 11 women's associations in Ekona Mbengue. Pretesting was done in a quarter called camp, which is one of the two quarters located in Ekona yard, Inhabitants of camp have similar characteristics to those of Ekona Mbengue,

As earlier mentioned, respondents were drawn among women who were members of all the compulsory women's association, (11 in number), of Ekona Mbenge. Before sampling, a detailed explanatory meeting was held with the executive of each of the meeting groups. This was followed by a similar session executed on a meeting day, by the researchers, with all the meeting members. The explanatory sessions were done per association, following a schedule that took into account the day and time reserved for each association's meeting. At the end of each general session, a list of members who met the inclusion criteria was established. This list was the basis for a within-group random sampling to select a pre-established number of participants proportionate to the size of the group. It is so that 35, 33, 35, 32. 34, 33. 34, 32, 33, 34, and 34 respondents were drawn from quarter 1A, 1B, 2A, 2B, 2C, 3A, 3B, 3C, 4A, 4B and 4C respectively for a total of 368 respondent.

Questionnaires

Each question on the questionnaire prompted the respondent to choose an option that best represented her answer. For operational ease, each questionnaire had two main sections, with the first focusing on the sociodemographic, educational and occupational characteristic of the respondent and the second focusing on cervical cancer screening. The cervical cancer screening section sought to obtain perceptions on whether frequent cervical cancer screening should be practiced and if screening is an important service. The section also assessed the respondent's frequency of uptake of

CCSS, cause of missed opportunities, and objective of uptake. It ended with an assessment of service delivery parameters including satisfaction with provided services, provider-related barriers and suggestion for improvement of service delivery.

Pretesting of Questionnaires

Preceding the administration of questionnaires, they were pretested in a quarter called camp, which has similar characteristic as the eleven quarters selected for data collection. Pretesting permitted, not only an estimation of the contextual average time to complete a questionnaire but also a revision of nuancing questions.

Data collection, Processing and Analysis

Over a period of seventy-one days, a total of 368 questionnaires were administered by four data collectors who followed a schedule that administered questionnaires to all selected respondents of two quarter associations per week. Each quarter association's data collection was facilitated by two data collectors. The data was coded after cleaning, analyzed using the Statistical Package for the Social Sciences (SPSS) and exported into Excel for generation of tables.

Results

Sociodemographic Characteristics of Participants

A total of 368 respondents participated in the study. Section 1 of table 1 shows the age distribution of the participants. Most of the participants (121 or 32.9% of the 386) were in the age group 40-49 years and, less than a third (112 or 30.4% of the 360) of the respondents had lived for 50 completed years or more.

Section 2 of the same table 1 provides information on marital status, a significant variable in health status and outcomes. Of the 368 respondents, 27.5% or 101 had never been married. The rest were either currently married (43.7%), divorced (7.6%), or widowed (21.2%).

Section 3 of Table 1, on its part, demonstrates that, even though majority of the respondents (283 or 76.9% of the 368) were Christians, the Ekona community of women is not homogeneous.

Table 1: Socio-demographical Characteristics of the respondents.

Section	Variable	Category	Frequency	Percentage
Section 1	**Age range**	20-29	53	14.4
		30-39	82	22,3
		40-49	121	32.9
		50-59	75	20.4
		60-69	37	10
		TOTAL	**368**	**100**
Section 2	**Marital status**	Single	101	27.5
		Married	161	43.7
		Divorcee	28	7.6
		Widow	78	21.2
		TOTAL	**368**	**100**
Section 3	**Christian faith**	Christian	283	76.9
		Muslim	34	9.2
		Non-faith affiliated	51	13.9
		TOTAL	368	**100**

Educational and Occupational Characteristics of the respondents

Information on the highest level of education attained is detailed in Section 1 of Table 2 which shows that only 55 or 14.9% of the 368 respondents had gained some university education. Most of the 368 respondents clustered in the primary and secondary educational cohorts, each with 35.1 % and 33,7% respectively. Of special interest are the 60 or 16.3% of respondents who had not been to school.

Variables that informed on occupation and employer are detailed in sections 2 and 3 of Table 2. Section 2 in particular shows that 161 or 43.8% of the 368 respondents were self-employed, possibly as farmers as depicted by Section 3 of Table 2 which, on its part, shows that a large majority (193 or 52.4%) of the 368 respondents were so employed. Attention should be drawn to the 129 or 35% of the 368 women who were unemployed.

Table 2: Educational and Occupational Characteristics of the respondents.

Section	Variable	Category	Frequency	Percentage
Section 1	**Highest educational level Attained**	Not been to school	60	16.3
		Primary	129	35.1
		Secondary	124	33.7
		University	55	14.9
		TOTAL	**368**	**100**
Section 2	**Employment status**	Unemployed	129	35
		Employed	78	21.2
		Self-employed	161	43.8
		TOTAL	**368**	**100**
Section 3	**Occupation**	Student	60	16.3
		Farming	193	52.4
		Business	46	12.5
		Civil servant	37	10.1
		Housewife	32	8.7
		TOTAL	**368**	**100**

Perceptions on the periodicity and importance of cervical cancer screening

Possessing adequate knowledge on the frequency at which women should obtain cervical cancer screening should be enhancing to the uptake of the service. Section 1 of Table 3 shows that, an overwhelming majority of the respondents (322 or 87.5% of the 368) endorsed frequent uptake of cancer screening services. However, 46 or 12.5% of the 368 respondents were against frequent uptake, even though this proportion is negligeable. Table 2, in its section 2, also provides information on a question seeking to know if cervical cancer services were considered important by the women. Two hundred and seven (207) or 56.2% of the 368 responded in the affirmative. Almost 30% of the 368 refused to express their stand on the importance of cervical cancer screening services. Should this be a subtle way of stating that the service is not important, the stand of 13.9% or 51 of the 360 respondents?

Table 3: Distribution of respondents according to perceptions on the periodicity and importance of cervical cancer screening.

Section	Variable	Question	Category	Frequency	Percentage
Section 1	**Perception on the practice of frequent screening**	Should a woman not frequently go for screening?	Agree	9	2.5
			Disagree	322	87.5
			Neither agree nor disagree	37	10
			TOTAL	**368**	**100**
Section 2	**Importance of cancer services**	Is it important to use cancer services?	Yes	207	56.2
			No	51	13.9
			Neutral	110	29.9
			TOTAL	**368**	**100**

Table 4: Distribution of respondents according periodicity of utilization of cervical cancer screening and uptake determinants.

Section	Variable	Question	Category	Frequency	Percentage
Section 1	**Screening frequency or plan**	How often do you go for cervical cancer screenings?	Every 4-5 years	29	8
			Every 2-3 years	88	23.6
			After every year	69	18.7
			Only when there is a campaign	98	26.6
			Never been screened	85	23.1
			TOTAL	**368**	**100**
Section 2	**Reason for not attending any cervical cancer screening since birth**	Select the reason that best describes why you have never gone for screening since birth	Not feeling at risk or symptoms	13	15.3
			Fear of the screening	34	40
			Far place of screening	30	35.3
			Waste of time and money	5	5.8
			Culture and/or religion	3	3.5
			TOTAL	**85**	**100**
Section 3	**Reasons for missing screening**	Select the most frequent reasons for missing a/some cancer screening campaign(s)	Forget to attend if not reminded	151	39.1
			Lack/late of information	61	19.6
			Lack of money	16	5.2
			Lack of time	55	17.6
			TOTAL	**283**	**100**
Section 4	**Prime objective for utilizing a cervical cancer screening service**	Select the option that best describes why you utilize a cervical cancer service	To find out if I have cancer	99	35
			To determine my cancer stage	33	11.7
			To find out if I have an infection	92	32.5
			To know if I have HPV	59	20.8
			TOTAL	**283**	**100**

Reported Periodicity of Utilization of Cervical Cancer Screening and Uptake Determinants

Section 1 of Table 4 presents two disturbing findings respectively indicating, that 98(28.6%) and 85(23.1%) of the 368 respondents reportedly, utilized a cervical cancer screening service only during campaigns or will not uptake at all, no matter the timing or frequency. Excluding the non-utilizers and erratic utilizers who use only during campaigns, one in every two respondents or 186 or 50.3% of the 368 respondents had a CCSS uptake schedule.

To know why 85 (23.1%) of the respondents had never done any cancer screening, a follow-up question was posed to this group. Section 2 of table 4 indicates that fear, distance to the screening site, and not feeling at risk or symptoms were the most frequent reasons respectively expressed by 34(40%), 30(35.3%) and 13(15.3%) of the 85 respondents of this group.

For those who declared utilizing a service, (283 or 76.9% of the 368 respondents), the study probed into issues that could engender a missed participation in a cervical cancer campaign. Section 3 of Table 4 indicates that forgetfulness, lack/late information and lack of time ranked first, second and third, reported by 151(39.1%), 61(19.6%) and 55(17.6%) of the 283 respondents.

The study found it important to investigate the respondents' objective of using a cancer screening service. Table 4 in section 4, demonstrates that, for 151 or 53.3% of the 283 screening utilizers, the prime objective to uptake a cervical cancer screening service was not to find out if they had cervical cancer. Only 132 or 35.9% of the 283 of utilizers, reported utilizing the service with the objective of knowing if they had cancer. Rather, 151(60.9%) of the 283 utilizers, utilized the service to find out if they had any infection, including a Human Papillomaviral infection mentioned by 59(20.9%) of the 283 utilizers. This has strategy and program with implications.

Health-Facility (Macro) Level Facilitators and Barriers of the Uptake of Cervical Cancer Screening Services

Macro or health facility-level facilitators and barriers were also a focus of this study. Table 5 in section 1 shows that most or 113 (40%) of the 283 utilizers felt that more effective sensitization would assist in securing their fervent and regular participation in cancer screening. Promoting community health literacy and access to the screening sites were also highlighted by 81(28.6) and 78(27.5%) of the respondents respectively.

A comforting finding is demonstrated in section 2 of Table 5, which

Table 5: Distribution of respondents according to health-facility level Facilitators and Barriers of the uptake of cervical cancer screening services.

Section	Variable	Question	Category	Frequency	Percentage
Section 1	Service delivery aspects improvement to enhance screening.	Choose the best action needed to increase your use of cancer screening?	Self-collection for HPV testing	11	3.9
			More effective sensitization	113	40
			Promote access to facility	78	27.5
			Promote community health literacy	81	28.6
			TOTAL	**283**	**100**
Section 2	Impression on the quality of screening services	What is your impression about the care delivered during screening	Satisfied	212	74.9
			Dissatisfied	42	14.8
			Don't know	29	10.3
			TOTAL	**283**	**100**
Section 3	Reasons why a screening may not be attended	For the hospital, choose one issue most likely to block your screening uptake	Far distance to screening site	121	42.7
			Cost of cancer screening plus fare	54	19.1
			Behavior of workers	43	15.2
			Long time spent in the hospital	65	23
			TOTAL	**283**	**100**

shows that an overwhelming majority (212 or 74.9%) of the 283 service utilizers, expressed satisfaction with the services that they had received. This is morally supportive to screening providers.

A probe into health facility-level barriers to participation in screening was also a focus. Table 5 section 3 demonstrates that far distance to screening sites was raised by 121 or 42.7% of the 283 utilizers. Spending repelling number of hours in the screening facility as well as the expenditure involved in obtaining screening were respectively raised by approximately 1in every 5 of the 283 utilizers.

Discussion

The sample size of 368 respondents was adequate considering that it was estimated using Yamane's formula and a population of women aged 20-65 completed years obtained from the Demographic Health Survey [24]. Another strength of the sample is the fact that the final stage of sampling that selected the respondents was done through a simple random procedure. However, the results of this study may not be applicable to women in urban centers, as Ekona is typically rural. Donatus et al. [23] working in Kumbo West Cameroon, surveyed 235 study participants, a lesser number.

Dominant subgroups in the sample of 368 women included farmers (52.4% or 161), currently married (161 or 43.7%), Christians (283 or 76.9%), and women aged 40-49 completed years (121 or 32.9%). Education-wise, at least one in every three respondents, had primary or secondary education. These characteristics have implications on strategy design and health-seeking behavior. Public health experts need to consider this distribution during the design and implementation of interventions.

In this study, an interest was attracted to a finding that 16.3% or 60 of the respondents had no formal education. For effective sensitization and community health education, public health interventions need to segment the audience and use an appropriate language per segment. Pidgin language would be cross-cuttingly appropriate for this sub-group.

Regarding perceptions, a substantial number of study participants (322 or 87.5% of the 368 respondents) affirmed that women should frequently uptake CCSS, but this proportion dropped to 56.2% when it came to affirming the importance of cervical cancer screening. This high acceptability of frequent cervical cancer screening does not translate into high uptake. Donatus et al., [23] indicated, in a study in Kumbo Cameroon, that women who were aware of CCSS were more likely to uptake the service. But, Enow-Orock et, [16] found an uptake of 17.5% in Yaounde, even though a higher, but still appalling prevalence of 28.4% was found in Buea [25]. Cervical cancer screening uptake is generally low in Sub-Saharan countries [22,26,27].

Regarding screening-seeking behavior, two disturbing findings came to light. Almost, three in every ten respondents reportedly, obtained screening only during campaigns, Even more intriguing, 85 or 23.3% of the 358 respondents had never been screened. Though these proportions may be considered low, they have program implications. Cervical cancer campaigns are rarely organized and when organized, they are insufficiently advertised, and tend to use a fixed approach based on screening in facilities located in urban centers, at the detriment of the rural mass. Another setback is the hasty implementation of the campaigns, without allowing enough time for distant seekers to avail of the service. Former researchers have not looked into the way CCSS are provided.

85 or 23.3% of the respondents had not obtained screening. Almost 4 in every 10 of these respondents imputed the non-utilization on psychological indisposition (fear, discomfort, embarrassment and anxiety vis-à-vis the procedure) as well as geographical inaccessibility (far distance to screening sites). This approximates findings made by other researchers [23,28-30]. Donatus et al., [23] posited that long distance to a health facility is likely to reduce access. This assertion is in the line with the distance decay theory which however, can be violated by quality of care. People may travel over far distances to purchase quality care. Studies are not unanimous on findings that explain the non-utilization of CCSS. Cultural taboos and religious concerns were reasons advanced in the United States [31]. Notwithstanding, policies and strategies need to address any barriers to uptake of CCSS. The use of

psychosocial peer support groups and community-based cervical cancer screening could be appropriate and efficient.

Apparent or unsubstantiated utilizers of CCSS blamed missed opportunities on forgetfulness and lack of/late information, underscoring the need for sustained reminders, possibly through repeated announcements. Announcements in rural settings like Ekona are usually carried by town-criers. Studies focusing on inconsistent utilization or reasons why a utilizer of CCSS missed a screening opportunity are rare in the literature.

Regarding the motivation or objective of utilizing a CCSS, knowing your cervical cancer status was not the prime objective. The prime objective of 53.3% or 181 of the 283 respondents was rather to check if they had any infection including Human Papillomavirus (HPV). Incorporating testing for cervicovaginal infections during screening for cervical cancer may thus help to secure sustained use. In fact, the American College of Obstetricians and Gynecologist recommended (cervical cancer and HPV) co-testing in 2023.

Concerning provider-level parameters, respondents in an overwhelming majority (74.9% or 121 of 283 respondents) were satisfied with CCSS. It is possible that the respondents might have used only services with the same standard. In the absence of another standard for comparison, and lack of knowledge on quality criteria, respondents are more likely to rate the service as satisfactory. Slightly lower proportions of satisfied respondents of 65% and 41% were respectively observed in different localities in Ethiopia by [32,33]. Crafting strategies that seek to maintain or even raise utilizers satisfaction would impact positively on sustained use and curb missed opportunities.

On strategies to increase uptake, 143 or 40% of the 283 CCSS apparent utilizers advocated an increase in effective community sensitization while 42.7% raised the nuancing effect of far distance and to a lesser extent, long hours spent in the CCSS as barriers. As earlier stated, community-based CCS are rare or even inexistent. Complaining about distance to screening sites and exorbitant time spent to obtain a CCSS was thus reasonable and expected. Policies and strategies should seek to reduce geographical and psychosocial inaccessibility, while increasing awareness through effective community education and sensitization programs. The advocated community education and sensitization programs should practice audience-segmentation and offer a content that, among others, seeks to make the population to understand that cervical cancer symptoms almost always appear late in the disease. Incorporating the use of town criers, as is presently the case in rural settings, should be fervently considered. An associated training and use of nurses as well peer and community health educators are recommended cost-effective intervention.

Conclusion

Frequent uptake of CCSS was highly approved and a significant proportion of apparent utilizers were satisfied with provided services, but, paradoxically, the importance of CCSS was less affirmed. Even though relational links or influences of these findings on uptake of CCSS were not investigated, well documented evidence imputes a positive impact on uptake. These findings thus serve as a window of opportunity.

Paucity of CCSS campaigns, non-practice of cotesting as well as geographical and psychological inaccessibility are potential and expressed barriers to the uptake of CCSS in Ekona, Institutionalizing and vulgarizing cotesting in a setting of community-based screening is recommended as this will curb the negating effect of distance, and psychological discomfort as well as harmonize the objectives of utilizers and providers of CCSS.

Current sensitization strategies on cervical cancer, and publicity of screening campaigns were inferably rated weak. More effective strategies are demanded. The use of community-based health educators, and/or peer educators should be factored in. Repeated talks, and messages on CCSS campaigns by 'town criers' and community health workers are likely to boost awareness and curb forgetfulness found to be a reported cause of missed screening opportunities.

Further studies based on samples and/or using sampling methods that permit internal and external generalizability of results are necessary. Such studies could, among others, use community-based interventional designs, given that non-utilization of cancer screening services was partly blamed on geographical inaccessibility.

References

1. Bray F, Parkin DM. African Cancer Registry Network. Cancer in sub-Saharan Africa in 2020: a review of current estimates of the national burden, data gaps, and future needs. Lancet Oncol. 2022; 23: 719-728.
2. World Health Organization. Comprehensive cervical cancer control. A guide to Essential Practice. 2nd edit. WHO Press. 2014.
3. https://gco.iarc.fr/today/fact-sheets-populations
4. Bray F, Laversanne M, Weiderpass E, et al. The Ever-increasing Importance of Cancer as a Leading Cause of Death World-wide. Cancer. 2021; 127: 3029-3030.
5. Bray F, Laversanne M, Sung H, et al. Global Cancer Statistics 2022. GLOBOCAN Estimates of Incidence and Mortality World-wide for 36 in 185 Cointries. CA Cancer J Clin. 2024; 74: 229-263.
6. World Health Organization. Targeted Treatment for Cervical Cancer. A review Onco targets and Therapy. 2022.
7. Bruni L, Albero G, Mena M, et al. Human Papillomavirus and Related Disease in the World ICO/IAFC information on HPV and cancer. HPV information Center. 2023.
8. Bruni L, Serrano B, Rouva E, et al. Cervical Cancer Screening programmes and age coverage estimates for 202 countries and territories worldwide: a review and synthetic analysis. Lancet Glob Health. 2022; 10: 1115-1127.
9. Mukama T, Ndejjo R, Musabyimana A, et al. Women's knowledge and attitudes towards cancer prevention: A cross-sectional study in Eastern Uganda. BMC women's health. 2017; 17: 9.

10. Pierz AJ, Randall TC, Castle PE, et al. A scoping review: Facilitators and barriers of cervical cancer screening and earlier diagnosis of breast cancer in Sub-Saharan Africa. African Health settings. Gynecol Oncol Rep. 2020; 33: 100605.
11. Jemel A, Torre L, Soerjomataram I, et al. Sub-Saharan Africa, the Center Atlas, third ed. America cancer Society. 2019; 50-51.
12. Morhasen Bella I, Odedina F, Rebbeck TR, et al. Challenges and opportunities in cancer control in Africa: a perspective from the African Organisation for Research and Training in Cancer. Lancet oncol. 2013; 14: 142-151.
13. Gaffney DK, Hashibe M, Kepka D, et al. Too many women are dying from cancer: problems and solution. Gnecol oncol. 2018; 151: 547-554.
14. ICO/IARC information Center on HPV and Cancers. Cameroon Human Papillomavirus and Related Cancers; Fact Sheets. 2023.
15. Mapoko BSE, Muyoh AMM, Mekah RR, et al. Aspests epidemiologiques et cliniques des cancers du col de l'uterus au Cameroun: Experience de l'Hopital General de Douala. Pan Afr Med J. 2022; 42: 109.
16. Enow Orock G, Mbu R. Ngowe NM, et al. Gynecological cancer profile in the Yaounde population, Cameroon. Clin Mother and Child Health. 2006; 3: 437-444.
17. American College of Obstetrics and Gynecology, FAQ 085. 2023.
18. Greenley R, Bell S, Rigby S, et al. Factors influencing the participation of groups identified as underserved in cervical cancer screening in Europe; a scoping review of the literature. Front in Public Health. 2023; 11: 1144674.
19. Cinningham MS, Skrastins E, Fitzpatrick R, et al. cervical cancer screening and HPV vaccine acceptability among rural and urban women in Kilimanjaro Region, Tanzania. BMJ open. 2015; 5: 005828.
20. Adedimeji A, Ajeh R, Pierz A, et al. Challenges and opportunities associated with the cervical screening programs in a low income, high HIV prevalence context. BMC Womens Health. 2021; 21: 74.
21. Tebeu PM, Major AL, Rapiti E, et al. The attitude and knowledge of cervical cancer by Cameroon women; a clinical survey conducted in Maroua, the capital of the Far North Province of Cameroon. Int J Gynecol cancer. 2008; 18: 761-765.
22. Okyere J, Duodu PP, Aduse Poku, et al. Cervical cancer screening prevalence and its correlates in Cameroon: Secondary data analysis of the 2018 Demographic and Health Surveys. BMC Public Health. 2021; 21: 1071.
23. Donatus L, Nina FK, Sama DJ, et al. Assessing uptake of cervical cancer screening among women aged 25-65 years in Kumbo West health district, Cameroon. Pan Afri Med J. 2019; 33: 106.
24. Cameroon National Institute of Statistics, Ministry of Health Cameroon, 2018 Demographic and Health Survey (DHS) program, 2108. Demographic and health Survey. 2020.
25. Nkfusai NC, Cumber SN, Anchang Kimbi JK, et al. Asssesment of the current state of knowledge and risk of cervical cancer in Buea Health District Cameroon. Pan African Medical Journal. 2019; 33: 38.
26. Sabatino SA, White MC, Thompson TD, et al. Centers for Disease Control and Prevention (CDC). Cancer screening test use, United States 2013. MMWR Morb Mortal wkly Rep. 2015; 64: 464-468.
27. Pillay P, Knight E, Rmaih S. Cervical cancer screening in urban clinics in eThekwini Municipal area. S Afri J Epidemi Inf. 2009; 24: 18-20.
28. Getahun T, Kuba M, Derseh BT. Intention to screening for cervical cancer in Debre Berhan Town, Amham Regional State Ethiopia: Application of theory of planned behaviour. J cancer Epidemiol. 2020; 2020: 3024578.
29. Nyamambi E, Murendo C, Ncheneso S, et al. Knowledge, attitudes and barriers of cervical cancer screening in Chetuga rural district of Zimbabwe. Cogent Social Sciences. 2020; 6: 1766784.
30. Asare M, Owusu Sekyere E, Elizindo A, et al. Exploring cervical cancer screening uptake among women in the United States: Impact of determinants of Health and psychological determinants. Behav Sci. 2024; 14: 811.
31. Akerson A, Gretcheck K. Factors influencing cancer screening practices among underserved women. J Am Acad Nurse Pract. 2007; 19: 591-601.
32. Atnafu T, Daka DW, Debela TF, et al. Women's satisfaction with cervical cancer screening services and associated factors in maternal health clinics of Jimma Public Health facilities, Southwest Ethiopia. Cancer Miniag Res. 2021; 13: 7685-7697.
33. Hailu AM, Kassic FY, Debela TF, et al. Women's satisfaction with the cervical cancer screening service and influencing factors at public facilities in Debre, Markas town, Northwest Ethiopia, 2022; a convergent parallel mixed method. BMC women's health. 2024; 24: 441.