

Influence of Knowledge on Attitude and Practice of Cancer prevention Strategies among Staff in Federal Universities of North-Central Zone, Nigeria

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Abstract. The study seeks to: influence of knowledge of cancer prevention strategies on attitude towards cancer prevention strategies, knowledge of cancer prevention strategies on practice of cancer prevention strategies among staff in Federal Universities of North-central Zone, Nigeria. ex-post facto research design was used for the study. The population of the study comprised of 25,361 academic and non-academic staff of the seven Federal Universities in the North-central Zone, Nigeria. A multi stage sampling was used to select 756 respondents. The study found that, knowledge of cancer prevention strategies significantly influence attitude towards cancer prevention strategies ($r = 0.838$ $p=0.0012$), knowledge of cancer prevention strategies did not influence practice of cancer prevention strategies ($r = 0.071$ $p=0.2$). Based on the findings, it was concluded that; Knowledge of cancer prevention strategies translate into positive attitude towards cancer prevention strategies however, Knowledge of cancer prevention strategies do not mean that staff in Federal Universities of North-central Zone, Nigeria practice cancer prevention strategies. It was therefore recommended that Adequate intervention programmes such as informed radio jingles and health education on improved practice of avoidance of risk factors and health education on positive health behaviours should be carried out by Agencies of government (MDAs), Non-governmental organisations on Academic and Non-academic staff of Universities in North-central Zone to bridge the gap that exist between knowledge, attitude and practice.

Keywords: Knowledge, Cancer, Prevention, Strategies, Attitude, Practice

1. Introduction

Cancer ranks highest in terms of economic loss of all the fifteen (15) leading causes of death in the world. In Africa, home for large percentage of developing countries is not left out of the scourge of cancer.

Reports have shown that 650,000 indigenous Africans run the risk of dying from cancer out of 965 million diagnosed. World Health Organization {WHO} (2012) revealed that 24.6 million people live with cancer worldwide. Estimated cancer incidence in Africa is between 70-100/100,000 population. As at 2005, the commonest cancer in men is Kaposi sarcoma (15.5%) with cancer of the cervix representing 22.2% of all cancers among women. Most cases present at advanced stages when curative measures may be unsuccessful (Parkin, Whelan, Ferlay, Treppo, & Thomas 2015). WHO (2012) report shows that prostate cancer and liver cancer had taken the lead with 13.7% and 11.5% respectively whereas Kaposi sarcoma represent only 8.7% of all cancer cases, the incidence rate of cervical cancer in Nigeria is 25/100,000

According to a study in Nigeria on knowledge of cancer prevention strategies conducted by Akorede, Getso, Abdulfath, Nofiu and Oladipupo (2018) it was revealed that majority of respondents used for the study were Knowledgeable about cancer prevention strategies. In a related version, a study conducted in Nigeria by Nnodu, Erinosh, Jamda, Olaniyi, Adelaiye and Lawson (2010) on the Knowledge, Attitude and Practice of Cervical cancer, revealed that respondents were asked if they know of cervical cancer and human papilloma virus. The outcomes indicate that very small proportions know about these diseases and overwhelming majority of the respondents said that cervical cancer and human papilloma virus could not be prevented. This revelation is an indication that the knowledge of cancer was low.

Attitudes are the beliefs held by people and feelings towards concept and body of knowledge, it is an important factor towards the prevention strategies of cancer as well as avoiding risk factors that could prone an individual to the deadly disease. In a study conducted in South Africa by Ramathuba, Ratshirumbi and Mashamba (2013), the majority of

the women who participated in the study (82.7%) reported that if they noticed any change in their breast, they would consult the medical doctor, while 14.0% said that they would consult the traditional doctor and 3.3% would consult the prophet. The issue of religious and cultural belief might play a significant role in the health-seeking behaviour (attitude) of the staff in North Central-zone, Nigeria.

According to Azubuike and Okwuokei (2013), practice of primary prevention strategies of cancer has a very strong association with knowledge and practice of early detection strategies. The study showed that not all who knew about the preventive strategies practiced it, which also revealed that there is a very strong indication that practice increases as level of knowledge increases. Additionally, Azubuike and Okwuokei (2013), posited that there is an existing association between the knowledge of cancer risk factors and practice of preventive strategies. Suggesting that knowledge of the risk factors seems to be a motivation to practice. Furthermore, previous study by Haji-Mahmoodi, Montazeri, Jarvandi, Ebrahimi, Haghighat and Harirchi (2012) has also identified relationship between knowledge and practice of preventive procedures. However, the commonest reason reported for not practicing any of the preventive procedures was the feeling that one cannot get breast cancer, followed by lack of awareness and forgetfulness and then avoidance of fear and anxiety. Specifically, the feeling that one cannot get breast cancer' indicates disbelief and superstition. Disbelief and misconception about cancer has been reported as contributory factor to late reporting of signs and symptoms (Haji-Mahmoodi et al 2012). North-central Zone, Nigeria is one of the six geo-political zones of the country. The zone is the most unique region in the country consisting of seven (7) states including the Federal Capital Territory (FCT). The zone has combinations of several ethnic groups that can be referred to as a little representation of the entire country. North Central Nigeria zone consist of; Kwara (Yoruba), Kogi state (Igbira, Yoruba, & Igala), Abuja (Gbwari), Nasarawa state (Hausa), Niger state (Hausa, Nupe & Fulani), Plateau State (Beerom, Ganang, Afizere), Benue State (Tiv & Idoma). This shows a fair distribution of ethnic groups in Nigeria. Thereby creating a research population that is capable of generalization. These facts necessitate a study on assessment of knowledge, attitude and practice of cancer prevention strategies Strategies among staff of Federal Universities in North-central zone, Nigeria.

The high cases of cancer in North-Central Nigeria cannot be far away from the lack of knowledge of

predisposing factors such as age, alcohol, sedentary lifestyle, Human Papiloma Virus, obesity, exposure to radiation and so on as stated by Nnodu, et al (2010) and a perceived low level of knowledge, poor attitude towards early reporting of signs and symptoms and poor practice of prevention strategies of cancer. Specifically, a study conducted in North-Central and South-West on knowledge and believes towards cervical cancer shows that; all of the women in the selected focused group had no knowledge of cervical cancer. Meanwhile, most of the participants in Abuja who are Muslim women had heard about cervical cancer, but no knowledge of risk factors. However, in Ondo state, none of the women in the group of a FGD had ever heard of cervical cancer. Based on the forgoing, it is believed that a gap of adequate knowledge, negative attitude and poor practice exist in the North central geo-political zone of Nigeria. In light of the above, the researcher assessed the influence of knowledge, attitude and practice of cancer prevention strategies among staff of Federal Universities in North Central Zone, Nigeria

2. Purpose of the Study

This study assesses:

- Whether knowledge of cancer prevention strategies influences attitude towards cancer prevention strategies among staff in Federal Universities of North-central Zone, Nigeria
- Whether knowledge of cancer prevention strategies influences practice of cancer prevention strategies among staff in Federal Universities of North-central Zone, Nigeria

3. Research Questions

The study was proposed to answer the following specific research questions:

- Will knowledge of cancer prevention strategies influence attitude towards cancer prevention strategies among staff in Federal Universities of North-central Zone, Nigeria?
- Will knowledge of cancer prevention strategies influence practice of cancer prevention strategies among staff in Federal Universities of North-central Zone, Nigeria?

4. Hypotheses

- There is no significant influence of knowledge of cancer on attitude towards cancer prevention strategies among staff in

Federal Universities of North-central Zone, Nigeria

- There is no significant influence of knowledge of cancer on practice of cancer prevention strategies among staff in Federal Universities of North-central Zone, Nigeria

5. Methodology

For the purpose of this study, ex-post facto research design was used. Ex post facto means after the fact, design. In ex-post facto, experimentation is not feasible, the researcher identifies extent that already occur or conditions that already were present and then collects data to investigate possible relationship between factors and subsequent characteristics of behaviour (Salkind, 2010). The population of the study comprised of 25,361 academic and non-academic staff of the seven Federal Universities in the North-central Zone, Nigeria. All the seven

Federal Universities are; University of Ilorin (4,232), University of Jos (4,140), University of Agriculture Makurdi (3,912), Federal University of Technology Minna (3,122), University of Abuja (4,510), Federal University, Lokoja (2,504), and Federal University, Lafia (2,940).

The sample size for the study was 756 respondents representing 4% of the target population. In order to achieve 756 from the population of 25,361 which was considered adequate because the Research Advisor (2006), stressed that for a population of 25,361, 378 respondents are adequate. However, the researcher doubled the figure to have a wider coverage of respondents. In order to draw the desired sample, multi-stage sampling procedure was employed for the study. Multi-stage sampling procedure involves simple random sampling procedure, stratified sampling procedure, proportionate sampling procedure

Table 1: Sampled Number of Respondents from Selected Federal Universities in North-central Nigeria

S/N	Name of Institution	Academics (a)	Sample Size Selected	Non-Academics (b)	Sample Size Selected	Total Sample Size Selected
1.	Federal University of Technology Minna	703	30	2,420	96	126
2.	University of Agriculture Makurdi	1,142	46	2,770	110	156
3.	University of Abuja	1,129	48	3,381	136	184
4.	Federal University Lafia	630	28	2,812	94	122
5.	University of Jos	1,296	52	2,844	116	168
		5,690		12725		756

5.1 Research Instrument

The instrument for this study was a researcher-developed close-ended questionnaire titled “Assessment of Knowledge, Attitude and Practice of Cancer Prevention strategies among Staff of Federal Universities in North-central Zone Nigeria”. The questionnaire consisted of four sections. Section A consisted of five (5) items on demographic characteristics of the respondents, Section B consisted of ten (15) items on knowledge of cancer prevention strategies among staff in North central zone Nigeria, Section C contained of fifteen (15) items on attitude towards cancer prevention strategies among civil servants in North central zone Nigeria, Section D consisted of fifteen (15) items on practice of cancer prevention strategies among staff of Federal Universities in North-central Zone Nigeria.

In sections B and C a four (4) point Likert scale was used as follows:

- Strongly agree (SA) - 4,
- Agree (A) - 3,
- Disagree (D) - 2 and
- Strongly disagree (SD) - 1 for sections B and C to rate the Knowledge and Attitude of the respondents towards cancer prevention strategies.

Furthermore, A modified four point Likert scale of: Most often (MO), Often (O), Less often (LO), and Not at All (NA) was used as follows:

- Most often (MO) - 4,
- Often (O) - 3,
- Less often (LO) - 2, and
- Not at All (NA). - 1 for section D to rate the practice of the respondents towards cancer prevention strategies. Any mean score of 2.5 and above is

acceptable or positive and any mean score that was below 2.5 was not acceptable or negative

To ensure the face and content validity of the research instrument, the researcher-developed questionnaire was validated by five (5) jurors in the Departments of Human Kinetics and Health Education, Nursing Science and Veterinary Public Health of Ahmadu Bello University, Zaria. The suggestions made by the jurors were fully adhered to and a final draft of the questionnaire was printed and used for pilot testing.

Pilot Study

For the purpose of pilot testing of the instrument, the University of Ilorin was selected using simple random sampling technique. The selected University was similar to sampled Universities. A total of thirty (30) respondents, thus, fifteen (15) academic and fifteen (15) non-academic staff were purposively selected. Also, copies of the questionnaire were administered on the respondents in their various offices until the required number of sample size was obtained. The copies of questionnaire were retrieved on the spot and processed for reliability through a split half method, thus, the copies questionnaires were divided into two. The two halves were correlated to determine the level of reliability of the instrument with the use of Cronbach Alpha, Spearman Brown Rank Order (SBRO) and Guttman split-half.

The results revealed that Spearman-Brown Split Half, Gutman Split Half and Cronbach Alpha reliability on knowledge, attitude and practice of cancer prevention strategies are 0.839, 0.813 and .859 respectively. This was a confirmation of test of reliability which

according to Spiegel (1992), revealed that, the instrument is considered reliable if it's reliability coefficient lies between 0 and 1, and that the closer the calculated reliability coefficient is to zero, the less reliable is the instrument, and the closer the calculated reliability co-efficient is to 1, the more reliable is the instrument. This therefore, showed that the instrument to be used for this study was highly reliable.

To test the formulated hypotheses, the following statistical procedures were adopted: -Descriptive statistics of frequency distribution, percentages, mean and standard deviation were used to describe the demographic information of the respondents and to answer the research questions on knowledge, attitude and practice of cancer prevention strategies among staff in selected Federal Universities in North-central Zone Nigeria respectively.

Inferential statistics of one sample t-test was used to test for null hypotheses on significant knowledge, attitude and practice of cancer prevention strategies among staff of Federal Universities in North-central Zone Nigeria. Also, Pearson Product Moment Correlation (PPMC) was used to test the null hypotheses of significant influence of knowledge on practice, and attitude on cancer prevention strategies.

Independent sample t-test was used to test null hypothesis on differences between gender (male and female), in their knowledge attitude and practice of cancer prevention strategies. The independent sample t-test is best to establish differences between two variables.

6. Results

Research Question One: Will knowledge of cancer prevention strategies influence attitude towards cancer prevention strategies among staff in Federal Universities of North-central Zone, Nigeria?

Table 2: Mean Score of responses on the influence of Knowledge on Attitude of Cancer Prevention strategies among Staff of Federal Universities in North-central Zone.

Variables	M	SD	Mean Difference
Knowledge	47.7933	11.5431	2.3594
Attitude	45.4339	7.5414	

A critical look into Table 2 shows mean score aimed at finding influence of knowledge of cancer prevention strategies on attitude towards cancer prevention strategies among staff in Federal Universities of North-central Zone, Nigeria. Knowledge has a mean of 47.7933 and standard deviation of 11.5433 while attitude has a mean of 45.4339 and standard deviation of 7.5414 with a mean difference of 2.3594. The results revealed that knowledge of cancer prevention strategies influence attitude towards cancer prevention strategies among staff in Federal Universities of North-central Zone, Nigeria.

Research Question 2: Will knowledge of cancer prevention strategies influence practice of cancer prevention strategies among staff in Federal Universities of North-central Zone, Nigeria?

Table 3: Mean score of responses influence of Knowledge on Practice of Cancer Prevention strategies among Staff of Federal Universities in North-central Zone.

Variables	M	SD	Mean difference
Knowledge	47.7933	11.5431	12.0738
Practice	35.7195	7.5414	

Table 3 is a mean score aimed at finding knowledge of cancer prevention strategies do not influence practice of cancer prevention strategies among staff in Federal Universities of North-central Zone, Nigeria. Knowledge has a mean of 47.7933 and standard deviation of 11.5431 while standard deviation has a mean of 35.7195 and standard deviation of 7.5414 with mean difference of 12.0738. The results revealed that influence do not exist between knowledge and practice of cancer prevention strategies among staff in Federal Universities of North-central Zone, Nigeria.

Hypothesis One: Knowledge of cancer prevention strategies will not significantly influence attitude towards cancer prevention strategies among staff in Federal Universities of North-central Zone, Nigeria

Table 4: Pearson Product Moment Correlation coefficient influence of Knowledge on Attitude of Cancer Prevention strategies among Staff of Federal Universities in North-central Zone.

Variables	M	SD	r	df	p
Knowledge	47.7933	11.5431	0.838	751	0.0012
Attitude	45.4339	7.5414			

Correlation is significant at the 0.05 level (2-tailed) $r = 0.838$ $p = 0.0012$

A critical look into Table 4 shows Pearson product moment correlation analysis aimed at finding influence of knowledge of cancer prevention strategies on attitude towards cancer prevention strategies among staff in Federal Universities of North-central Zone, Nigeria. The results revealed that significant influence exist between knowledge and attitude. This is because the calculated p value of 0.0012 was found to be lower than the 0.05 alpha level of significance at a correlation index value of 0.838. Therefore, the null hypothesis which stated that knowledge of cancer prevention strategies will not significantly influence attitude towards cancer prevention strategies among staff in Federal Universities of North-central Zone, Nigeria, is hereby rejected.

Hypothesis 2: Knowledge of cancer prevention strategies will not significantly influence practice of cancer prevention strategies among staff in Federal Universities of North-central Zone, Nigeria

Table 5: Pearson Product Moment Correlation coefficient influence of Knowledge on Practice of Cancer Prevention strategies among Staff of Federal Universities in North-central Zone.

Variables	M	SD	r	dfp
Knowledge	0.071	751	47.7933	11.5431
Practice			35.7195	7.5414

Correlation is significant at the 0.071 level (2-tailed) $r = 0.071$ $p = 0.2$

Table 19 is a Pearson product moment correlation analysis aimed at finding if knowledge of cancer prevention strategies will not significantly influence practice of cancer prevention strategies among staff in Federal Universities of North-central Zone, Nigeria. The results revealed that significant influence exist between knowledge and practice. This is because the calculated p value of 0.2 was found to be higher than the 0.05 alpha level of significance at a correlation index value of 0.071. Therefore, the null hypothesis which stated that knowledge of cancer prevention strategies will not significantly influence practice of cancer prevention strategies among staff in Federal Universities of North-central Zone, Nigeria, is hereby retained.

7. Discussion

The results showed that knowledge of cancer prevention strategies influence attitude towards cancer prevention strategies among staff in Federal Universities of North-central Zone, Nigeria. The findings of Meghir, Palme, and Simeonova. (2012) lie somewhere in between. Their estimates indicate that more educated men and women experience reduced mortality up to the age of fifty, but that these life gains are offset by increased mortality later on in life. Meghir et al. (2012) also consider cancer mortality as some of their health outcomes, which makes their study most closely related to this research. Meghir et al. (2012) found no impact of the Swedish compulsory school reform on cancer mortality at all cancer sites (but the lung). But they do find that more educated men and women face lower mortality rates in preventable diseases (which they define as lung cancer and cirrhosis of the liver). While their results on cancer mortality are very similar to the results we obtain in previous researches, which is reassuring in a literature as sparse as this, that is, an estimated causal link between education, cancer risk and cancer mortality, where the researcher look at all cancer sites together as well as the most common cancer sites in isolation. Ahmadian and Samah (2012) With regard to Muslim women, pointed out that Muslim men inappropriately use Islam to justify their authority and dominance over their spouses which creates another barrier for breast cancer screening

The results also showed that knowledge of cancer prevention strategies do not influence practice of cancer prevention strategies among staff in Federal Universities of North-central Zone, Nigeria. It is believed that an educated individual has more resources to devote to preventive and curative health care, prefers longer and healthier lives, is able to detect cancer early, and is better informed on how to seek and respond to the cancer treatments. It is therefore expected should see reduced cancer risks (and higher survival rates) among more educated men and women. Along similar lines, Cutler and Leras-Muney (2000) argue that differences in resources, references and knowledge may explain why more educated men and women face lower health risks. Azubuike and Okwuokei (2013) state that practice of primary prevention strategies of cancer has strong has a very strong association with knowledge and practice of early detection strategies. The study showed that not all who knew about the preventive strategies practiced it, which also revealed that there is a very strong indication that practice increases as level of knowledge increases. Additionally, Azubuike

and Okwuokei (2013) posited that there is an existing association between the knowledge of cancer risk factors and practice of preventive strategies. Suggesting that knowledge of the risk factors seems to be a motivation to practice. Previous study by Haji-Mahmoodi, Montazeri, Jarvandi, Ebrahimi, Haghghat and Harirchi (2012) has also identified relationship between knowledge and practice of preventive procedures. However, the commonest reason reported for not practicing any of the preventive procedures was the feeling that one cannot get breast cancer, followed by lack of awareness and forgetfulness and then avoidance of fear and anxiety. Specifically, 'the feeling that one cannot get breast cancer' indicates denial, disbelief and superstition

8. Conclusion

- Knowledge of cancer prevention strategies translate into positive attitude towards cancer prevention strategies among staff in Federal Universities of North-central Zone, Nigeria
- Knowledge of cancer prevention strategies do not mean that staff in Federal Universities of North-central Zone, Nigeria practice cancer prevention strategies.

9. Recommendations

- Activities that can as well improve people's practice such as health intervention programmes (in essence; video play, radio jingles and print media intervention) should be made available by Ministry of Health through health education for the citizens (Universities staff) so as to have improved attitude towards cancer prevention strategies
- Adequate intervention programmes such as informed radio jingles and health education on improved practice of avoidance of risk factors and health education on positive health behaviours should be carried out by Agencies of government (MDAs), Non-governmental organisations on Academic and Non-academic staff of Universities in North-central Zone to bridge the gap that exist between knowledge, attitude and practice.

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