



An assessment of knowledge of cancer prevention among staff of federal colleges of education in north-west zone, Nigeria

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Abstract

This study assessed the knowledge of cancer prevention among Staff of Federal Colleges of Education in North West Zone, Nigeria. One research objective and its corresponding research questions were raised and one hypothesis were postulated and tested at 0.05 level of significance. Ex-post facto research design was adopted and the population of the study comprised of all 4, 015 academic and non-academic Staff of the five (5) Federal Colleges of Education in North West Zone Nigeria. The five Federal Colleges of Education are; Federal College of Education (Technical) Bichi (548), Federal College of Education Kano (851), Federal College of Education Katsina (672), Federal College of Education Zaria (1,470) and Federal College of Education (Woman Technical) Zamfara (474). A sample of seven hundred and fourteen (714) academic and nonacademic staff were drawn from the population using a multi-stage sampling procedure of stratified sampling procedure, proportionate sampling procedure and convenience sampling technique. The instrument used for data collection was researcher-developed close-ended questionnaire which was validated by three (3) experts. Data collected was analyzed with Statistical Package for Social Science (version 22) using frequencies, percentages and mean, inferential one sample t- test statistics. The findings of the study showed that knowledge of cancer prevention among Staff of Colleges of Education in North West zone Nigeria is statistically significant. Based on this, it was concluded that Staff of Federal Colleges of Education of North West zone, Nigeria are knowledgeable about cancer prevention. It was recommended among others that all concerned public health agencies (like various voluntary cancer foundations, World Health Organization (WHO), National Cancer Institute (NCI)) and Ministries Departments and Agencies of all three tiers of government should double effort in ensuring that knowledge of cancer prevention is sustained among staff of Federal Colleges of Education in north west zone Nigeria is sustained.

Keywords: substituted Li ferrite, magnetostatic and spin waves, microstrip array antenna, X-band frequency range

1. Introduction

World Health Organization, (WHO, 2017) ^[21]. described cancer as a generic term for a large group of diseases that affect any part of the body. It is the most dreaded disease nowadays which brings tremendous social distress, economic loss, psychological suffering and hardship to both patients and relatives (Abdurrahman, Gobir, Abubakar, Onoja, & Joshua, 2018) ^[1]. Agba, Curadom, Ogunbiyi, & Emmanuel, (2016) ^[4]. stated that it is a major public health problem affecting all categories of individuals worldwide. A study showed that cancer is the second leading cause of death globally in both developed and developing countries which Nigeria is included (Sabitu & Idris, 2017) ^[18]. Cancer starts when cells in any part of the body begin to grow out of control (Abiodun, Sotunsa & Oluwole, 2015) ^[2]. The word cancer is an umbrella term that refers to about 200 diseases that share two common characteristics which are an uncontrolled growth of cells and the ability to invade and damage normal tissues either locally or at distant sites in the body (Akorede, 2018 ^[5]; Dulla, Daka & Wakgan, 2018) ^[8]. The menace of cancer in our society today cannot be over emphasized (Abiodun, *et al.*, 2015) ^[2]. It has become such a chronic disease and it claims lots of lives every year to the tune of millions globally, the incidence of this disease keeps on raising from year to year and cancer death rate follows the same pattern (Abraham & Adebayo, 2018) ^[3]. World Health Organization (WHO, 2018) ^[22]. reported in its fact

sheet of February 2018 that 18.1 million new cases and 9.6 million cancer death were recorded in 2018. This record showed a worrisome increase in the trend of new cancer cases and deaths worldwide.

According to WHO, (2018) ^[22]. an estimated 116,000 new cases of cancer and over 60,000 cancers related deaths were recorded in Nigeria in 2018. Statistics from the Global Cancer Incidence, Mortality and Prevalence (Globocan, 2018) a project of the International Agency for Research on Cancer (IARC) recorded 115,980 cases of cancer from both male (44,928) and female (71,022) of all ages out of which from the male prostate cancer were leading with 13,078 (29.1%) cases, followed by 3,568 (7.9%) for colorectum, 3,295 (7.3%) for non- Hodgkin lymphoma, 3,087 (6.9%) for liver, 1,591 (3.5%) stomach cancer, 20,309 (42.2%) for other cancers. While the most frequent cancer among Nigerian females of all ages were 26, 310 (37%) for breast, 14,943 for cervix uterine, 3,124 (4.4%) for colorectum, 2792 (3.9%) for ovary, 2,072 (2.9%) for non- Hodgkin lymphoma and 21,781 (30.7%) for other cancers, also The mortality as recorded by Globocan, (2018) and American Cancer Society (2018) showed that breast cancer caused 11,403 (19.10%) deaths, cervix uterus 10,403 (17.19%) deaths, colon 1,956 (3.23%) death, liver 5,154 (8.5%) deaths, non-Hodgkin lymphoma 3,726 (6.16%) and prostate 5,806 (9.59%) deaths. in Nigeria. A study carried out by Kehinde, Awosan, Usman and Suleiman, (2018) ^[13]. further

revealed that the most cancer related deaths in Nigeria were in the north-east (88%), north-west (87%) north central (74%) south west (71%), south east (72%) and south- south (71%) respectively. Concerning the issue of knowledge of cancer prevention, in a study conducted by Akorede, (2018) [5]. among staff of seven Federal Universities in north central zone Nigeria and found that most participants were knowledgeable about cancer prevention strategies. Similarly, Ogochukwu, Uchenna and Oyine (2018) [15]. and Saleh, Fayez, Ibrahim, Ali, Sami, Kalaf. & Hussain (2018) [19]. all revealed that the staff of the University of Nigeria and Saudi Arabian women respectively had good knowledge towards breast cancer symptoms, risk factors and preventive measures like breast self-examination regular exercise and good eating habits. Moreover Hyacinth, Oluwatoyosi, Adekeye and Tolulope, (2017) conducted a study on cervical cancer and pap smear awareness and utilization of pap smear test among federal civil servants in north central Nigeria, the result showed that two hundred and forty-two (79.1%) were aware of the disease and method of prevention (cervical cancer). However, Aweke, Ayanto and Ersado (2017) study shows that the study participants do not have knowledge as such there is a strong need to improve women's knowledge about cervical cancer risk factors and prevention measures. According to World Health Organization (2018) recent report, over 100,000 Nigerians are diagnosed with cancer annually and about 80,000 die from the disease averaging 240 Nigerians every day or 10 Nigerians every hour dying from cancer (Olubodun, Odukoya & Balogun, 2019) [16]. Available data also shows that cervical cancer, which is virtually hundred percent (100%) preventable kills one Nigerian woman every hour, breast cancer kills 40 Nigerians woman daily while prostate cancer kills 26 Nigerian men daily. These three common cancers alone kill 90 Nigerians daily (Shuaibu, Grema & Michael, 2018) [20]. It is expected that Staff of Federal Colleges of Education in north west Zone Nigeria due to their educational background and exposure to all sorts of mass media, internet services and the way they are seen in communities as role models should have the knowledge of cancer prevention so that students and community members will emulate from them. However, many evidence have shown that the high increase of cancer cases in North West Zone Nigeria cannot be far away from lack of knowledge of the above predisposing factors and method of preventing them (Kabir, 2016) [12]. In light of the above the researcher's intends to assess Knowledge of cancer prevention among staff of Federal Colleges of Education in North West Zone Nigeria.

Research Objective

The purpose of this study was to assess knowledge of cancer prevention among Staff of Federal Colleges of Education in North West Zone Nigeria.

Research Question

Do staff of Federal Collages of Education in North West zone Nigeria have knowledge on cancer prevention?

Research Hypothesis

Ho: There is no significant Knowledge of cancer prevention among staff of Federal Colleges of Education in North West Zone Nigeria.

Methodology

Ex-post facto research design was used. Expost facto design identifies the previous events and present conditions, and then collects data to investigate a possible relationship between factors and subsequent characteristic of behaviors (Nasim & Jerney, 2016). The population of this study comprised of all 4, 015 academic and non-academic staff of the five (5) Federal Colleges of Education in North West Zone Nigeria. The five Federal Colleges of Education are; Federal College of Education (Technical) Bichi (548), Federal College of Education Kano (851), Federal College of Education Katsina (672), Federal College of Education Zaria (1,470) and Federal College of Education (Woman Technical) Zamfara (474). The sample size for this study was 714 staff of Federal Colleges of Education in North West Zone Nigeria. Research advisor (2016) stressed that in a population of 4,015, 357 respondents are sufficiently enough to be used as a sample. However, the sample size was increases (doubled) to 714 respondents to have a wider coverage of respondents. Multi-stage sampling procedure was employed to select the respondents for the study using stratified sampling procedure, proportionate sampling procedure and convenience sampling technique. The instrument for this study was researcher-developed close-ended questionnaire title made up of 18 items. The questionnaire consisted of two sections; Section "A" consists of three (3) items on demographic characteristics of the respondents while Section "B" consists of fifteen (15) items on knowledge of cancer prevention among staff of Federal Colleges of Education in north West Zone Nigeria. Four (4) point Likert Scale was used. The researcher-developed questionnaire was validated by three experts in the field of the study. Descriptive statistics of frequency percentages and mean was used to describe the demographic information of the respondents and frequencies, percentages and mean for item analysis while one sample t-test was used to test the postulated hypothesis advanced at 0.05 level of significance using statistical package for social science SPSS version 22.

Result

Out of seven hundred and fourteen (714) copies of questionnaire administered, only data from seven hundred and four (704) 98.5% were valid for the analysis. The information on demographic characteristics of respondents is shown in Table 1:

Table 1: Information on Demographic Characteristics of the Respondents

Variables		Respondents	Percentage
Age range in years	18 -29	20	9.9
	30 -39	28.3	
	40 -49	332	47.2
	>50	138	19.6
	Total	704	100.0
Gender	Male	499	70.9
	Female	205	29.1
	Total	704	100.0
Educational Status	SSCE	74	10.5
	NCE	166	23.6
	B. Sc	335	47.6
	M. Sc	101	14.3
	PhD	28	4.0
	Total	704	100.0

Table 1 shows the demographic characteristics of the respondents, it shows that 138, representing (19.6%) were in the group of 50years and above, 332, representing (47.2%) of the respondent were in the age group of 40-49 years and 164 respondents representing (28.3%) were in age group 30-39 years while 20 representing (9.9%) were in age group 18-29 years. It also indicated that 499 representing (70.9%) of the respondents were male while 205 representing (29.1%) are females. The table further revealed that 335 representing (47.6%) of the respondents were B. Sc holders

it further shows that 166 representing (23.6%) were NCE holders and 101 representing (14.3%) M.Sc degree holders while 28 representing (4.0%) of the respondents were PhD holders and 74 representing (10.0%) were SSCE holders.

Research Question One

Does Staff of Federal Collages of Education in North West Zone Nigeria have knowledge on cancer prevention? The information contained in Table 2 answers the research question stated

Table 2: Mean and Scores of the responses on Knowledge of Cancer Prevention among Staff of Federal Colleges of Education in North West Zone Nigeria.

S/No	ITEMS	Strongly Agreed	Agreed	Disagreed	Strongly Disagreed	Mean
1	Maintaining healthy weight by regular exercise and physical activities can reduce cancer risk	188 (26.7%)	413 (58.7%)	69 (9.8%)	34 (4.8%)	3.07
2	Work place hazard such as dust, gases, chemicals and radioactive substances can be a risk factors for cancer	137 (19.5%)	421 (59.8%)	63 (8.9%)	83 (11.8%)	2.87
3	Age of an individual can predispose one to cancer	149 (21.2%)	429 (60.9%)	93 (13.2%)	33 (4.7%)	2.99
4	Tobacco smoking (active and passive) increases risk of cancer	76 (10.8%)	173 (24.8%)	348 (49.4%)	107 (15.2%)	2.31*
5	Family history [heredity] could be a risk factor to the cancer.	131 (18.6%)	186 (26.4%)	51 (7.2%)	336 (47.7%)	2.16*
6	Early presentation of cases could improve the chance of healing and survival.	188 (26.7%)	413 (58.7%)	69 (9.8%)	34 (4.8%)	3.07
7	Infectious agents such as human Papilloma virus (HPV) Hepatitis B and C (HB) and Human Immune Virus (HIV) can lead to cancer.	137 (19.5%)	421 (59.8%)	63 (8.9%)	83 (11.8%)	2.87
8	Fast food and processed foods can cause cancer	188 (26.7%)	413 (58.7%)	69 (9.8%)	34 (4.8%)	3.07
9	Early cancer detection helps in effective treatment	137 (19.5%)	421 (59.8%)	63 (8.9%)	83 (11.8%)	2.87
10	Prolonged of exposure to air pollution due to chemicals increases risk for cancer	149 (21.2%)	429 (60.9%)	93 (13.2%)	33 4.7%)	2.99
11	Prolonged of exposure to water pollution due to chemical agents increase risk for cancer	76 (10.8%)	173 (24.8%)	348 (49.4%)	107 (15.2%)	2.31*
12	Eating fresh fruits, high fiber foods, and raw vegetables can help reduce cancer risk	131 (18.6%)	186 (26.4%)	51 (7.2%)	336 (47.7%)	2.16*
13	Prolonged of exposure to sunlight increase cancer risk	188 (26.7%)	413 (58.7%)	69 (9.8%)	34 (4.8%)	3.07
14	Immunization against HPV HB and screening of blood before transfusion can prevent cancer	149 (21.2%)	429 (60.9%)	93 (13.2%)	33 (4.7%)	2.99
15	Education about cancer through intervention programmes can reduce cancer risk.	76 (10.8%)	173 (24.8%)	348 (49.4%)	107 (15.2%)	2.31*
Average Mean						2.74

Negative below decision making level 2.5

Table 2 shows the item analysis on the responses on knowledge of cancer prevention among staff of Federal Colleges of Education in North-West Zone Nigeria. The table indicates that Staff of Federal Colleges of Education in North-West Zone Nigeria have knowledge in most items in the section with the exception of item 4, 5, 11, 12 and 15 which were below decision making level of 2.5 mean. The overall mean in the section is 2.74.

This implies that the staffs of Federal Colleges of Education in North-West Zone Nigeria are knowledgeable on Cancer Prevention.

Hypothesis

There is no significant knowledge of cancer prevention among Staff of Federal Colleges of education in North West Nigeria.

Table 3: Summary of One Sample t-test Analysis on the Knowledge of Cancer Prevention among Staff of Federal Colleges of Federal Education in North West Zone Nigeria.

Variable	N	Mean	Std Dev	df	t-cal	t-critic	P-val	Remark
Knowledge of Cancer prevention	704	33.90	6.48	703	138.79	1.962	0.000	rejected

Significant at p<0.05

Table 3 shows the summary of one sample t-test analysis on the knowledge of cancer prevention among Staff of Federal Colleges of education in North West zone Nigeria. The table revealed that the p-value is less than 0.05 alpha level of significant. In other words, the t-cal of 138.79 is greater than the t-critic of 1.962. Therefore, the hypothesis which stated that knowledge of cancer prevention among Staff of Federal Colleges of Education in North West Zone Nigeria will not

be significant is hereby rejected. This implies that knowledge of cancer among Staff of Colleges of Education in North West zone Nigeria is statistically significant which also indicates that Staff of Federal Colleges of Education in North West zone Nigeria have knowledge of cancer prevention.

Discussion

This study investigated the knowledge of cancer prevention

among staff of Federal Colleges of Education in north-west zone, Nigeria. The result of the study revealed that staff of Federal Colleges of Education of north-west zone, Nigeria are knowledgeable about cancer prevention with t-value of 138.79, t-critical of 1.962 and $P < 0.05$ this clearly revealed that the knowledge of cancer prevention among staff of Federal Colleges of Education in north west zone Nigeria is significant. This finding is in line with the study of Akorede, (2018) [5], which conducted a study among staff from seven Federal Universities in north central zone Nigeria and found that most participants were knowledgeable about cancer prevention strategies. The finding also tallies with Ogochukwu, et. al., (2018) [15], and Saleh, et. al., (2018) [19], findings which all revealed that the staff of the University of Nigeria and Saudi Arabian women had good knowledge towards breast cancer symptoms, risk factors and preventive measures like breast self-examination regular exercise and good eating habits. Furthermore, the findings also corroborates with Hyacinth, et al., (2017) [10], on cervical cancer and pap smear awareness and utilization of pap smear test among federal civil servants in north central Nigeria, the result showed that two hundred and forty-two (79.1%) were aware of the disease and method of prevention (cervical cancer). However, the outcome contradicted a finding of Aweke, et. al., (2017) study which showed that the women do not have the knowledge of cervical cancer risk factors and its prevention measures.

Conclusion

The finding of this study concludes that staffs in Federal Colleges of Education of North West Zone, Nigeria are knowledgeable about cancer prevention.

Recommendation

Since it has been established that adequate and positive knowledge of cancer prevention exist among Staff of Federal Colleges of Education in North West Zone, Nigeria, its recommending that Concerned public health agencies (like various voluntary cancer foundations, World Health Organization (WHO), National Cancer Institute (NCI)) and Ministries Departments and Agencies of all three tiers of government should double effort in ensuring that knowledge of Federal Colleges of Education Staff and the general populace about cancer prevention is sustained.

References

1. Abdurrahman MS, Gobir MA, Abubakar SA, Onoja I, Joshua E. Knowledge and Practice of Prostate Cancer Screening among men in Birnin Kudu a Town in North West Zone Nigeria. *International Journal of Medicine and Health Development*. 2018; 8(6):87-99
2. Abiodun OL, Sotunsa O, Oluwole O. Knowledge Perception and Predictors of Uptake of Cervical Cancer Screening among Nigerian rural women. *Journal of Public Health and Epidemiology*. 2015; 6(3):119-124.
3. Abraham HI, Adebayo YD. Knowledge, Attitude and Practice of Breast Self-Examination among Women in Rivers state, Nigeria. *The Nigerian Health Journal*. 2018; 12(1):71-85.
4. Agba EJ, Curadom P, Ogunbiyi O, Emmanuel L. Cancer Incidence in Nigeria: A Report from Population Cancer Registries *Cancer Epidemiology*. 2016; 36(5):271-278.
5. Akorede SN. Assessment of Knowledge Attitude and Practice of Cancer Prevention Strategies among Staff of Federal Universities in North-Central Zone, Nigeria Thesis submitted to the Postgraduate School. Ahmadu Bello University, Zaria, 2018.
6. American Cancer Society. Cancer Facts and Figures 2018 Scientific Paper published in the American Cancer Society journal, C.A: A cancer Journal for Clinicians, 2018.
7. Awake YB, Ayanto SY, Ayanto TL. Knowledge Attitude and Practices for Cervical Cancer Prevention and Control among Women of Child Bearing age in Hossana town, Hadiya Zone, Southern Ethiopia. *International Journal of Health and Research*. 2017; 12(7):181-190.
8. Dulla D, Daka D, Wakgan N. Knowledge about Cervical Cancer Screening and its Practice among Female Healthcare Workers in Southern Ethiopia. *International Journal of Women's Health*. 2018; 9(9):365-373.
9. Globacan. Latest Global Cancer Data and counseling the Roles of Cancer. *The Lancet*. 2019; 392(10-152):985-138
10. Hyacinth I, Oluwatoyosi A, Adekeye JN, Tolalope O. Cervical Cancer and Pap Smear Awareness and Utilization of Pap Smear Test among Federal Civil Servants in North Central Nigeria. *International Journal of Community Medicine*. 2017; 12(10):110-121.
11. Jradi H, Bawazir AA. Knowledge, Attitude and Practices among Women Regarding Cervical Cancer and Human Papilloma virus (HPV) and Corresponding Vaccine. *International Journal for Cancer*. 2019; 3(2):530-539.
12. Kabir SU. Knowledge Attitude and Practices of Cancer Prevention among Rural and Urban Men and Women in Katsina Nigeria. *Journal of Community Medicine and Primary Health Care*. 2016; 29(1):81-88.
13. Kehinde J, Awosan EU, Usman Y, Suleiman T. Knowledge Attitude and Practices of Prostate Cancer among Men in Sokoto. *Asian Journal of Medical Sciences*. 2018; 9(6):98-108.
14. Nasim A, Jenny FA. Overview of experimental and Expost Facto Research Designs. *Research Gate, Net Publication*, 2016.
15. Ogochukwu MA, Adibe DA, Oyine L, Isah A, Anosike C. Knowledge Attitude and Perception of Prostate Cancer Screening among Male Staff of the University of Nigeria. *Asian Pacific journal of cancer prevention*. 2018; 18(7):1961-1971.
16. Olubodun T, Odukoya OO, Balogun R. Knowledge, Attitude and Practices of Cervical Cancer Prevention, among Women Residing in an Urban Slum in Lagos, South Western Nigeria. *The Pan African Medical Journal*. 2019; 32:42-51.
17. Research Advisor. Excel Compatible Sample size table, 2016. Retrieved from www.researchadvisor.com.
18. Sabitu K, Idris AA. Knowledge and Practice of Cervical Cancer Screening among Female Undergraduate Students Ahmadu Bello University Zaria. *Journal Community Medicine*. 2017; 7(32):182-197
19. Saleh HD, Fayeze SA, Ibrahim BA, Ali GA, Sami AA, Kalaf JK, et al. Knowledge and Perception toward Breast Cancer Prevention and Early Detection among Saudi Women. *International Journal of Medical*,

- Research and Health Science. 2018; 7(1):65-76.
20. Shuaibu A, Grema BA, Michael CC. Pap Smear Awareness, Utilization and Pattern of Cervical Intraepithelial Neoplasia among Women Attending Tertiary Hospital in North Western. Nigeria. International Journal of Science and Research. 2018; 18(9):90-99.
 21. WHO. Fact Sheet on Cancer. World Health Organization Geneva, 2017.
 22. WHO. facts about cancer, cancer Prevalence and Prevention. WHO, Geneva, 2018.