Library Philosophy and Practice (e-journal)   Libraries at University of Nebraska-Lincoln

Cervical Cancer Health Literacy Among Female Librarians in Imo State, Nigeria

Ejeagwu nwafor-orizu
eo.nwafor-orizu@coou.edu.ng

Gertrude C. Umunnakwe
Federal University of Technology, Owerri

Oliver-Theophine Uchenna Onwudinjo Mr.
Nnamdi Azikiwe University Awka Nigeria

Cervical Cancer Health Literacy Among Female Librarians

in Imo State, Nigeria

Ejeagwu O. Nwafor-Orizu, Library, Chukwuemeka Odumegwu Ojukwu University Anambra State. eo.nwfor-orizu@coou.edu.ng

Gertrude C. Umunnakwe, Library, Federal University of Technology,Imo State.

Oliver T. Onwudinjo, Library, Nnamdi Azikiwe University, Anambra State.

Abstract

Purpose: to assess the cervical cancer knowledge of female librarians in Imo State. The assessment was in terms of the risk factors; signs and symptoms, screening and control.**Design**: It was a descriptive survey of female librarians in Nigeria.

Findings: Female librarians have very poor knowledge of cervical cancer health in all its ramifications. And up-take was abysmally low (5%). Urgent intervention is needed to raise their awareness.

Originality/Value: It is the first survey of librarians' cervical cancer health literacy in Nigeria. Data collected provides good bases for intervention and policy.

Keywords: Librarians, cervical cancer, health literacy, cervical cancer literacy, health information, female librarians.

Paper Type: Original research article.

1. **Introduction**

Cancers though very much dreaded are increasingly terrorising humanity. All cancers including cervical cancer can be very deadly and deserves cost effective preventive strategies and prompt medical attention. Among women in Nigeria, cervical cancer is the most common genital tract malignancy.

Cervical cancer is a type of cancer that occurs in the cells of the cervix — the lower part of the uterus (womb) that connects to the vagina (Mayor Clinic, 2016), while cancer is a disease in which cells in the body grow out of control. Cervical cancer starts in the cells lining the cervix. These cells do not suddenly change into cancer. Instead, the normal cells of the cervix first gradually develop pre-cancerous changes that turn into cancer. These changes can be detected by the Pap test and treated to prevent cancer from developing

Although cervical cancers start from cells with pre-cancerous changes (pre-cancers), only some of the women with pre-cancers of the cervix will develop cancer. It usually takes several years for cervical pre-cancer to change to cervical cancer, but it also can happen in less than a year. In most cases, pre-cancerous cells will go away without any treatment. Yet, in some women pre-cancers turn into true (invasive) cancers. Treating all cervical pre-cancers can prevent almost all cervical cancers. Cervical cancers and cervical pre-cancers are classified by how they look under a microscope. The main types of cervical cancers are squamous cell carcinoma and adenocarcinoma. Although almost all cervical cancers are either squamous cell carcinomas or adenocarcinomas, other types of cancer also can develop in the cervix. These other types, such as melanoma, sarcoma, and lymphoma, occur more commonly in other parts of the body (American Cancer Society; 2016).

According to Southern Cross Medical Library (2013) sexual activities, smoking, use of contraceptives and weakened immune system are the factors that can increase the chances of developing cervical cancer. Also during the early stages there are usually no symptoms at all. Some of the most common signs and symptoms experienced are abnormal vaginal bleeding,

unusual vaginal discharge, pain in the pelvic area, excessive tiredness, swollen or painful legs and lower back pain.

World Health Organisation (2017) affirms that cervical cancer is one of the world's deadliest form of cancer for women. It is responsible for more than 270,000 deaths annually, 85% of which occur in developing countries like Nigeria. It estimates that more than one million women worldwide are currently living with cervical cancer. It is also the most easily preventable form of cancer.

 In Nigeria, current estimates indicate that every year 14, 089 women are diagnosed with cervical cancer and 8,240 die from the disease. Cervical cancer ranks as the 2nd most frequent cancer among women in Nigeria and the 2nd most frequent cancer among women between 15 and 44 years of age (ICO Information Centre on HPV and Cancer, 2017)

These figures reflect the number of persons that received medical attention. It is obvious that many more women in Nigeria develop cervical cancer, suffer and die from it annually, away from medical attention and records. Superstitious beliefs and high level of health illiteracy even among the educated class are mostly responsible for the abysmal health figures emanating from Nigeria. Health literacy skills are most needed for meaningful living of every citizen of the world. Even the genuine achievement of the SDGs may not be possible without alleviating the heavy burden of diseases which rubbishes developmental efforts in all other sectors. Awareness creation through information dissemination holds the key to a cervical cancer free society. It then behooves on all stakeholders including librarians to make their contributions towards a cancer health literate Nigeria.

"Health literacy is the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions"(U.S. department of health and human services,2000). It also associates low health

literacy with poor health outcomes such as higher rates of hospitalization and lack of use of preventive services, both of which ends up in higher healthcare costs leading to poverty.

On the part of Librarians, information literacy is their domain. This includes health literacy of all sorts including cervical cancer health literacy. Cervical cancer health literacy involves the awareness and knowledge of facts and information on cervical cancer to inform uptake of its preventive measures and treatment.

Librarians are information merchants that gather and disseminate information. People look upon them for information on different issues including health. The burden of ill health, worsened by the dynamics of population growth and low development in Nigeria today has placed a lot of health information responsibilities on librarians. Librarians are increasingly expected to be conversant with and vast in health literacy skills and to extend same to both health professionals and the masses. This role is becoming more pronounced by the day especially with the proliferation of consumer health information on the web that requires professional guidance for effective use. Our libraries are expected to stock up-to-date materials in print and electronic forms especially relating to health challenges in our localities and country at large. This study has therefore become necessary to assess librarians' cervical cancer knowledge as its incidences increases in Nigeria.

2. Literature Review

According to Walker (2016) studies reveal that women in deprived areas are more likely to have higher rates of cervical cancer. Surprisingly, less than 0.1 per cent of Nigerian women

have had cervical cancer screening in their lifetime and less than 1 per cent is aware of the existence of this silent killer.

 In 2013, a descriptive cross-sectional study was carried out to assess the knowledge, attitude and utilisation of cervical cancer screening among market women, aged 15 years and above, in Sabon Gari Local Government Area of Kaduna State by Ahmed, Sabitu, Idris and Ahmed. They used a sample size of 269 women. Their findings show that their respondents exhibited a fair knowledge of cervical cancer and cervical cancer screening (43.5%); however, their knowledge of risk factors was poor. There was generally good attitude to cervical cancer screening (80.4%), but their level of practice was low (15.4%).

Another study conducted by Nwozor and Oragudosi (2013) investigated the awareness and uptake of cervical cancer screening among women in Onitsha, South-East, Nigeria.   The respondents studied were 450. Results showed that the awareness of cervical cancer screening was 160 (35.56%), while 8 (1.78%) had done the test. They concluded that awareness was very low while uptake was poor. They recommended public enlightenment campaign targeting women and affordable cervical cancer screening availability for women.

"Cancer of the cervix and cervical screening: Current knowledge, attitude and practices of female health workers in Sokoto, Nigeria" is the title of the descriptive cross- sectional study by Oche, Kaoje, Gana and Ango (2013). Of the 220 females studied almost all 217 (98.6%) had good knowledge ($\geq$ 50%) about cancer of the cervix and its associated risk factors. About three quarters (n=165, 76%) heard of it from lectures and seminars in schools, while most (n=44, 20.3%) got information about it through public lectures. Again, 188 (85.5%) and 193 (87.7%) knew that cervical cancer is associated with HPV and multiple sexual partners, respectively. Also of the 220 study subjects, only 22 (10%) had ever done the screening test.

Feyi-Waboso, Kamanu and Aluka (2005) investigated the awareness and risk factors for cervical cancer among women in Aba, South-Eastern Nigeria. The purpose of the study was to

determine the level of cervical cancer awareness amongst the subjects and the prevalence of the major risk factors, their rate of utilization of existing Pap smear services and their attitudes to pap smears in general. Their respondents were 200 women attending the Gynaecological Outpatients Department. The results reveal a low overall level of knowledge of cervical cancer. Only 32 women (16%) had any knowledge of Pap smear services, while only 16 of them had a pap smear performed on them. Also, their knowledge of the risk factors was poor.

Eze, Umeora, Obuna, Egwuatu and Ejikeme, (2012) carried out a research titled 'cervical cancer awareness and cervical screening uptake at the Mater Misericordiae Hospital, Afikpo, Southeast Nigeria'. It was a descriptive study to assess the awareness of cervical cancer among Igbo women in a rural population of Southeastern Nigeria and determine their uptake of cervical screening services. The findings are that the respondents' knowledge and awareness of cervical cancer (37.5%), its preventable nature (31.9%), cervical screening (25%) and screening centers (20.8%) were generally low and screening uptake (0.6%) was abysmally low. The authors recommended continued awareness creation and local provision of cheap and affordable screening services.

A community-based study on the 'Determinants of Cervical Cancer Screening Uptake among Women in Ilorin, North Central Nigeria' was done in 2016 by Idowu, Olowookere, Fagbemi and Ogunlaja. It was a cross-sectional study involving 338 participants. The results show that only 8.0% of the women had ever been screened for cancer of the cervix.

None of the Nigerian literature reviewed probed into Librarians' level of awareness and knowledge of cervical cancer. Considering the professional role of librarians in this wise, this study was conducted to fill the gap.

3. Research Methods

3.1. Research design

Descriptive survey design was used.

3.2. Area of the study

The study was conducted in Imo State, located in the South East geographical zone of Nigeria, with a population of over 4.8 million people. There are two universities, two polytechnics, one college of education and other educational institutions and related organisations where librarians work in the state. The Imo State chapter of Nigerian Library Association created in 1976 is female dominated. It is therefore needful to know what librarians in the state know about cervical cancer which may invariably affect the populations' awareness and actions to fight the ailment.

3.3. Study population

Every female librarian in the organization in Imo state was a necessary part of the study. They are of different categories, educational qualifications and ranks.

3.4. Instrument for data collection

Structured self-administered questionnaire was used for data collection. It was adapted from Cervical Cancer Awareness Measure Toolkit Version 2.1 (2011) and Mayfield, J. (2012) following literature review. The questionnaire tagged "Cervical Cancer Literacy among Librarians in Imo State" (CECALIQ) was divided into four sections with a total of fifty items. Section I was used to collect relevant demographic and background information about the respondents. Section II containing twelve questions was designed to collect data on the respondents' knowledge of cervical cancer risk factors. Also section III was to assess their awareness of the signs and symptoms of the ailment. It is made up of ten questions. The last section IV took care of the respondents' knowledge of cervical cancer screening and control measures. It is made up of eighteen items.

3.5. Method of data collection

On the 31st of March 2016 the Imo State chapter of the Nigerian library Association held its first quarter ordinary general meeting at the Federal University of Technology, Owerri (FUTO). During the meeting copies of the questionnaire were distributed to members. They were filled and collected back. For the remaining few who were absent from the meeting copies of the questionnaire were hand delivered to them following the researchers visits to their institutions.

3.6. Method of data analysis

Descriptive statistical method was used to analyse the data collected.

4. Results

4.1. Response rate

Copies of the questionnaire were distributed to one hundred and twenty-one female Librarians. Out of this number 83, were returned and used for the study. The response rate was high (69%) probably because of the method used in it distribution.

4.2. Presentation of respondents' demographics.

This cervical cancer literacy assessment study was meant for only female gender. From the details in Table 1, only two of the respondents were above 56years of age, while the majority (35, 42.2%) were within the age bracket of 36-45years. All of them are employed and married.

Table 1: Demographic Data

Biodata	Frequency	Percentage
Gender:		
Male	-	-
Female	83	100
Age Range:		
a. 18-25 Years	8	9.6

	b. 26-35 Years	23	27.7
	c. 36-45 Years	35	42.2
	d. 46- 55 Years	15	18.1
	e. 56- Above	2	2.4
Marital Status:		-	
	a. Married	60	72.3
	b. Unmarried	15	18.1
	c. Divorced	2	2.4
	d. Widow	6	7.2
Employment Status:			
	a. Employed	83	100
	b. Unemployed	-	-

5	Years of experience as a Librarian		
	a. 0-4 Years	3	3.6
	b. 5-9 Years	7	8.4
	c. 10-14 Years	25	36.1
	d. 15-19 Years	24	28.9
	e. 20-24 Years	13	15.7
	f. 25 Above	11	13.3
6	Highest Qualification		
	a. Ph. D	10	12
	b. Master's Degree	34	41
	c. First Degree	25	30
	d. HND	14	17
	e. OND	-	-
7	Medical Condition		
	a. Hypertension	30	36.1
	b. Diabetes	15	18.1
	c. Ulcer	10	12.0
	d. Cancer	2	2.4
	Others, specify if any	-	-
	None	26	31.3
8	Have you, your family members or close friends had cancer		
	a. you	1	1.2
	b. Family member	21	25.3
	c. Close friend	24	28.9
	d. None	37	44.6
9	Are You Registered with National Health Insurance Scheme (NHIS)	Yes-54	65.1
		No-29	34.9

10	How many children do you have 1 2 3 4 5 6 & Above None	- - - - - - -	- - - - - - -

4.3. Risk factors

Some factors including lifestyle may predispose a woman to the development of cervical cancer. Table 2 presents the result of the assessment of the respondents' knowledge of cervical cancer risk factors. Majority of them (40, 48%) do not know whether or not Human

Table 2: Percentage response on what increases a woman's chances of developing cervical cancer?

S/N	Risk factors	Yes		No		I Don't Know	
		F	%	F	%	F	%
11	Infection with HPV (Human papillomavirus)	30	36	13	16	40	48
12	Smoking any cigarette at all	37	45	22	26	24	29
13	Having a weakened immune system (eg.because of HIV/AIDS immunosuppressant drugs or having a transplant)	40	48	10	12	33	40
14	Long term use of the contraceptive pill	35	42	16	19	32	39
15	Infection with Chlamydia infection	30	36	19	23	34	41
16	Having a sexual partner who is not circumcised	7	8	45	54	31	37
17	Starting to have sex at a young age (before age of 17)	23	28	27	33	33	39
18	Having many sexual partners	32	39	26	31	25	30
19	Having many children	18	22	38	46	27	32
20	Having a sexual partner with many previous partners	27	32	19	23	37	45
21	Not going for regular smear (pap)	31	37	10	18	42	50

papillomavirus infection leads to cervical cancer. Seven of them (8%) affirmed that having an uncircumcised sexual partner increases a woman's chances of developing cervical cancer. Most of them (45, 54%) do not consider uncircumcision as a risk factor, while the rest (31, 37%) do not know whether it is a risk factor or not. Another large number of 42 librarians (50%) do not know whether not going for regular Pap smear test is a risk factor.

4.4. Signs and symptoms

Ignorance of the signs and symptoms of cervical cancer leads to late detection and progression to dangerous limits. Are female librarians in Imo state conversant with these warning signs? Their answers are detailed in Table 3. Highest percentage of them (66%, n=35) are not certain whether or not discomfort or pain during sex could be a sign of cervical cancer. Thirty-four of the respondents (41%) indicated they knew that vaginal bleeding during and after sex could be a symptom of cervical cancer, while on the other hand 12% of them (n=10) felt otherwise. For all the ten items listed in Table 3 to test the respondents knowledge of the signs and symptoms of cervical cancer, 45% of them (n=37) categorically stated that they are "not at all confident they will notice cervical cancer symptoms".

Table 3: Percentage responses of librarians on signs and symptoms of cervical cancer.

	Items	Yes	%	No	%	Don't know	%
23	Vaginal bleeding between periods	32	39	13	16	38	46
24	Persistent lower back pain	27	32	11	13	45	54
25	Persistent vagina discharge that smells unpleasant	30	36	15	18	38	46
26	Discomfort or pain during sex	20	24	8	10	35	66

27	Menstrual periods that are heavier or longer than usual	28	34	18	22	37	45
28	Persistent diarrhea	8	10	24	29	51	61
29	Vaginal bleeding after the menopause	35	42	8	10	40	48
30	Persistent pelvic pain	38	46	7	8	38	46
31	Vaginal bleeding during or after sex	34	41	10	12	39	47
32	Blood in the stool or urine	18	22	14	17	51	61

4.5. Screening and controls

Table 4: Percentage of responses on screening and control measures for cervical cancer.

S/N	Items	Yes	%	No	%	Don't know	%
33	Cervical cancer can be prevented	64	77	3	4	16	19
34	Cervical cancer can be passed through family genes	23	28	27	32	33	40
35	It is possible to have cervical cancer without symptoms	23	28	23	28	37	44
36	Cervical cancer is caused by a virus	37	45	16	19	30	36
37	I know what human papilliomavirus (HPV) is	22	27	15	18	46	55
38	A pap smear is used to find cervical cancer.	37	44	8	10	38	46
39	A pap smear is done to see if there is growing tumour in the cervix	36	43	8	10	39	47
40	A woman needs a pap smear only when she is sexually active	13	16	29	35	41	43
41	A woman should get a pap smear only when she has a gynecological (famine vaginal) problems	13	16	30	36	40	48
42	A woman should get a pap smear only when she is pregnant	10	12	43	52	30	36
43	A woman should get a pap smear only when she has children	10	12	38	46	35	42
44	A woman is past menopause need to get a pap smear	22	27	21	25	40	48

45	Are there cervical cancer screening facilities in Imo State	26	31	9	11	48	58
46	Is there vaccination to protect against cervical cancer	21	25	19	23	43	52

Two cardinal steps in cervical cancer prevention and control are screening and vaccination. Results in Table 4 present Imo State female librarians' knowledge status of screening and control of the disease. Although 77% of them (n=64) know that cancer of the cervix can be prevented, yet 52% (n=43) do not know whether or not there is a vaccine for this. Again 38 librarians (46%) do not know that Pap smear is used to find cervical cancer. Ten of them (12%) feel a woman should get a pap smear only when she is pregnant. More than half of the librarians (48,58%) do not know about the availability of cancer screening facilities in their state.

On practical efforts, 82% of them had <u>never done</u> a Pap smear test. Only four (5%) got tested in the last 6months.

Cervical cancer health literacy level among librarians can easily be enhanced through a variety of information media. There is a proliferation of health information in various sources for librarians as information managers. Respondents in this study were asked to indicate the familiar sources they obtain cervical cancer information from. Those that marked television were highest in number (19, 23%); followed by internet (13, 14%) and newspapers (10, 12%). Their domain the library was among the least, with a frequency of four, which is 5%.

They were also asked to rate their libraries' cervical cancer literature collection on the scale of - Rich, Fair, Poor, Very poor, and Non-existent. Five librarians (6%) considered their libraries' collection as rich; while another 29 respondents (35%) judged theirs' as poor. Some librarians (18, 22%) indicated that cervical cancer materials are non-existent in their library collections.

5. Discussion

A lot of "train the trainers" workshops go on these days, here also, this study was designed to assess the information level of information givers. This was based on the premise that "you don't give what you don't have". The demographics in section1 show that all the librarians in this study (83,100%) are married and employed. They are already involved in various forms of information gathering, organisation and dissemination as majority of them (52, 81%) have had over one decade of working experience as librarians. Eleven (13.3%) have worked for twenty-five years and above.

Their expertise in information gathering and dissemination should be high if rated by their educational levels. Higher National Diploma (HND) is the lowest recorded level of education (14, 17%); first degree (24, 30%) and master's degree (34, 41%). They have ten (12%) Ph. D. holders.

For their current medical conditions, the data from their responses show that a good number of them (30, 36.1%) are hypertensive. Others suffer from diabetes (15, 18.1%) and ulcers (10, 12%). These are chronic ailments mostly dependent on lifestyle and preventable through adequate functional health literacy. From their responses also, these librarians are not oblivious of the rising tide of cancers in Nigeria. Two of them (2.4%) indicated they already have cancer; 21 (25.3%) reported their family members had cancer, while 24 (28.9%) reported their close friends have had cancer.

It is however cheering that over half of them (54, 65.1%) are already registered with the National Health Insurance Scheme (NHIS). The NHIS in Nigeria makes provision for free medical tests and screening including Pap smear (for cervical cancer).

The last question in this section was posed to find out the number of children each of the respondents had. Amazingly, not even one person answered this. This may denote the respondents' strong cultural undertone. In this part of Nigeria it is believed that children should not be counted. But for scientific purposes like this research, answers are expected at least from some of them considering their exposure by levels of education and work experiences.

Cervical cancer health literacy empowers women with the fore knowledge of the risk factors they have to avoid in life. Avoidance of these risk factors minimises their chances of developing the ailment. Preventive strategies start from good knowledge of risk factors. Generally, from their responses (Table: 2), the librarians in this study have low level of knowledge of cervical cancer risk factors. This tallies with the findings of Ahmed, Sabitu, Idris, Ahmed (2013); Eze, Umeora, Obuna, Egwuatu, and Ejikeme, (2012) and Feyi-Waboso, Kamanu, and Aluka C. (2005) which also found that their respondents had very poor knowledge and awareness of cervical cancer risk factors. This does not agree with the study of Oche, Kaoje, Gana and Ango (2013), who reported that almost all the respondents studied (217, 98.6%) had good knowledge of cancer of the cervix and its associated risk factors. It must however be noted that their respondents were health workers.

Women who are equipped with cervical cancer information could easily raise alarm when they notice some signs and symptoms in their bodies. These warning signs can lead to early medical attention and saving of lives. From Table 3, the respondents' knowledge of the signs and symptoms of cervical cancer is abysmally low. Majority of them 45 (54%), 51 (61%), 40 (48%) 51 (61%) do not know that persistent diarrhea; vaginal bleeding after the menopause and blood in the stool or urine respectively could be signs of cervical cancer.

This alarmingly low cervical cancer literacy trend runs through their entire responses to the questions. Transforming cervical knowledge into action includes going for screening at recommended intervals or taking the vaccination. In this study, 82% (n=68) have never done their pap smear. Results showing very low uptake of screening was equally reported by other researchers. In the study by Oche, Kaoje, Gana and Ango (2013), of the 220 study subjects, only 22 (10%) had ever done the screening test. Also of the 200 women studied by Feyi-Waboso, Kamanu, and Aluka (2005) only 16 had done the pap smear.

6. Conclusion

Overall, female librarians in Imo state have very limited knowledge of cervical cancer risk factors, signs, symptoms, screening and control. It is imperative for them to improve their general health literacy skills to meaningfully guide their communities who depend on them for authentic information. Libraries should be more oriented to the collection of literature and dissemination of health information on common diseases in Nigeria. To lessen the disease burden in the country and pave way for rapid development and achievement of SDGs librarians and other stakeholders should initiate and sustain awareness campaign against cervical cancer and other such health problems.

7. Recommendation

1. All female librarians in Imo state should as a matter of routine go for their cervical cancer screening along with other relevant tests at regular intervals. The 34.9% of them who are not registered with the National health Insurance scheme should do so to benefit from the services.

2. Librarians should equip themselves with necessary health literacy skills, to be in a position to transfer same to their families, readers and communities, for a healthier society.

3. Librarians in Imo state (Nigeria) should acquaint themselves with the content and usage of popular health databases and consumer health information websites.

4. Health enlightenment and vital tests should be integrated into library conferences, workshops and annual general meetings programmes

5. Librarians need to shift their focus to the comprehensive information needs of their communities especially those in rural Nigeria.

6. Provision for health related information resources on prevalent diseases should be part of collection development policy in all libraries.

7. There should be elaborate collaboration between librarians and health professionals to achieve cervical cancer health literacy for all.

8. Students, fresh graduates and newly employed librarians in Imo state should be encouraged to attend the association's meetings.

References

Ahmed, S.A., Sabitu K., Idris,S.H., & Ahmed R.(2013). Knowledge, attitude and practice of cervical cancer screening among market women in Zaria, Nigeria. *Niger Med J,* 54:316-9.Available from: http://www.nigeriamedj.com/text.asp?2013/54/5/316/122337

American Cancer Society medical and editorial content team (2016). About cervical cancer, *American Cancer Society*. https://www.cancer.org/cancer/cervical-cancer/about/what-is-cervical-cancer.html

Cervical Cancer Awareness Measure Toolkit Version 2.1(2011).UCL Health Behaviour Research Centre, in collaboration with the Department of Health Cancer Team, with funding from The Eve Appeal. https://www.cancerresearchuk.org/sites/default/files/health_professional_cervical_cancer_awareness_measure_toolkit_version_2.1_09.02.11.pdf

Eze, J.N., Umeora, O.U., Obuna, J.A, Egwuatu. V.E. & Ejikeme, B.N. (2012). Cervical cancer awareness and cervical screening uptake at the Mater Misericordiae Hospital, Afikpo, Southeast Nigeria. Ann Afr Med [serial online] 2012;11:238-43. Available from: http://www.annalsafrmed.org/text.asp?2012/11/4/238/102856

Feyi-Waboso,P., Kamanu,C.& Aluka, C. (2005) Awareness and risk factors for cervical cancer among Women in Aba, South-Eastern Nigeria. Tropical Journal of Obstetrics and Gynaecology Vol. 22(1) 25-26 https://www.ajol.info/index.php/tjog/article/view/14536

Idowu, A.,Olowookere,S.,Fagbemi,A. & Ogunlaja, O. (2016). Determinants of cervical cancer screening uptake among women in Ilorin, North Central Nigeria: A community-based study. *Journal of Cancer Epidemiology,* article ID 6469240, 8 pages, retrieved from: http://dx.doi.org/10.1155/2016/6469240

ICO Information Centre on HPV and Cancer (2017) Nigeria: Human Papillomavirus and Related Cancers, Fact Sheet. Retrieved from: http://www.hpvcentre.net/statistics/reports/NGA_FS.pdf

Mayfield, J.B.(2012). Development and validation of the cancer literacy measure for African Americans. Ph.D dissertation, Graduate College of the University of Illinois at Urbana-Champaign. Retrieved from:

Mayor Clinics (2016). Cervical cancer: overview. *Mayo Foundation for Medical Education and Research (MFMER)* http://www.mayoclinic.org/diseases-conditions/cervical-cancer/home/ovc-20210887

Nwozor C. M. & Oragudosi, A.L. (2013). Awareness and uptake of cervical cancer screening among women in Onitsha, South-East, Nigeria. *Greener Journal of Medical Sciences ISSN: 2276-7797 Vol. 3 (8), pp. 283-288,* http://www.gjournals.org/GJMS/GJMS%20pdf/2013/October/280913864%20Nwozor %20and%20Oragudosi.pdf

Oche, M. O., Kaoje, A. U., Gana, G., &Ango J. T. (2013). Cancer of the cervix and cervical screening: Current cnowledge, attitude and practices of female health workers in Sokoto, Nigeria. *International Journal of Medicine and Medical Sciences.* Vol. 5(4), pp. 184-190,DOI: 10.5897/IJMMS2013.0886 ISSN 2006-9723 Retrieved from:http://www.academicjournals.org/IJMMS

Okunade,K. (2016) 9,000 women die of cervical cancer yearly in Nigeria, says Oncologist. Premium Times; July 30. http://www.premiumtimesng.com/news/top-news/207827- 9000-women-die-cervical-cancer-yearly-nigeria-says-oncologist.html

South Cross Medical Library (2013). Cervical cancer - causes, symptoms, treatment, prevention. Retrieved from: https://www.southerncross.co.nz/group/medical- library/cervical-cancer-causes-symptoms-treatment-prevention

U.S. Department of Health and Human Services (2000). *Healthy People 2010.* Washington, DC: U.S. Government Printing Office. Retrieved from:

Walker,O.(2016, December 13) Growing cervical cancer cases in Nigeria, Daily Times. https://dailytimes.ng/editorial/growing-cervical-cancer-cases-nigeria/

Williams,G.(2017, February 7) Nigeria Records 14,000 Cervical Cancer Cases Annually. *ThisDay newspaper*. Retrieved from: https://www.thisdaylive.com/index.php/2017/02/04/nigeria-records-14000-cervical-cancer-cases-annually /

World Health Organization (2017). Sexual and reproductive health: prevention and control of cervical cancer. Retrieved from: http://www.who.int/reproductivehealth/topics/cancers/en/