Journal Homepage: - www.journalijar.com

INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI: 10.21474/IJAR01/16788
DOI URL: http://dx.doi.org/10.21474/IJAR01/16788

RESEARCH ARTICLE

KNOWLEDGE, ATTITUDE AND PRACTICE OF CANCER SCREENING AMONG DOCTORS IN THE UNIVERSITY OF PORT HARCOURT TEACHING HOSPITAL

Christopher Chinedu Obiorah[1], Ewurum Uchechi Azuoma[1] and Inimgba Nestor Mininyo[2]

1. Anatomical Pathology Department, University of Port Harcourt Teaching Hospital.
2. Department of Obstetrics and Gynaecology Pamo University of Medical Sciences, Port Harcourt.

Manuscript Info

Manuscript History
Received: 28 February 2023
Final Accepted: 31 March 2023
Published: April 2023

Abstract

Background: The number of working doctors in Nigeria has continued to drop owing to increasing cancer related morbidity and mortality.
Objective: To determine the knowledge, attitude and practice of cancer screening among doctors at theUniversity of Port Harcourt Teaching Hospital (UPTH), Nigeria.
Methodology: Structured questionnaire with closed and open ended questions were randomly distributed to Resident doctors and Consultants at UPTH. Respondents' socio-demographic characteristics and knowledge, attitude and practice of cancer screening were assessed. Data was analyzed using the IBM statistical package for social sciences (SPSS) version 23.
Results: Of the216respondents - 62.5% were Residents while 37.5% were Honorary Consultants; peak age range was31-40 years with 46.3%. Males constituted 51.9% while females constituted 48.1%. Forty-four percent had spent 1-5 years in their current positions. Knowledge of canceramong the respondents was good as 83.3% of the doctors choose the option that "cancer is an uncontrollable abnormal cell growth" while 95.8% responded that "there was no age restriction to cancer".While78.3% would seek immediate treatment if diagnosed with cancer,82.4% favored cancer screening. Poor practice of cancer screening was observed with 58.3% reporting they have never been screened for any type of cancers. Notably, 89.8% of them reported that the Government was not doing enough for cancer patients in the country.
Conclusion: The study demonstrated good knowledge of cancer screening, positive attitude towards screening but poor practice of cancer screening by practicing specialist doctors in UPTH. Given the influence of doctors in the large society, introspection among doctors and initiation of effective advocacy programs by umbrella bodies like the Nigerian Medical Association, Medical and Dental Consultants of Nigeria, National Association of Resident Doctors and Medical Women Association is imperative in order to improve the acceptance and practice of cancer screening among doctors and reduce the burden of cancer mortality being recorded among doctors and other health care professionals.

Corresponding Author:- Dr. Ewurum Uchechi Azuoma
Address:- Anatomical Pathology Department, University of Port Harcourt Teaching Hospital, Port Harcourt, Nigeria.

Introduction:-

Cancer remains one of the leading causes of mortality worldwide[1]. In 2020, there were 19.3 million new cases of cancer with an estimated global mortality of 9.9 million[2,3]. Just like in 2018, major cancer types in 2020 were breast, lung, prostate and colorectal cancers [3,4]. In 2020, Nigeria recorded 124,815 new cancer cases with a mortality of 78,899. Recorded cancer deaths were caused mainly by prostate, breast, cervical and Non Hodgkin lymphoma[5].

Common cancers can be detected through routine screening[6]. Available evidence show that cancer incidence and mortality can be significantly reduced through screening [7]. According to the WHO, one of the major problems of cancer management in sub-Saharan Africa is lack of early diagnosis through screening [8]. Screening and early detection of cancers also reduces financial burden of cancer treatment[8].

Early detection of cancer following screening results makes for the deployment of less aggressive therapy, reduction in the likelihood of metastases and therefore mortality[9]. In the United Kingdom, breast cancer screening was reported to reduce breast cancer mortality [10]. In the United States of America (USA), widespread acceptance and practice of cancer screening has been adopted as an effective mode of primary cancer prevention [6]. However, in sub-Saharan Africa, the low societal acceptance and practice of cancer screening remains a major setback togood outcome of cancer management. About 80% of people diagnosed with cancers in Sub-Saharan Africa are already at advanced stages of the disease [11,12]. Therefore, the high rate of cancer related mortality in the developing countries, including Nigeria is attributable to lack of effective screening programs aimed at early detection [13].

Health workers are unarguably seen by the majority of the non-health working populace as role models in health related matters and practices [14]. Consequently, medical doctors, especially specialist doctors working in tertiary health care facilities should be role models in demonstrating knowledge, attitude and practice of cancer prevention activities considering their envisaged high levels of knowledge on good disease preventive measures and healthy life styles living[14]. While most reports in Nigeria and elsewhere have shown considerable knowledge and awareness of cancer and cancer screening among health care workers, there is no evidence of practice of same among health workers[15,16].

For health workers to be effective communicators and trainers in cancer screening and prevention, they must possess the needed knowledge, attitude and beliefs[17].

This study evaluated and documented the knowledge, attitude and practice of cancer screenings generally among resident doctors and consultants at the University of Port Harcourt Teaching hospital (UPTH).

Methodology:-

This was a descriptive cross sectional study carried out among male and female resident doctors and consultants at the University of Port Harcourt Teaching Hospital (UPTH),Port Harcourt, Nigeria. UPTH is one of the foremost tertiary health institutions in the oil-rich Niger Delta region of Nigeria. With more than 1000 bed capacity[18]andretinue of highly skilled and experienced consultants, as well as numerous resident doctors undergoing training, UPTH effectively serves residents of Rivers State and some neighboring states of Bayelsa, AkwaIbom and Abia. Despite the fact that the hospital is a leadingcentre for cancer care in the Niger Delta Region of Nigeria, several of the healthcare workers including medical doctors have died from cancer related complications in the recent times.

The Taro Yamane's formula given as n = N/1+N(e2) was used to calculaterespondentsample size of two hundred and forty-eight consultants and resident doctors. Proportionate stratified random sampling was used in the questionnaire distribution and data collection. The questionnaireswhich were structured into three sections namely; socio-demographic characteristics, attitude towards cancer screening and practice of cancer screening,also had both open andclosed ended questions. Hardcopieswere administered directly to consultants and resident doctors at different formal assemblies of the association of resident doctors (ARD) and Medical and Dental Consultants Association of Nigeria (MDCAN), following brief introduction of the study and acquisition of verbal consent. Multiple answers were allowed in open ended questions. Strict confidentiality was maintained as the respondents'

questionnaires were anonymized. Responses were coded and entered into Microsoft Excel 2013 and subsequently exported to IBM SPSS version 23 for analysis.

Results were summarized categorically using descriptive statistics (frequency and percentages).

Ethical approval for the study was obtained from the University of Port Harcourt Teaching Hospital Research Ethics Committee.(UPTH/ADM/90/S.II/VOL.XI/785).

Results:-

Five hundred questionnaires were distributed out ofwhich 432 (86.4%) were duly completed and returned. There were 224 (51.9%) males and 208 (48.1%) females, giving male:female ratio of 1.1:1. The peak age range of respondents was 31-40 years with 200 persons (46.3%) while respondents aged above 60 constituted the least with 52 cases (12%). With respect to cadre, 190 (44%) respondents were registrars, 162 (37.5%) were consultants and 80 (18.5%) respondents were senior registrars. While 192 (44.5%) respondents have experience of 1-5 years in their current cadre, 106 (24.5%) have worked for 6-10 years in their cadre and 134 (31%) have work experience of above 10 years. Majority of the respondents – 420 (97.2%) are Christians, only 12 (2.8%) are Moslems.

On perception/practical knowledge of cancer, majority – 384 (88.9%) of the respondents opined that cancer is treatable while 48 (11.1%) positedthatit is not treatable. Also, 408 (94.4%) notedthatsomecancers can be prevented, change of life style and going for cancer screening were the popular opinions with 368/432 and 356/432 respondents, respectively while 12 respondents maintained that some cancers cannot be prevented. All respondents but 8/432 agreed with various reasons that cancer screening has advantages. Commonest among the advantages was allowing for early diagnosis of cancer with 384/432 and making of better treatment outcome for patients – 280/432. Regarding which common cancers can be screened for, breast and cervical cancers were most frequently advanced, each with 414/432 respondents followed by prostate and colorectal with 374/432 and 198/432 respectively while 72 respondents also indicated stomach cancer as a common screenable cancer. Majority of the respondents suggested that cancer screening should be done annually – 228/432 (52.8%), 82/432 (19%) suggested twice yearly while 88/432 respondents (20.4%) were not sure but felt that the frequency of screening will depend on the type of cancer being screened for.

On direct relationship with cancer patient, majority of the respondents – 306/432 (70.8%) variously had colleagues, friends or relations who were at different times diagnosed with cancers of different times, while 126/432 (29.2%) did not have direct relationship with any one diagnosed with cancer.Breast cancer was the most common cancer diagnosed among colleagues, relatives and friends of doctors with 128/306 (41.8%), followed by prostate with 57/306 (18.6%), cervical and colorectal cancers with 26/306 (8.5%) and 19/306 (6.2%) respectively. The patients were said to have been most commonly treated with a combination of surgery and chemotherapy as alluded to by 163/306 (53.3%) of the respondents followed by patients treated with only surgery and those treated with a combination of surgery and radiotherapy as alluded to by 71/306 (23.2%) and 50/306 (16.3%) respondents respectively.It is noteworthy that 10/306 (3.3%) and 7/306 (2.3%) were attended to in prayer houses and traditional medicine homes respectively. One hundred and fifty of the respondents (49%) noted that the patients in reference were still alive while 148/306 (48.4%) noted that their patients had died from the diagnosed cancers.

Three hundred and sixty-six respondents (84.7%) agreed that while cancer incidence is higher in the developed nations of the world compared to the under developed ones, cancer mortality is higher in the underdeveloped nations like Nigeria. Only 26 respondents (6%) disagreed with the above assertion, while the rest of the respondents – 40 (9.3%) were unaware of the trend. The common reasons adduced by the respondents as responsible for the above trend of cancer incidence and mortality between the developed and the under developed nationswere:Inadequate diagnostic infrastructure 330 respondents(76.4%), Poor compliance to cancer screening 314/432 (72.7%), Inadequate treatment infrastructure 296/432 (68.5%) and poverty 298/432 (69.0%). Questionnaire accommodated choosing multiple options for the question.

Majority of the doctors 384/432 (88.9%) further agreed that cancer was treatable while 48/432 (11.1%) held that cancer cannot be treated. Also, while 408/432 (94.4%) maintained that cancer is preventable, 24/432 (5.6%) disagreed. Lifestyle changes with368/432 respondents (85.2%) and going for cancer screeningwith 356/432 respondents (82.4%)were common opinions on how best cancer prevention can be achieved. A notable 94.4% of the respondents would recommend cancer screening to their friends and relatives. About 97.2% of the doctors in our

study agreed that the money spent on cancer screening was necessary hence should not be used for any other purpose. On their response to the type of cancer that can be screened for; 86.6%, 95.8%, 95.8% and 45.8% alluded to prostate, breast, cervical and colorectal cancer while only 16.7% alluded to the fact that stomach cancer was a common cancer that can be screened for. On the frequency of regular screening for cancers, 52.8% of the respondents suggested once a year, 19.0% suggested once in 6months while 20.4% reported that they did not know and that the frequency of screening depended on the type of cancer.

With regards to attitude, 394 respondents (91.2%) will accept and seek immediate treatment, if diagnosed with cancer, while 26 respondents (6%) would prefer to seek attention in prayer house for divine intervention. Only 6 respondents 2.8% will seek confirmatory second opinion on the diagnosis.

On the practice of cancer screening, 58.3% have never being screened for any type of cancers while 41.7% had engaged in cancer screening. The screening participants have been previously screened for prostate cancer (27.8%), Hepatitis B/C (32.2%),cervical cancer (38.9%) and breast self-examination (41.1%).

Results of screening was reportedly available between 1 day -1 week (29.6%) and 38.9% understood the results of the screening test.

On the role of government in caring for cancer patients, 89.8% reported that the Government was not doing enough and this was judged by poor funding (18.4%), few infrastructure and treatment centers (5.1%), inadequate Diagnostic infrastructure and trained manpower (5.1%) etc.

Discussion:-

The burden of cancer in sub Saharan Africa and Nigeria remains high [19]. While some cancers are preventable, ignorance, poor perception, low level of awareness, poor attitude to cancer screening and poor government intervention has resulted to an increase in cancer burden especially in low resource settings [15].

The age of the consultants and resident doctors in this study shows that they were largely aged between 21 – 50 years. This has been similar to non-cancer studies of medical doctors conducted in Calabar[20] and Kano [21] , Nigeria. The socio demographic characteristics of the consultants and resident doctors in this study were similar to previous reports documented in the same facility. The slight predominance of male consultants and resident doctors (51.9%) in the present study is comparable to a previous report in the teaching hospital where 59.6% of the consultants and resident doctors in the study were males [22]. Similar gender variation has been reported in Bayelsa state, South-South Nigeria where 70.7% of the medical doctors in the state were males [23]. Similar trend has been documented by the WHO in a 104 country analysis of health workforce. Findings of this study revealed that among doctors (physicians), males accounted for 72% while females accounted for 28% in African region [24]. This gender gap is subject to many researches. However, cultural factors such as having males as bread winners and the consequent choice of males when deciding on access to education can be a factor. In this study, 44% of the respondents were registrars. Similar trend was reported in a non-cancer based study of doctors in public hospitals in Calabar, Nigeria [20] where registrars accounted for 62.4% of all physicians sampled in that study. The predominance of Christian doctors and consultants in this study is attributable to the region which is predominantly occupied by Christians [25].

The consultants and resident doctors in this study demonstrated abundant knowledge of cancer and knowledge of its age restriction with 83.3% and 95.8% alluding to the fact that cancer was an uncontrollable abnormal cell growth and it had no age restriction. This response indicated good knowledge of cancer especially because cancer can occur at any age [26]. Similar cancer knowledge based study conducted in the University of Benin Teaching Hospital, Benin City reported poor general knowledge of cancer, Its prevalence, mortality rate and screening tests available [27]. While this study focused on the knowledge of the respondents on cancers generally, previous studies have examined the knowledge levels of doctors on other specific cancers. For example, In a study of medical doctors in Federal Medical Centre in Bayelsa state, an excellent knowledge of breast cancer, breast self-examination and other screening modalities for breast cancer [28]. Elsewhere in Benue state, abundant knowledge of prostate cancer was demonstrated by medical doctors [29].However, poor knowledge of breast cancer was demonstrated among health care workers in Edo state [30]. A slightly lower knowledge was also found in a study of breast cancer knowledge among medical doctors in Saudi Arabia [31].

Notably, 70.8% of the respondents knew a friend who has been diagnosed with cancer. This response is not far from expectation as notable number of health care workers including medical doctorshad died from complications related to cancer in recent times in UPTH, while some others are battling with the disease, aside from the doctors who also have non-colleague relatives who are going through cancer morbidity or died from it in the recent times. Apopulation based cancer incidence review indicated a rising age standardized incidence rates/100,000 (ASR) from 28 in 2014 to 101.5 in 2017 with a mean of 52.5in the two most urbanized and populous local government areas of Rivers State – Port Harcourt City and Obio-Akpor. Literature documents that globally,cancer accounted for 70327 deaths in 2018 while 115,950 new cases in both males and females were recorded[32].

The response of the consultants and resident doctors on the question "Cancer mortality is higher in developing countries while incidence is higher in developed countries" revealed that 84.7% answered in the affirmative. The global cancer burden and mortality keeps growing in sub-Saharan Africa. It is projected to increase by 85% in the next 15 years and this increase and growth is largely attributable to late presentation, low access to treatment, and poor treatment outcomes [19,33,34]. Cancer is responsible for 72,000 deaths in Nigeria every year, with an estimated 102,000 new cases of cancer annually [33]. A comparison of the mortality incidence of cancer inAmericawithNigeriashows that while only 19% of breast cancer patientsin America die from the disease, 51% of similar patients die of breast cancer in Nigeria -about triple the death rate seen in the US [33]. The burden of cancer is increasing in Africa because of the aging and growth of the population as well as increased prevalence of risk factors associated with economic transition, including smoking, obesity, physical inactivity, and reproductive behaviours[35]. Reducing the burden of cancer in Nigeria require positive action towards screening and prevention as alluded to by the respondents. Effective preventive interventions would range from avoiding known carcinogens (e.g., tobacco or asbestos) to adopting anti-cancer behavioral lifestyles , such as consumption of appropriate diet and indulgence in regular physical exercises; nutritional agents; and vaccination against causative agents) [36].

Chemotherapy (56.5%) and surgery (48.6%) accounts for the most regular method of treatment for cancers as reported by the consultants and resident doctors in this study. This assertion is in line with a recent regional report on cancer management modalities in Africa [37]. Notably, surgery and chemotherapy has reportedly being the most adopted treatment modality in Nigeria [37]. As depicted in this study, the uptake and adoption of radiotherapy is low (16.2%). Access to radiation therapy resources is low with 90% of all radiotherapy resources in Africa being domiciled in North and Central Africa [38].

The consultants and doctors reported an impressive attitude towards cancers with 97.2% reporting that money spent on cancer screening was necessary and 94.4% opining that they would recommend cancer screening to friends and relatives. Sadly, they demonstrated poor cancer screening practice with 58.3% admitting not to have ever undertaken cancer screening. Similar trend has been reported among doctors and other health care workers. In a study of primary health care physicians towards colorectal cancer, 95% of participants believed that CRC screening in general was effective, but as much as 55% reported that they did not practice screening [39]. Similar trend has been reported in a study of female health care workers in Delta state university teaching hospital, Nigeria where 89% of the respondents including doctors had never been screened for cervical cancer [15]. In another study in Southern Ethiopia, 89.6% of health care workers including doctors and consultants have never practiced cancer screening [40].

This study demonstrates relatively poor pre- and- post-cancer screening counseling with a percentage of 17.6% being counseled. This is at variance with the WHO recommendations on cancer management where counseling is advised to remain an integral part of cancer management [41]. Pre and post cancer screening counseling helps clients and patients to make informed decision on the type of cancer screening procedure to undertake while understanding clearly, the advantages and disadvantages of each procedure [42]. Recent studies have recommended that genetic counseling become an integral part of cancer counseling [43–45]. Genetic counseling when introduced will result to patient satisfaction, improved risk perception and better psychosocial outcomes [46,47].

The predominant source of information in the present study was from fellow health care workers accounting for 80.0% of the overall source of information. This in at variance with the study by Eze et al., (2018), where only 22.2% of the sources of information source on cervical cancer screening was attributable to health care workers in a teaching hospital in South-South Nigeria. Else-where among nurses in the Lagos state university teaching hospital, health care professionals had accounted for the second highest source of information on cancer screening accounting for 37.4% of the total source of information [48]. While sources of information of cancer can increase its knowledge

and awareness, it has been suggested that knowledge may not necessarily be a prerequisite to screening hence physicians' recommendation of cancer screening may be critical in utilization of cancer screening services [49].

Over eighty Nine percent (89.8%) of the respondents felt the government was not doing enough for cancer patients. There is a dire need then for government to prioritize cancer programs, screening, manpower and infrastructures. This can be achieved by working with in-country local and international health partners to commit more funding into cancer related programs and activities. Hence the key indicators of lack of government support reported in this study such as poor funding, poor infrastructure and poor support for the meager manpower available will be addressed. Government formulation and monitoring of key cancer-related policies can also help in improving cancer care and management.

Conclusion:-

This study has demonstrated adequate knowledge of cancer screening, positive attitude towards screening but poor practice of cancer screening by the doctors in in UPTH. Given the influence of doctors in the large society,introspection among doctors and initiation of effective advocacy programs by umbrella bodies like the Nigerian Medical Association, Medical and Dental Consultants of Nigeria, National Association of Resident Doctors and Medical Women Association is imperative in order to improve the practiceof cancer screening among doctors and reduce the burden of cancer mortality being recorded among doctors and other health care professionals. A wake up call is also given to government and donor agencies on the need to upscale the existing cancer screening facilities in Nigeria and make the exercise free and accessible to all.

Section A: Socio-Demographic Characteristics of Consultants/Resident doctors

Variables	**Frequency**	**Percent**
Age		
21-30years	23	10.6
31-40years	100	46.3
41-50years	40	18.5
51-60years	27	12.5
Over 60years	26	12.0
Total	**216**	**100.0**
Gender		
Male	112	51.9
Female	104	48.1
Total	**216**	**100.0**
Religion		
Christianity	210	97.2
Islam	6	2.8
Native	0	0.0
Total	**216**	**100.0**
Cadre		
Consultant	81	37.5
Senior Registrar	40	18.5
Registrar	95	44.0
Total	**216**	**100.0**
Number of years in current cadre		
1-5years	96	44.5
6-10years	53	24.5
>10years	67	31.0
Total	**216**	**100.0**

Section B: Knowledge and Perception of Consultants/Resident doctors on Cancer.

Questions	Frequency	Percentage
What is Cancer?		
An incurable disease	10	4.6
A sore on the body	-	-
Abnormal Cell Growth but controllable	26	12.0
Uncontrollable abnormal cell growth	180	83.3
Total	**216**	**100.0**
Is there any age restriction to cancer?		
Yes	6	2.8
No	207	95.8
I don't know	3	1.4
Total	**216**	**100.0**
Do you know any friend/relative who has been diagnosed of cancer?		
Yes	153	70.8
No	63	29.2
Total	**216**	**100.0**
If yes, what type of cancer?		
Breast Cancer	90	41.7
Cervical Cancer	18	8.4
Colorectal Cancer	13	6
Gastric Cancer	6	2.8
Leukemia	10	4.6
Liver cancer	8	3.7
Lung Cancer	7	3.2
Ovarian cancer	11	5.1
Prostate cancer	40	18.5
Renal cancer	7	3.2
Uterine cancer	6	2.8
Total	**216**	**100**

What treatment was given?	Frequency	Percentage
Surgery/Chemotherapy	115	53.2
Surgery/Radiotherapy	35	16.2
Surgery only	51	23.6
Traditional Medicine	4	1.9
Prayer house	7	3.2
Others (Conservative medications)	4	1.9
Total	**216**	**100**

Is the person still alive?	Frequency	Percentage
Yes	106	49.1
No	105	48.6
I don't know	5	2.3
Total	**216**	**100**

Can cancer be contacted from another person like an infection?	Frequency	Percentage
Yes	3	1.4
No	213	98.6
I don't know	0	0
Total	**216**	**100.0**

If yes to the question above, what factors contributes to the high mortality in developing countries?	**Frequency**	**Percentage**
Poor compliance to cancer screening	157(216)	72.7
Inadequate diagnostic infrastructure	165(216)	76.4
Inadequate treatment infrastructure	148(216)	68.5
Lack of faith in Orthodox medicine	79(216)	36.6
Poverty	149(216)	69.0

f yes to the question above, what factors contributes to the high mortality in developing countries?	**Frequency**	**Percentage**
Poor compliance to cancer screening	157(216)	72.7
Inadequate diagnostic infrastructure	165(216)	76.4
Inadequate treatment infrastructure	148(216)	68.5
Lack of faith in Orthodox medicine	79(216)	36.6
Poverty	149(216)	69.0
Lack of trained manpower	83(216)	38.4

Cancer mortality is higher in developing countries while incidence is higher in developed countries?	Frequency	Percentage
Yes	183	84.7
No	13	6.0
I don't know	20	9.3
Total	**216**	**100.0**

Is Cancer treatable?	Frequency	Percentage
Yes	192	88.9
No	24	11.1
I don't know	0	0
Total	**216**	**100.0**

Is Cancer preventable?	Frequency	Percentage
Yes	204	94.4
No	12	5.6
I don't know	0	0
Total	**216**	**100.0**

Section C: Attitudes of Consultants/Residents doctors towards Cancer

How do you think cancer can be prevented	**Frequency**	**Percentage**
Change of Lifestyle	184(216)	85.2
Going for cancer screening	178(216)	82.4
Cancer cannot be prevented	6(216)	2.8

Do you think that money spent in undergoing cancer screening is unnecessary and should be used for something else?	**Frequency**	**Percentage**
Yes	0	0
No	210	97.2
I don’t know	6	2.8
Total	**216**	**100.0**

Do you recommend screening to your friends or relatives?	**Frequency**	**Percentage**
Yes	204	94.4
No	12	5.6
Total	**216**	**100.0**

What will be your response if you were diagnosed with Cancer	Frequency	Percentage
Denial	3	1.4
Acceptance	16	7.4
Depression	15	6.9
Seek immediate treatment	169	78.3
I don't know	13	6.0
Total	**216**	**100.0**

What immediate remedies would you initiate?	Frequency	Percentage
Go to prayer house or church	13	6.0
Go to equipped hospital	197	91.2
Go to traditional medicine practitioners	0	0
Others (Contact medically qualified friends, seek second option and confirmation)	6	2.8
Total	**216**	**100.0**

Section D: Practice of Cancer Screening

What common cancers can be screened for?	Frequency	Percentage
Prostate Cancer	187(216)	86.6
Breast Cancer	207(216)	95.8
Cervical Cancer	207(216)	95.8
Colorectal Cancer	99(216)	45.8
Stomach Cancer	36(216)	16.7

Cancer screening has advantages because?	Frequency	Percentage
It elongates the lifespan of Cancer victims	135(216)	62.5
It can prevent the development of cancer	134(216)	62.0
It allows early diagnosis of cancer	192(216)	88.9
It makes for better treatment	140(216)	64.8
It does not have any value	4(216)	1.9
It would not add value to life	1(216)	0.5
Others (Negligence, Don't have time)	31(216)	14.4

Have you ever been screened for cancer before?	Frequency	Percentage
Yes	90	41.7
No	126	58.3
Total	**216**	**100.0**

If No, Why?	Frequency	Percentage
I am not yet old enough	19	15.1
Afraid of the procedure	44	34.9
It is expensive	15	11.9
I did not know I can screen for cancer	10	7.9
I don't want to screen cancer	12	9.5
I was advised against it	0	0
I do not think it is necessary	11	8.7
It is painful	7	5.6
Delay of getting results	8	6.4
Total	**126**	**100**

What type of screening did you undergo?	Frequency	Percentage
Prostate cancer screening	25(90)	27.8
Colonoscopy	2(90)	2.2
Hepatitis B/C	29(90)	32.2
Self Breast Examination	37(90)	41.1
Faecal Occult Blood	5(90)	5.6
Mammography	22(90)	24.4
Cervical Cancer screening	35(90)	38.9

If you have been screened before, how did you know about it?	Frequency	Percentage
Radio/Television	5	5.6
Internet	20	22.2
Relatives	0	0.0
Doctor/Nurse/Health worker	65	72.2
Others	0	0.0
Total	**90**	**100.0**

Where you counseled before and/or after the screeningprocess?	Frequency	Percentage
Yes	38	42.2
No	52	57.8
Total	**90**	**100.0**

How fast did you get your result after the screening	Frequency	Percentage
Same day	18	20
Next day	8	8.9
48 hours	18	20
1 week	20	22.2
2 weeks	9	10
One month	9	10
More than One month	8	8.9
Total	**90**	**100.0**

How was the screening process you underwent	Frequency	Percentage
Painful	0	0.0
Discomforting	23	25.6
Unremarkable	61	67.8
I cannot remember	6	6.6
Total	**90**	**100.0**

Would you support your husband going for digital rectal examination	Frequency	Percentage
Yes	101	97.1
No	1	1.0
I don't know	2	1.9
Total	**104**	**100.0**

Did you understand the result of your screening test	Frequency	Percentage

	or was it properly explained by your doctor?	
Yes	84	93.3
No	6	6.7
Total	**90**	**100.0**

How long do you think cancer screening should be done?	**Frequency**	**Percentage**
Twice a month	6	2.8
Every month	3	1.4
Once in two months	8	3.7
Once in 6 months	41	19.0
Once a year	114	52.8
Others (Don't know and it depends on the type)	44	20.4
Total	**216**	**100.0**

Is government doing enough for cancer patients?	**Frequency**	**Percentage**
Yes	5	2.3
No	194	89.8
I don't know	17	7.9
Total	**216**	**100.0**

If No Why?		Frequency	Percentage
Valid	Yes/I don't know	**22**	**10.2**
	Few Diagnostics and treatment equipment	3	1.4
	Few infrastructure and treatment centers	11	5.1
	Inadequate Diagnostic infrastructureand trained manpower	11	5.1
	Inadequate healthcare provision for cancer victim, Inadequate chemotherapy drugs and Radiotherapy facilities provisions	5	2.3
	it is expensive	6	2.8
	Lack of attention to health issues from the government	5	2.3
	Lack of facilities	2	.9
	Lack of infrastructure for investigation	4	1.9
	Lack of research facilities ,high fee for treatment	5	2.3
	Lack of will power from Govt/poor funding	10	4.6
	More centers for screening should be established	3	1.4
	More funds are needed	12	5.6
	NGO	4	1.9
	Nil publicity	5	2.3
	No commitment	5	2.3
	No funds, poor hospital management by govt.	3	1.4
	No plans for cancer patient	3	1.4
	Not enough awareness, not enough screening programmes	6	2.8
	Not much awareness, no free medical or drug subsidy	5	2.3
	Not paying serious attention on cancer patient	2	.9
	Politics and ignorance	5	2.3
	poor funding	35	18.4
	poor infrastructure and no encouragement for the little manpower available	9	4.2
	poor public enlightenment and poorly equipped medical facilities	8	3.7
	should make screening free	7	3.3

	Subsidy of chemotherapy medications	10	4.6
	There is need for the subsidy of treatment and need to get more equipment	6	2.8
	They should purchase more modern machine for diagnosis	4	1.9
	Total	**194**	**89.8**

How was the diagnosis made?	**Frequency**	**Percentage**
Blood film	8	3.7
Clinical finding	12	5.6
Histopathology	111	51.4
Colonoscopy	7	3.2
Emergency surgery	5	2.3
Pleural aspirate cytology	8	3.7
Imaging	37	17.1
Other laboratory tests	8	3.7
Pap smear(screening)	11	5.1
Fine needle aspiration cytology	9	4.2
Total	**216**	**100**

References:-

1. Wang M-Y et al. Knowledge, Attitudes, Preventive Practices and Screening Intention about Colorectal Cancer and the Related Factors among Residents in Guangzhou, China. Asian Pacific journal of cancer prevention: APJCP 2017; 18(12): 3217–3223.
2. Sung H, Ferlay J, Siegel RL, Laversanne M, Soerjomataram I, Jemal A, et al. Global Cancer Statistics 2020: GLOBOCAN Estimates of Incidence and Mortality Worldwide for 36 Cancers in 185 Countries. CA Cancer J Clin. 2021;71(3):209–49.
3. IARC. https://www.iarc.who.int/news-events/latest-global-cancer-data-cancer-burden-rises-to-19-3-million-new-cases-and-10-0-million-cancer-deaths-in-2020/#:~:text=The%20global%20cancer%20burden%20is,women%20die%20from%20the%20disease. Last accessed March 26, 2023.
4. Simon S. Facts & Figures 2018: Rate of Deaths From Cancer Continues Decline. 2018. Available at: https://www.cancer.org/latest-news/facts-and-figures-2018-rate-of-deaths-from-cancer-continues-decline.html. Accessed June 3, 2019.
5. IARC. Nigeria Fact Sheet. 2020. Available at: https://gco.iarc.fr/today/data/factsheets/populations/566-nigeria-fact-sheets.pdf Last accessed March 26, 2023.
6. Loomans-Kropp HA, Umar A. Cancer prevention and screening: the next step in the era of precision medicine. NPJ precision oncology 2019; 3(1): 3.
7. Gimeno Garcia AZ et al. Public Awareness of Colorectal Cancer Screening: Knowledge, Attitudes, and Interventions for Increasing Screening Uptake. ISRN Oncol 2014; 2014. doi:10.1155/2014/425787.
8. WHO. Early cancer diagnosis saves lives, cuts treatment costs. 2017. Available at: https://www.who.int/news-room/detail/03-02-2017-early-cancer-diagnosis-saves-lives-cuts-treatment-costs. Accessed June 3, 2019.
9. Barratt A et al. Cancer screening. Journal of Epidemiology & Community Health 2002; 56(12): 899–902.
10. Marmot MG et al. The benefits and harms of breast cancer screening: an independent review. British journal of cancer 2013; 108(11): 2205.
11. The Cancer Atlas. Cancer in Sub-Saharan Africa. 2013. Available at: http://canceratlas.cancer.org/the-burden/cancer-in-sub-saharan-africa/. Accessed June 3, 2019.
12. Cancerworld. Countering the rise of cancer in sub-Saharian Africa. 2018. Available at: https://cancerworld.net/cancerworld-plus/countering-the-rise-of-cancer-in-sub-saharian-africa/. Accessed June 3, 2019.
13. Elamurugan S et al. Cervical cancer screening: Awareness, attitude, and practice of Indian women. Tropical Journal of Medical Research 2016; 19(1): 42.
14. Arulogun OS, Maxwell OO. Perception and utilization of cervical cancer screening services among female nurses in University College Hospital, Ibadan, Nigeria. Pan African Medical Journal 2012; 11(1).
15. Eze GU et al. Perspectives of cervical cancer and screening practices among staff of a teaching hospital in South-South Nigeria. Journal of Cancer Research and Practice 2018; 5(2): 67–73.

16. Anyebe EE et al. Knowledge and practice of cervical cancer screening amongst nurses in Ahmadu Bello University Teaching Hospital Zaria. Cancer 2014; 4(27): 33–40.
17. Akhigbe AO, Omuemu VO. Knowledge, attitudes and practice of breast cancer screening among female health workers in a Nigerian urban city. BMC cancer 2009; 9(1): 203.
18. Ojule IN, Opara AI. Fasting blood glucose profile of tuberculosis patients in Port Harcourt, Nigeria. Port Harcourt Medical Journal 2019; 13(1): 26.
19. Jedy-Agba E et al. Cancer incidence in Nigeria: a report from population-based cancer registries. Cancer epidemiology 2012; 36(5): e271–e278.
20. Bello S et al. Determinants of job satisfaction among physicians in public hospitals in Calabar, Nigeria. Journal of Community Medicine and Primary Health Care 2018; 30(1): 19–33.
21. Abiola T et al. Patient-doctor relationship: The practice orientation of doctors in Kano. Nigerian Journal of Clinical Practice 2014; 17(2): 241. doi:10.4103/1119-3077.127567.
22. Ephraim-Emmanuel BC et al. Knowledge, Attitude and Practice of Preventing the Occurrence of Work-Related Musculoskeletal Disorders Among Doctors in University of Port-Harcourt Teaching Hospital. Journal of Medical Research and Innovation 2019; 3(2): e000161–e000161.
23. Ebuenyi ID et al. Gender variations in specialties among medical doctors working in public healthcare institutions in Bayelsa State, Nigeria. Nigerian Journal of Medicine 2017; 26(1): 18–22. doi:10.4314/njm.v26i1.
24. Boniol M et al.Gender equity in the health workforce: analysis of 104 countries. World Health Organization, 2019.
25. United States Department of State. 2018 Report on International Religious Freedom: Nigeria. OFFICE OF INTERNATIONAL RELIGIOUS FREEDOM 2019. Available at: https://www.state.gov/reports/2018-report-on-international-religious-freedom/nigeria/. Accessed June 24, 2020.
26. White MC et al. Age and Cancer Risk. Am J Prev Med 2014; 46(3 0 1): S7-15. doi:10.1016/j.amepre.2013.10.029.
27. Gharoro EP et al. Towards Reducing Cancer Death: An Exploratory Study Of Physicians Knowledge On Cancer Basic Facts. Benin Journal of Postgraduate Medicine 2009; 11(1).
28. Allagoa DO et al. Knowledge, practice and attitude of breast self, clinical breast and mammographic examinations amongst medical doctors in Bayelsa State. Port Harcourt Medical Journal 2017; 11(1): 26.
29. Ogwuche EI et al. Knowledge and attitude to prostate cancer screening in a discrete population of doctors in the middle belt region of Nigeria. Highland Medical Research Journal 2013; 13(1): 41–43. doi:10.4314/hmrj.v13i1.
30. Akhigbe AO, Omuemu VO. Knowledge, attitudes and practice of breast cancer screening among female health workers in a Nigerian urban city. BMC Cancer 2009; 9: 203. doi:10.1186/1471-2407-9-203.
31. Heena H et al. Knowledge, attitudes, and practices related to breast cancer screening among female health care professionals: a cross sectional study. BMC Women's Health 2019; 19(1): 122. doi:10.1186/s12905-019-0819-x.
32. Christopher, Obiorah Chinedu. Cancer incidence in the Niger delta region of Nigeria; a population based review of Port Harcourt cancer registry. The Nigerian Health Journal 2020;19: 85-95.
33. ICCP. Nigeria National Cancer Control Plan | ICCP Portal. International Cancer Control Partnership (ICCP) 2018. Available at: https://www.iccp-portal.org/system/files/plans/NCCP_Final%20%5B1%5D.pdf. Accessed June 27, 2020.
34. Ma X, Yu H. Global Burden of Cancer. Yale J Biol Med 2006; 79(3–4): 85–94.
35. Jemal A et al. Cancer burden in Africa and opportunities for prevention. Cancer 2012; 118(18): 4372–4384.
36. Dunn BK, Kramer BS. Cancer Prevention: Lessons Learned and Future Directions. Trends Cancer 2016; 2(12): 713–722. doi:10.1016/j.trecan.2016.11.003.
37. Vanderpuye V et al. An update on the management of breast cancer in Africa. Infectious Agents and Cancer 2017; 12(1): 13. doi:10.1186/s13027-017-0124-y.
38. Abdel-Wahab M et al. Status of radiotherapy resources in Africa: an International Atomic Energy Agency analysis. Lancet Oncol 2013; 14(4): e168-175. doi:10.1016/S1470-2045(12)70532-6.
39. Mosli M et al. Knowledge, attitude, and practices of primary health care physicians toward colorectal cancer screening. Saudi journal of gastroenterology: official journal of the Saudi Gastroenterology Association 2017; 23(6): 330.
40. Dulla D et al. Knowledge about cervical cancer screening and its practice among female health care workers in southern Ethiopia: a cross-sectional study. International Journal of Women's Health 2017; 9: 365–372. doi:10.2147/IJWH.S132202.

41. WHO. Cervical cancer screening and management of cervical pre-cancers: trainee's handbook and facilitator's guide-Programme manager's manual. World Health Organization 2017. Available at: https://www.who.int/docs/default-source/searo/tobacco/programme-manager-manual.pdf?sfvrsn=9aabc485_2.
42. Ndikom CM, Ofi BA. Pre-screening counseling in cervical cancer prevention: Implications for nursing. International Journal of Nursing and Midwifery 2011; 3(10): 158–164.
43. Dwarte T et al. Genetic counselling and personalised risk assessment in the Australian pancreatic cancer screening program. Hereditary Cancer in Clinical Practice 2019; 17(1): 30. doi:10.1186/s13053-019-0129-1.
44. U.S. Preventive Services Task Force. Risk Assessment, Genetic Counseling, and Genetic Testing for BRCA-Related Cancer: Recommendation Statement. AFP 2020; 101(4): 233–238.
45. Verma A et al. Mainstreaming genetic counseling for BRCA testing into oncology clinics – Indian perspective. Indian Journal of Cancer 2019; 56(5): 38. doi:10.4103/ijc.IJC_458_19.
46. Kausmeyer DT et al. A survey of patients' experiences with the cancer genetic counseling process: recommendations for cancer genetics programs. J Genet Couns 2006; 15(6): 409–431. doi:10.1007/s10897-006-9039-2.
47. Maheu C et al. Pancreatic cancer risk counselling and screening: impact on perceived risk and psychological functioning. Fam Cancer 2010; 9(4): 617–624. doi:10.1007/s10689-010-9354-5.
48. Awodele O et al. A study on cervical cancer screening amongst nurses in Lagos University Teaching Hospital, Lagos, Nigeria. J Cancer Educ 2011; 26(3): 497–504. doi:10.1007/s13187-010-0187-6.
49. Meissner HI et al. How sources of health information relate to knowledge and use of cancer screening exams. J Community Health 1992; 17(3): 153–165. doi:10.1007/BF01324404.