

RESEARCH ARTICLE

Editorial Process: Submission:09/01/2021 Acceptance:07/12/2022

Perception and Practice of Cervical Cancer Screening Services and the Role of Social Workers in Facilitating Screening Uptake in Enugu State, Nigeria

Christopher N Ngwu¹, Anthony O Iwuagwu^{1*}, Samuel O Ebimngbo¹, Emeka E Igboeli², Brian O Eyang³, Legbel E Ogar³

Abstract

Objective: We examined the perception and practice of cervical cancer screening among women in Enugu State, Nigeria. **Methods:** We employed mixed methods and conveniently sampled women aged >15 years. The quantitative data were subjected to chi-square and regression analysis while the qualitative data were analyzed using thematic analysis. **Results:** The study findings show that over 57% of the respondents have a positive perception of cervical cancer screening while over 80% revealed that they practice cervical cancer screening. Factors such as education, income, and residence are significant in predicting the practice of cervical cancer screening. **Conclusion:** Therefore, social work strategies to leverage these modifiable predictors in facilitating cervical screening uptake are recommended.

Keywords: Cancer- women's health- screening services- social work- Nigeria

Asian Pac J Cancer Prev, 23 (7), 2271-2277

Introduction

Cervical cancer developed in a woman's cervix is the fourth most common cancer in women with about 604,000 new cases recorded across the globe in the 2020 (World Health Organization [WHO], 2022). About 90% which is approximately 342,000 of cervical cancer cases and deaths occur in low and middle-income countries such as Sub-Saharan Africa in the year 2020 (Sung et al., 2021). The disease was found to be the second most common cause of cancer deaths in this region after breast cancer (Bray et al., 2018). The incidence of cervical cancer has decreased drastically in Global South countries such as Canada, the US, and the UK, because of improvements in medicine and other measures such as the implementation of population-wide screening programs- using human papillomavirus (HPV) DNA testing (WHO, 2022). However, the disease continues to rise in global north countries such as Sub-Saharan Africa due to lack of effective population-level screening programs, limited awareness about prevention, inequitable access to health care, poverty, and low socioeconomic status (Isa-Modibbo et al., 2016; WHO, 2022).

Nigeria has the highest number of women in Sub-Saharan Africa (Worldometer, 2021). Thus, the report of the International Agency for Research on Cancer (IARC) shows that 53.3 million Nigerian women are at risk of getting cervical cancer, with a national standardized

rate of 33.0 per 100,000 (IARC, 2017). The study by Joko-Fru et al., (2020) revealed that Nigeria is among the top African countries with a rapid increase in cervical cancer. This is as a result of some factors such as child marriage and the initiation of sexual activities (Ebughe et al., 2016), life expectancy, growing urbanization, adoption of the western lifestyle, etc. among younger women (Haque, et al., 2016). Other important factors include lack of knowledge and unhealthy cultural beliefs, and lack of screening services especially in rural areas (Ilevbare, 2020).

Studies abound to show variations in the perceptions towards cervical cancer screening services and practice in Nigeria. While studies by Agboola and Bello (2021); Amu et al., (2019); Ilevbare et al., (2020); Kifle et al., (2020) shows that most Nigerian women had a positive attitude toward cervical cancer screening, other studies by Abiodun and Olu-Abiodun (2018); Nkwonta et al., (2020); Okesiji and Amosu (2021) reveals negative attitudes toward cervical cancer screening practices. Socio-economic, cultural, and attitudinal factors in Nigeria such as place of residence, high income and education, marital status, presence of fitness coverage, attention of Pap smear usefulness, knowing a person who had already done it, and stability between perceived benefits and perceived obstacles to Pap smear screening were reported as militating factors to the practice of cervical screening services in Nigeria (Agboola and Bello, 2021;

¹Department of Social Work, University of Nigeria, Nsukka, Nigeria. ²Department of Geography, University of Nigeria, Nsukka Nigeria. ³Department of Social Work, University of Calabar, Calabar, Nigeria. *For Correspondence: Anthony.iwuagwu@unn.edu.ng

Akokuwebe et al., 2021; Bou-Orm, et al., 2018; Donatus et al, 2019; Eze, et al., 2018; Ilevbare et al., 2020; Musa, 2017; Stewart et al, 2020). Of all the issues concerning cancer, the decisions regarding cancer screening top the list, exactly on the age to start and whilst to quit, how frequently should one move for screening, and which techniques to be used. Lack of services uptake, low awareness and poor knowledge on cervical cancer and cervical cancer screening strategies had been diagnosed as principal barriers to effective cervical cancer prevention in developing nations (Assoumou, et al., 2015; Chokunong, et al., 2013; Simo et al., 2021). Thus, the services of human professionals such as social workers become pertinent.

Social workers focus on human wellbeing and quality of life (Okoye, 2013), hence, treatment adherence, survivorship, caregiver challenges, and cancer-related health care policy are all areas in which social workers practice and undertake research (National Association of Social workers, [NASW], 2021). Social workers play a variety of professional roles in cancer-related cases such as psychosocial interventions including educational groups, community outreach, and community education, tele-counseling, organizing screening, and early detection services, etc. (Abbott, 2016; Merighi, 2016). Amid the numerous roles of social workers in aiding cancer patients, to the best of our knowledge, no empirical study in Nigeria has investigated the role of social workers in their cervical cancer research.

This study is anchored on the Health Belief Model (HBM) as a theoretical framework to explain why people will take action to prevent, screen for, or control ailment conditions (Sedigheh, 2012). Perceived knowledge and beliefs about cervical cancer will influence the uptake of cervical cancer screening services (Ibekwe, 2010). If women trust that predicted gain of doing behaviors to prevent cervical cancer outweighs the barriers to or cost of the preventive behaviors, they are more likely to obtain cervical cancer screening check. Also, women who perceived the Pap smear checking out the procedure as painful and embarrassing due to visiting by male providers had lower rates of routine cervical cancer screening (Ackerson, 2010).

Previous studies have investigated the knowledge of cervical screening services among women in Nigeria (Amu et al., 2019; Olubodun et al., 2019; Yahaya and Mande, 2019; Idowu et al., 2016; Musa et al., 2017; Ilevbare et al., 2020). No study was found to have investigated the roles of social workers to mitigate the barriers and facilitate cervical cancer screening in Enugu Nigeria. As a result, this study aimed to investigate (1) the knowledge and practice of cervical cancer screening services, and (2) the factors that influence the adoption of cervical cancer screening among women in Enugu, Nigeria.

Materials and Methods

Design, area, and sampling

The study used a combination of quantitative and qualitative research methods to capture the complexity of the issue under study. The study was carried out both in Nsukka and Nkanu West Local Government Areas

(LGAs) of Enugu State, Nigeria. Enugu state was carved out from old Anambra state in 1991 with 17 LGAs (See figure 1). It covers an area of 7,161km² and has a population of 5,590,513 (NPC, 2006). Enugu state is inhabited predominantly by Christians. The majority of the inhabitants are Igbo by way of the tribe (Ekwochi, et al., 2016).

Purposive sampling strategy was utilized to select the LGAs, communities, and the study's respondents. Two communities were purposively selected from each of the two LGAs. Ede-Oballa and Obukpa communities were selected from Nsukka LGA representing semi-urban areas while Agbani and Akegbe-Ugwu were picked from Nkanu West LGA to symbolize the urban communities of Enugu State. This was to provide equal representation to urban and semi-urban regions of Enugu state and get reliable information from the communities for higher generalization.

Purposive sampling was used to select 522 respondents from the 4 communities for the questionnaire-based survey. At least one respondent who fell between the age of 15 and above was selected for the study from every household. Thus, 131 respondents each were selected from Ede-Oballa and Obukpa communities respectively while 130 respondents each were selected from Agbani and Akegbe-ugwu. The reason was that Ede-Oballa and Obukpa communities in Nsukka LGAs were extra populated than Agbani and Akegbe-Ugwu in Nkanu west LGA.

Data collection

A structured questionnaire was utilized as a part of the quantitative and In-Depth Interviews (IDIs) were used as part of the qualitative. A total of 517 questionnaires were distributed. Three In-Depth Interviews (IDIs) have been performed in each of the four communities in which the Key informants consisted of female respondents who did not participate in the questionnaire workout. However, three key informants were selected from every one of the 4 communities in Nsukka and Nkanu West LGAs and they were made up of 1 physician/nurse, 1 women leader, and 1 traditional healer. These 12 members who had been purposively selected for In-Depth Interviews (IDI) were believed to be knowledgeable and may deliver facts that will enrich this study.

Data analysis

This study applied both quantitative and qualitative methods of data analysis. The quantitative data sets were subjected to percentages, Chi-square (χ^2), and regression analysis. The qualitative statistics generated from IDI became edited and transcribed into codes to make meaning from the IDIs conducted. The edited and transcribed responses were analyzed using the thematic method, where each item was discussed and necessary illustrative quotes were used to support the quantitative data.

The Health Research Ethics Committee of the University of Nigeria Teaching Hospital, Ituku Ozalla, approved the study with a clearance certificate bearing the registration number: NHREC/05/01/200B-FWA00002458-1RB00002323E and permissions obtained

from all the participants (women) in their different LGAs. Each of them gave verbal consent before the questionnaire was administered.

Results

Demographic data

The demographic characteristics of the participants are shown in Table 1 where a total of 517 respondents participated in the quantitative survey. Most women were married and the greater percentage of them was into trading, followed by civil servants, and almost one-third had secondary education. The majority of the participants ranged between the ages of 25 and 34 years while the greater percentage of them earned between USD36.41 – USD72.81. The vast majority were Christians, followed by a few Moslems and African traditionalists. Also, more than half of the women reside in rural areas.

The qualitative socio-demographics in Table 2 shows that age of the participants ranged from 20 years to 68 years in the study. The majority (83%) were married while 67% were degree holders. The three groups of participants were

Table 1. Demographic Information of Respondents

Age in years	Frequency	Percentage (%)
15 – 24	105	20.3
25 – 34	142	27.5
35 – 44	137	26.5
45 and above	133	25.7
Total	517	100.0
Single	149	28.9
Married	254	49.1
Divorced	59	11.4
Widowed	55	10.6
Total	517	100.0
Housewife	78	15.1
Farmer	67	13.0
Trader	143	27.7
Civil servant	133	25.6
Student	96	18.6
Total	517	100.0
No formal education	34	6.6
Primary	92	17.8
Secondary	201	38.9
Tertiary	190	36.8
Total	517	100.0
USD0.00 – USD36.40	136	26.3
USD36.41 – USD72.81	156	30.2
USD72.82 – USD145.62	99	19.1
USD145.63 and above	126	24.4
Total	517	100.0
Urban	192	37.1
Rural	325	62.9
Total	517	100.0

Source, Researchers' Fieldwork

Table 2. Demographic Characteristics of Respondents

Code	Age	Marital status	Education	Designation
1	27	Married	Degree	Nurse
2	20	Married	WASSCE	Traditional healer
3	57	Married	Degree	Nurse
4	61	Single	Degree	Nurse
5	65	Married	Degree	Women leader
6	68	Married	Degree	Women leader
7	67	Married	Degree	Women leader
8	29	Married	WASSCE	Traditional healer
9	32	Single	Degree	Nurse
10	22	Married	WASSCE	Traditional healer
11	42	Married	WASSCE	Traditional healer
12	55	Married	Degree	Women leader

Source, Researchers' Fieldwork

involved in the IDI interviews; Nurses (33%), Traditional healers (33%), and women leaders (33%).

Views and practice of cervical cancer screening services

The analysis of data shows that 57.2% of the respondents have a positive perception about cervical cancer screening in Enugu state as reported in Table 3. Also, over 80% of the respondents indicated that they do practice cervical cancer screening. These findings were validated by the qualitative study where participants indicated positive perceptions and increasing practice of cervical screening. Quotes from two participants justify this claim thus “It is good for all women to undergo cervical cancer screening as anyone could be susceptible. Early identification is therefore important as it will help promote early treatment” (004, 61yrs, Nurse). “I often submit myself for periodic screening and I always advise my female children to engage in such screening. Almost all my daughters have been screened at least once” (012, 55yrs, women leader).

Factors that influence the cervical cancer screening practices

Many factors have been revealed by the study to influence the practice of cervical cancer screening

Table 3. Perception of Cervical Cancer Screening

	Frequency (517)	%
Views on cervical cancer screening services		
Positive views	296	57.2
Negative views	221	42.8
The practice of cervical cancer screening		
Practice	465	89.9
Do not practice	52	10.1
Hindrances to cervical cancer screening services		
Husband/relatives disapproval	58	11.2
The stigma associated with cancer	262	50.7
Religious practices	72	13.9
Lack of finance	125	24.2

Source, Researchers' Fieldwork

Table 4. Socio-Demographic Variables and Cervical Screening Practice

Variable	Cervical cancer screening practice		Total	Chi square
	Practice	Do not practice		
Age				
Younger adult	128 (75.7%)	256 (73.6%)	384 (74.3%)	0.595
Older adult	41 (24.3%)	92 (26.4%)	133 (25.7%)	
Total	169 (100.0%)	348 (100.0%)	517 (100.0%)	
Marital status				
Single	40 (23.7%)	109 (31.3%)	149 (28.8%)	0.072
Ever married	129 (76.3%)	239 (68.7%)	368 (71.2%)	
Total	169 (100.0%)	348 (100.0%)	517 (100.0%)	
Occupation				
Non-working class	42 (24.9%)	132 (37.9%)	174 (33.7%)	0.003
Working class	127 (75.1%)	216 (62.1%)	343 (66.3%)	
Total	169 (100.0%)	348 (100.0%)	517 (100.0%)	
Level of education				
Low level	50 (29.6%)	76 (21.8%)	126 (24.2%)	0.054
High level	119 (70.4%)	272 (78.2%)	391 (75.6%)	
Total	169 (100.0%)	348 (100.0%)	517 (100.0%)	
Monthly income				
Low income	43 (25.4%)	93 (26.7%)	136 (26.3%)	0.756
High income	126 (74.6%)	255 (73.3%)	381 (73.7%)	
Total	169 (100.0%)	348 (100.0%)	517 (100.0%)	
Place of residence				
Urban	88 (52.1%)	104 (29.9%)	192 (37.1%)	0
Rural	81 (47.9%)	244 (70.1%)	325 (62.9%)	
Total	169 (100.0%)	348 (100.0%)	517 (100.0%)	

Source, Researchers' Fieldwork

practices. Urban dwellers were found to practice cervical cancer screening than the rural dwellers as shown in table 4. Also, analysis of response from the qualitative study agrees with the finding. Some of the participants reported that there was no screening facility found to be close within their neighbourhood making it difficult for them to go for screening and treatment of the disease. One participant from Ede-Oballa, a suburb in Nsukka LGA posits:

Many of us are living in rural areas where there are no screening facilities. We have to travel so many miles before getting to the township where we can screen. We only wish that government can make available more health facilities in the rural areas so that those in need will partake freely. It will without a doubt promote the uptake of cervical cancer screening and treatment in our communities (007, 67 yrs, Woman leader).

In general, higher education attainment, being married,

Table 5. Regression Analysis Predicting the Views on Cervical Cancer Practices

Socio-demographic variables	Unstandardized coefficient	Standardized Coefficient	95% C. I for EXP (B)	
			Lower	Upper
Age	0.234	0.441	0.115	1.698
Marital status	0.899	0.942	0.375	2.368
Occupation	0.949	0.97	0.387	2.435
Education	0.000*	0.171	0.069	0.423
Income	0.042*	0.381	0.15	0.966
Residence	0.001*	0.237	0.101	0.558
Constant	0.000	382.077		

Source, Researchers' Fieldwork; Hint: Marital status= single, ever-married= married/Divorced/Widowed. For occupation, working class= Civil servants, Non working class= housewife, farmer, trader, student. For level of education, Low level of education = no formal education and primary education, high level of education= secondary education and tertiary education. For income, Less than USD 72.81=Low, while USD 732.82 and above= High. Residence= urban and rural.

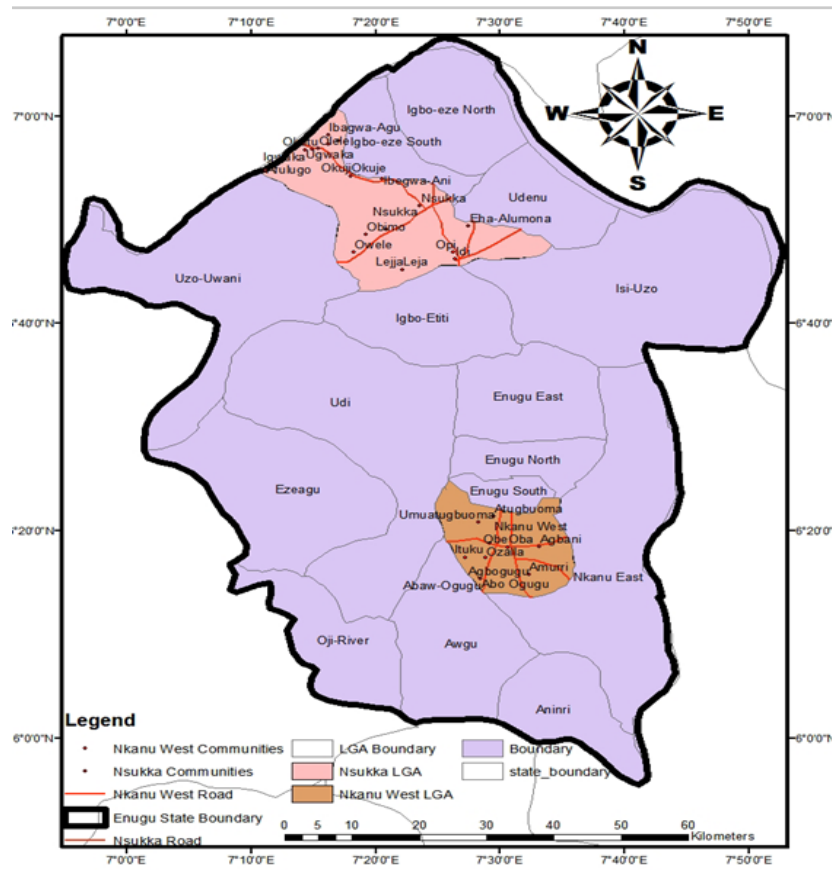


Figure 1. Map of Enugu State Nigeria. Source, Authors' contribution.

being employed, and cultural belief/stigma influence the exercise of screening for cervical cancer. A participant in IDI conducted in Nkanu west LGA (Agbani) said:

Many of the women in our locality use this method but the few who do not will be as a result of their religious beliefs, cultural aspects of their being shy to touch their body. The majority of the women who practice cervical cancer screening are educated ones who insist on learning how to use it as a preventive measure than the less educated. This category of less-educated ought to be counselled on how to screen because it will reduce the incidence of cancer cases (002, 20yrs, traditional healer).

However, some of the results of the quantitative study contradicted the responses from qualitative narratives. For instance regarding the influence of age, one of the younger participants from the Obukpa community said,

In fact, in our community, younger women don't normally feel comfortable exposing their bodies to another person apart from their husbands, but in the case of cancer screening, they're today committed to conquering the shyness associated with it. With the acquisition of education younger adults, more than older adults now know the dangers of not going for the screening. It is a serious health threat; therefore, many of us now do it, since younger women are more committed to education than the older ones (001, 27yrs, Nurse).

Predictors of the practice of cervical cancer screening services

Logistic regression analysis in table 5 was performed

using the six characteristics where education, income, and residence were found to be significantly related to screening uptake. The distribution of the impact of age, education, income, and place of residence has WALD test values of 1.415, 14.566, 4.133, and 10.882 with assumption respectively. $P < \text{value}$ (significance) of $0.000 < 0.05$ at 5% respectively indicating that age, education, income, and place of residence can significantly influence the knowledge of cervical cancer screening. Exponential (B) values measure the relative risk value of the independent variable on the knowledge of cervical cancer screening. Amidst all the predictors of assessing the perceived impact of cervical cancer practices, none of them indicated a high-risk effect on the knowledge of cervical cancer screening. Since other variables have a relative risk value less than 1, it is, therefore, concluded that all the variables have a negative influence on the knowledge of cervical cancer screening in the study area.

Discussion

The study ascertained the perception and practice of cervical cancer screening among women in Enugu State, Nigeria. Our findings revealed that 57.2% of the respondents have a positive perception about cervical cancer screening in Enugu state as reported while over 80% indicated that they do practice cervical cancer screening. These findings are in agreement with studies by Agboola and Bello (2021); Amu et al., (2019); Ilevbare et al., (2020) which revealed that most Nigerian women

had a positive attitude towards cervical cancer screening. On the contrary, other studies have shown that Nigerian women demonstrates poor attitudes toward cervical cancer screening practices (Abiodun and Olu-Abiodun, 2018; Okesiji and Amosu, 2021; Nkwonta et al., 2020). Thus, social workers are needed to educate the members of the public on the need to demonstrate positive attitudes towards cervical cancer screening practices. Social workers provide psychosocial interventions such as community outreach, and community education, tele-counseling and publicity (Abbott, 2016; Merighi, 2016).

Many factors have been revealed by the study to influence the practice of cervical cancer screening practices. Urban dwellers were found to practice cervical cancer screening than the rural dwellers. Also, the finding from the qualitative study validated the finding. This could be as a result of availability of cancer screening facilities in the urban areas. Similarly, other findings obtained across studies have shown that place of residence influence the attitudes to cancer screening practices (Abiodun and Olu-Abiodun, 2018; Donatus et al., 2019; Stewart et al., 2020). The finding implicates the need for social workers to take up advocacy roles to press for the establishment of cervical cancer screening centers in rural climes. Social workers also should monitor the activities of these centers to ensure that the needed services are provided to the rural populace.

Higher education, and income were found to be predictors of attitudes to cervical cancer screening practices among Nigerian women. These findings were validated by the findings from the qualitative study conducted with participants. The results may not be out of place because these factors are very influential in people's behavior. For instance, education exposes women to expected behaviors in society while money is an important medium of exchange of services. Similarly, other studies have shown that high education attainment determines a positive attitude toward the practice of cervical cancer screening practice (Agboola and Bello, 2021; Mbachu et al., 2017; Nkwonta et al., 2020). Also, women with a high level of income determine the uptake of cervical cancer screening services by women (Al Nsour et al., 2012; Ilevbare et al., 2020; Nkwonta et al., 2020). Social workers are also meant to take up public enlightenment programs to empower and educate women on the need for regular uptake of cervical cancer screening practice. They are also to advocate for free or subsidized cost of cervical cancer screening practices. This will encourage all women to take up the cervical cancer screening services. Findings and roles of social workers are in tandem with the Health Belief Model which posits that the perceived knowledge and beliefs about cervical cancer will influence the uptake and if the predicted gain a behaviors outweighs the barriers, people are more likely to have a change of behavior such as obtaining cervical cancer screening test.

Conclusions and recommendations

The study revealed that women exhibited positive attitudes towards the practice of cervical cancer screening. Several factors like place of residence, occupation, and education were found to have influence on the practice

of cervical cancer screening in the two LGAs of Enugu state, Nigeria. Policies for free or subsidize cost of screening services is recommended. Through advocacy and education, social workers are expected press for health policies that will enable women access cervical cancer screening services as well as educating the members of the public on the need for screening practices.

Author Contribution Statement

Conception and design of study, C. N. Ngwu, A. O. Iwuagwu; Acquisition of data, C. N. Ngwu, A. O. Iwuagwu, S. O. Ebimgbo; Analysis and/or interpretation of data, A. O. Iwuagwu, S. O. Ebimgbo, E. E. Igboeli; Drafting the manuscript, C. N. Ngwu, A. O. Iwuagwu, S. O. Ebimgbo, E. E. Igboeli; Revising the manuscript critically for important intellectual conten, B. O Eyang, L. E Ogar C. N. Ngwu, A. O. Iwuagwu, S. O. Ebimgbo, E. E. Igboeli

Acknowledgements

None.

Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

Ethical Approval

The Health Research Ethics Committee of the University of Nigeria Teaching Hospital, Ituku Ozalla, approved the study with a clearance certificate bearing the registration number: NHREC/05/01/200B-FWA00002458-1RB00002323E and permissions obtained from all the participants (women) in their different LGAs. Each of them gave verbal consent before the questionnaire was administered.

Availability of data

The data is not available.

Conflict of interest

Conflict of interest On behalf of all authors, the corresponding author states that there is no conflict of interest.

References

- Abbott AA (2016). Measuring social work values. A cross-cultural challenge for global practice. *Int Soc Wk*, **42**, 455–0. Sage Publications: London, Thousand Oaks, CA and New Delhi.
- Abiodun O, Olu-Abiodun O (2018). The women who fear the unknown: potential drivers of the cervical cancer epidemic in rural Nigeria. *J Global Onco*, **4**, DOI: 10.1200/jgo.18.51000.
- Ackerson K (2010). Personal influences that affect motivation in pap smear testing among African American women. *J Obst Gyne Neo Nur*, **39**, 136-6.
- Agboola AMD, Bello OO (2021). The determinants of knowledge of cervical cancer, attitude toward screening and practice of cervical cancer prevention amongst antenatal attendees in Ibadan, Southwest Nigeria. *Ecancer*, **15**, 225.

- Akokuwebe ME, Idemudia ES, Lekulo AM, et al (2021). Determinants and levels of cervical cancer screening uptake among women of reproductive age in South Africa: evidence from South Africa demographic and health survey data, 2016. *BMC Pub Health*, **21**, <https://doi.org/10.1186/s12889-021-12020-z>.
- Al Nsour M, Brown, DW, Tarawneh M, et al (2012). Breast and cervical cancer screening among women in Jordan: findings from the behavioural risk factor surveillance System – 2007. *Open Breast Cancer J*, **4**, 1–7.
- Amu EO, Ndugba SC, Olatona FA (2019). Knowledge of cervical cancer and attitude to cervical cancer screening among women in Somolu Local Government Area, Lagos, Nigeria. *J Com Med Pri Health Care*, **31**, 76-5.
- Assoumou AZ, Mabika BM, Mbiguino AN, et al (2015). Awareness and knowledge regarding cervical cancer, Pap smear screening, and human papillomavirus infection in Gabonese women. *BMC Womens Health*, **15**, 1-7.
- Bou-Orm IR, Sakr RE, Adib SM (2018). Cervical cancer screening among Lebanese women. *Rev Epidemiol Sante Publique*, **66**, 1-6.
- Bray F, Ferlay J, Soerjomataram I, et al (2018). Global cancer statistics 2018: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. *CA Cancer J Clin*, **68**, 394-4.
- Champion VL, Skinner CS (2008). The Health Belief Model. In 'Health behavior and health education', Eds Glanz K, Rimer BK and Viswanath K. Jossey-Bass, USA pp 45- 66 Numbers 978-0- 7879—614-7.
- Chokunong E, Borok MZ, Chirenje ZM, et al (2013). Trends in the incidence of cancer in the black population of Harare, Zimbabwe, 1991-2010. *Int J Cancer*, **133**, 721-9.
- Donatus L, Nina FK, Sama DJ, et al (2019). Assessing the uptake of cervical cancer screening among women aged 25-65 years in Kumbo West Health District, Cameroon. *Pan Afr Med J*, **33**, 1-11.
- Ebughe GA, Ekanem IA, Omoronyina OE, et al (2016). Incidence of cervical cancer in Calabar, Nigeria. *J Canc Tumor Int*, **3**.
- Ekwochi U, Ndu I, Osuorah CD, et al (2016). Delays in healthcare delivery to sick neonates in Enugu southeast Nigeria, An analysis of causes and effects. *J Public Health*, **38**, e171-e7
- Eze G, Obie P, Umuago J (2018). Perspectives of cervical cancer and screening practices among the staff of a teaching hospital in South-South Nigeria. *J Cancer Res Pract*, **5**, 67-3.
- Haque ATME, MohdHisham, MAB, Adzman NA, et al (2016). Cognizance and utilization about breast cancer screening among the health professional female students and staffs of University Kuala Lumpur Royal College of Medicine Perak, Malaysia. *Indian J Med Paediatr Oncol*, **37**, 286-2.
- Ibekwe CM, Hoque ME, Ntuli-Ngcobo B (2010). Perceived benefits of cervical cancer screening among women attending Mahalapye District Hospital, Botswana. *Asian Pac J Cancer Prev*, **11**, 1021-7.
- Idowu A, Olowookere SA, Fagbemi AT, et al (2016). Determinants of Cervical Cancer Screening Uptake among Women in Ilorin, North Central Nigeria: A Community-Based Study. *J Cancer Epidemiol*, **4**, 1-8.
- Ilevbare OE, Adegoke AA, Adelowo CM (2020). Drivers of cervical cancer screening uptake in Ibadan, Nigeria. *Heliyon*, **6**, e03505.
- Joko-Fru WY, Jedy-Agba E, Korir A, et al (2020). The evolving epidemic of breast cancer in sub-Saharan Africa: results from the African Cancer Registry Network. *Int J Cancer*, **147**, 2131-41.
- Kifle K, Kebede L, Taye J, et al (2020). Assessment of awareness and attitude on cervical cancer prevention among female preparatory students in Ziway town, Oromia Regional State, Ethiopia. *Asian Pac J Cancer Care*, **5**, 265-1.
- Mbachu C, Dim C, Ezeoke U (2017). Effects of peer health education on perception and practice of screening for cervical cancer among urban residential women in south-east Nigeria: a before and after study. *BMC Womens Health*, **17**, 41.
- Merighi JR (2016). Handbook of oncology social work: Psychosocial care for people with cancer. *Soc Work Health Care*, **55**, 481-4.
- Musa J, Achenbach CJ, O'Dwyer LC, et al (2017). Effect of cervical cancer education and provider recommendation for screening on screening rates: A systematic review and meta-analysis. *PLoS One*, **5**, e0183924.
- Nkwonta CA, Messias DKH, Felder T, Luchok K (2020). Increasing human papillomavirus vaccination and cervical cancer screening in Nigeria: an assessment of community-based educational interventions. *Int Quart Comm Health Edu*, **41**, 89–9.
- Olubodun T, Odukoya OO, Balogun MR (2019). Knowledge, attitude and practice of cervical cancer prevention, among women residing in an urban slum in Lagos, South West, Nigeria. *Pan Afr Med J*, **18**, 130.
- Okesiji IO, Amosu AM (2021). Knowledge, perception and cervical cancer screening practices among female nurses working in healthcare facilities in Lagos State, Nigeria. *Int J Pub Health Pharm*, **1**, 74-92.
- Simo RT, Tchakounte CK, Kamdje AHN, et al (2021). Cervical Cancer Awareness and Detection of Precancerous Lesions at Two District Health Centres in the West Region of Cameroon. *Asian Pac J Cancer Care*, **6**, 263-9.
- Sung H, Ferlay J, Siegel RL, et al (2021). Global cancer statistics 2020: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. *CA A Cancer J Clin*, **71**, 209–49.
- Stewart K, Li M, Xia Z. et al (2020). Modeling spatial access to cervical cancer screening services in Ondo State, Nigeria. *Int J Health Geogr*, **19**, 28.
- Yahya A, Mande AT (2019). Awareness and knowledge of cervical cancer and its screening methods among women attending primary healthcare centers in Zaria, North-Western, Nigeria. *Trop J Obs Gyna*, **36**, 271.



This work is licensed under a Creative Commons Attribution-Non Commercial 4.0 International License.