Volume: 1, Issue: 1
Page: 22 - 32
2020

International Journal of Medicine, Nursing & Health Sciences (IJMNHS) ® (IJMNHS.COM)

Knowledge of The Modifiable Risk Factors of Non Communicable Diseases Among Staff of Tertiary Institutions in Ondo State, Nigeria

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Abstract:

The study examined knowledge of the modifiable risk factors of non-communicable diseases among staff of tertiary institutions in Ondo state, Nigeria. The descriptive research design of the survey type was used in this study. The study population comprised all male and female academic and non-academic staff of tertiary institutions in Ondo state. The sample for this study consisted of 1,437 staff of tertiary institutions in Ondo State which was selected through multi stage sampling procedure. A self-developed questionnaire tagged Knowledge Non-Communicable Disease Modifiable Risk Factors Questionnaire (KNCDMRFQ) was used to collect relevant data for the study. The face and content validity of the instruments were determined by experts in Human Kinetics, Health Education, and Tests, Measurement and Evaluation. The reliability of the instrument was analysed using Cronbach Alpha. A co-efficient value of 0.835 was obtained which was considered high enough to make the instrument reliable. The responses obtained were collated and analysed using descriptive and inferential statistics. The findings of the study revealed that staff of tertiary institutions have moderate level of knowledge of Non-Communicable Diseases and modifiable risk factors of Non-Communicable Diseases. In addition, knowledge of modifiable risk factors of NCDs differs based on gender while academic staff

IJMNHS
Accepted 15 November 2020
Published 30 November 2020
DOI: 10.5281/zenodo.4404419

possessed adequate knowledge of modifiable risk factors of NCDs than non-academic staff. It was recommended among others that a training programme on the modification of the modifiable risk factors of non-communicable diseases should be offered yearly for university workers.

Keywords: Knowledge, Modifiable Risk Factors, Non-Communicable Diseases, Staff,

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Introduction

Non-Communicable Diseases (NCDs), also referred to as chronic diseases are diseases that are not passed from person to person, they are of long duration, and are the result of a combination of genetic, physiological, environmental and behavioral factors. Non-Communicable Diseases consist of a cluster of disease of public health importance. These diseases pose great threat to health and are increasingly becoming the leading causes of morbidity and mortality worldwide, (World Health Organisation, 2018).

The prevalence of Non-Communicable Diseases is at an all-time high rate. Yarahmadi et al (2013) reported that more than 35 million people died from NCDs each year worldwide representing nearly two thirds of the world's deaths with most of these deaths (over 80%) in low and middle income countries and occur before the age of 60. While World Health Organisation (2018) revealed that, of 56.9 million global deaths in 2016, 40.5 million, or 71%, were due to NCDs. The leading causes of NCD deaths in 2016 were cardiovascular diseases (17.9 million deaths, or 44% of all NCD deaths), cancers (9.0 million, or 22% of all NCD deaths), respiratory diseases, including asthma and chronic obstructive pulmonary disease (3.8 million of 9% of all NCD deaths), and Diabetes caused another 1.6 million deaths. These four groups of diseases account for over 80% of all premature NCD deaths

This double burden of disease could have a devastating impact on a continent that already has significant resource constraints, emphasizing the urgent need for appropriate intervention in the region (Caroline, 2016). In reality, about 80% of the burden of NCDs is already occurring in middle- and low- income countries like Nigeria, where most of the world's population lives (Yarahmadi, et al., 2013, WHO 2018).

In Nigeria, about 8 million Nigerians suffer from hypertension and 4 million has diabetes; 100, 000 new cases of cancers are diagnosed each year, (Chukwu, 2011). These great losses are not just at individual's levels, but also profoundly affect the family and a country's work force and for the million struggling with poverty, a vicious cycle ensues. Cancer is the uncontrolled growth of abnormal cells anywhere in a body. These abnormal cells are also called tumor, cancer, or malignant cells. These cells can infiltrate normal body tissues. Diabetes could be described as a health condition brought about by a prolonged excessive accumulation of sugar in the blood which makes the individual to be unwell as some internal organs of the body are presumed to be affected.

The rise of non-communicable diseases among young adults has substantially increased over the past ten years, especially as the rise of related risk factors continues to reach new heights (Oguntola, 2011). There are risk factors that could aggravate these NCDs. A risk factor could be described as an individual's attribute or exposure that is positively associated with the occurrence of a disease. The modifiable risk factors are behavioral risk factors that can be reduced or controlled by intervention, these includes physical inactivity or lack of exercise, smoking or tobacco use, alcohol consumption and unhealthy diet and feeding, poor rest or sleep, stress and lack of medical checkup (WHO, 2018).

Research has shown that a sedentary lifestyle or physical inactivity is very bad for health, and has been observed that it is the kind of lifestyle that staff of tertiary institutions commonly practiced. Even small amounts of activity, such as moving around doing light tasks, probably have benefits to health compared with being completely inactive. The researcher

however is of the view that the prevalence of NCDs among staff of tertiary institutions may be due to inadequate knowledge of modifiable risk factors of NCDs.

Laurence (2018) conceptualized knowledge as the ability to understand or comprehend phenomena, the acquisition of positive information by the exercise of some capacity which humans presumably have in common. Health knowledge could be said to mean putting into reality the art of mobilization of resources by an individual, intellectually, physically and emotionally. The knowledge of an individual on the prevention of NCDs cannot be undermined in the event of disease occurrence. Certain level of knowledge about health and disease is required for health- related outcomes. An individual's knowledge of NCDs plays important roles in the ability to prevent the diseases. It is described as knowing and it has to do with information acquisition.

When one is informed or has knowledge, it is said that he or she is knowledgeable in that regard. One could have general knowledge about health related matters yet lack specific knowledge about a particular disease like diabetes (NCD) or the modifiable factors related to it. This does not exclude illiterates, though there could be differences in level of knowledge of NCDs between the literates and illiterates. For instance, some people are aware that NCD is caused by too much intake of fatty food and stress but they believe that it is a disease that affects certain categories of individuals.

The study therefore examined knowledge of the modifiable risk factors of non-communicable diseases among staff of tertiary institutions in Ondo state, Nigeria. The study specifically:

i. assessed the level of knowledge of Non-Communicable Diseases and modifiable risk factors of Non-Communicable Diseases among staff of tertiary institutions;
ii. investigated gender difference in knowledge of modifiable risk factors of Non-Communicable Diseases; and
iii. examined difference between academic and non-academic staff of tertiary institutions in knowledge of the modifiable risk factors of Non-Communicable Diseases

Research Questions

The following research questions were raised for this study

1. What is the level of knowledge of Non-Communicable Diseases among staff of tertiary institutions in Ondo state, Nigeria?
2. What is the level of knowledge of modifiable risk factors of Non-Communicable Diseases among staff of tertiary institutions in Ondo state?

Research Hypotheses

The following null hypotheses were formulated for the study.

1. There is no significant gender difference in knowledge of modifiable risk factors of Non-Communicable Diseases among staff of tertiary institutions.
2. There is no significant difference between academic and non-academic staff of tertiary institutions in knowledge of the modifiable risk factors of Non-Communicable Diseases.

Methodology

The descriptive research design of the survey type was used in this study. The study population comprised all male and female academic and non-academic staff of tertiary institutions in Ondo state. The sample for this study consisted of 1,437 staff of tertiary institutions in Ondo State. The sample was selected through multi stage sampling procedure.

A self-developed questionnaire tagged Knowledge Non-Communicable Disease Modifiable Risk Factors Questionnaire (KNCDMRFQ) was used to collect relevant data for the study. The instrument consisted of three sections namely Section A, B and C. *Section A* of the instrument sought for bio-data of the respondents. Section B was in the form of true or false which elicited information on general knowledge of NCDs and the knowledge of the risk factors. Section C elicited information on knowledge of each risk factor for NCDs in the form of True or False scale.

The face and content validity of the instruments were determined by experts in Human Kinetics, Health Education, and Tests, Measurement and Evaluation. The instrument was said to have facial relevance and concerned with the subject matter, it claimed to measure. The reliability of the instrument was analysed using Cronbach Alpha. A co-efficient value of 0.835 was obtained which was considered high enough to make the instrument reliable. The responses obtained were collated and analysed using descriptive statistics of frequency counts, percentages, mean, standard deviation and graphs, while the hypotheses postulated were subjected to inferential statistics of t-test. All the hypotheses were tested at 0.05 level of significance.

Results

Research Question 1: What is the level of knowledge of Non-Communicable Diseases among staff of tertiary institutions in Ondo state, Nigeria?

In answering this question, data on knowledge of Non-Communicable Diseases were collected from the responses of the respondents to items under Section B of KNCDMRFQ (items 1 – 11) in the questionnaire. Level of knowledge of Non-Communicable Diseases was presented in table 1

Table 1: Level of knowledge of Non-Communicable Diseases

Levels of knowledge of Non-Communicable Diseases	No of Respondents	Percentage
Low (11.00 – 16.16)	157	10.9
Moderate (16.17 – 20.71)	704	49.0
High (20.72 – 22.00)	576	40.1
Total	**1,437**	**100**

Table 1 revealed the level of knowledge of Non-Communicable Diseases among the respondents. The mean score and standard deviation of the responses were used to determine the levels as either low, moderate or high. The low level of knowledge of Non-Communicable Diseases was determined by subtracting the standard deviation from the mean score (18.44 – 2.28 = 16.16). The moderate level of knowledge of Non-Communicable Diseases was determined by the mean score (18.44) while the high level of knowledge of Non-Communicable Diseases was determined by adding the mean score and standard

deviation (18.44 + 2.28 = 20.72). Therefore, low level of knowledge of Non-Communicable Diseases starts from 11.00 to 16.16, the moderate level starts from 16.17 to 20.71 and the high level of knowledge of Non-Communicable Diseases is from 20.72 to 22.00. The findings showed that the level of knowledge of Non-Communicable Diseases among staff of tertiary institutions was moderate. Figure i further revealed the level of knowledge of Non-Communicable Diseases at a glance

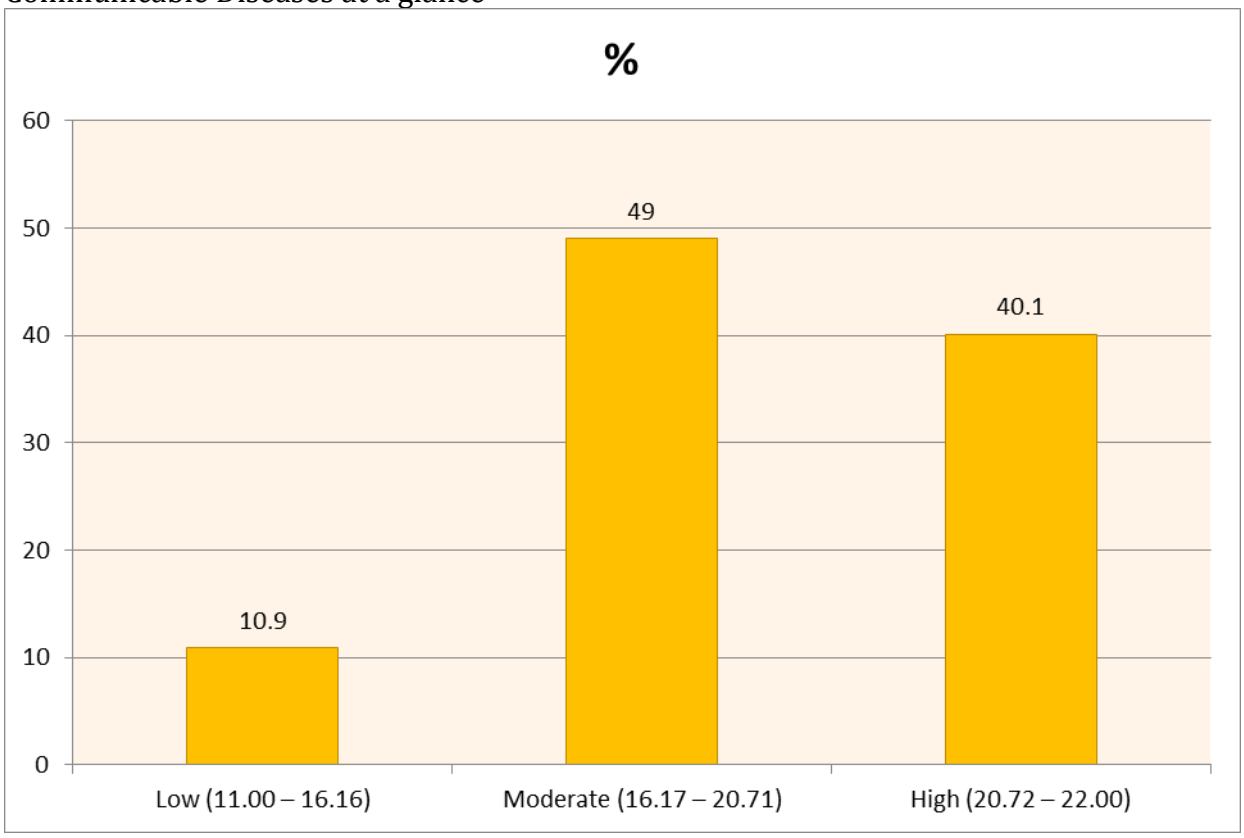

Figure i: Bar Chart showing level of knowledge of Non-Communicable Diseases among the respondents

Research Question 2: What is the level of knowledge of modifiable risk factors of Non-Communicable Diseases among staff of tertiary institutions in Ondo state?

In answering this question, data on knowledge of modifiable risk factors of Non-Communicable Diseases were collected from the responses of the respondents to items under Section C of KNCDMRFQ (items 12 – 38) in the questionnaire. Level of knowledge of modifiable risk factors of Non-Communicable Diseases was presented in table 2

Table 2: Level of knowledge of modifiable risk factors of NCD

Levels of knowledge of modifiable risk factors of NCD	No of Respondents	Percentage
Low (26.00 – 42.61)	239	16.6
Moderate (42.62 – 49.22)	928	64.6
High (49.23 – 52.00)	270	18.8
Total	**1,437**	**100**

Table 2 revealed the level of modifiable risk factors of knowledge of Non-Communicable Diseases among the respondents. The mean score and standard deviation of the responses were used to determine the levels as either low, moderate or high. The low level of knowledge of modifiable risk factors of Non-Communicable Diseases was determined by subtracting the standard deviation from the mean score (45.92 – 3.31 = 42.61). The moderate level of knowledge of modifiable risk factors of Non-Communicable Diseases was determined by the mean score (45.92) while the high level of knowledge of modifiable risk factors of Non-Communicable Diseases was determined by adding the mean score and standard deviation (45.92 + 3.31 = 49.23). Therefore, low level of knowledge of modifiable risk factors of Non-Communicable Diseases starts from 26.00 to 42.61, the moderate level starts from 42.62 to 49.22 and the high level of knowledge of modifiable risk factors of Non-Communicable Diseases is from 49.23 to 52.00. The findings showed that the level of knowledge of modifiable risk factors of Non-Communicable Diseases among staff of tertiary institutions was moderate. Figure ii further revealed the level of knowledge of modifiable risk factors of Non-Communicable Diseases at a glance

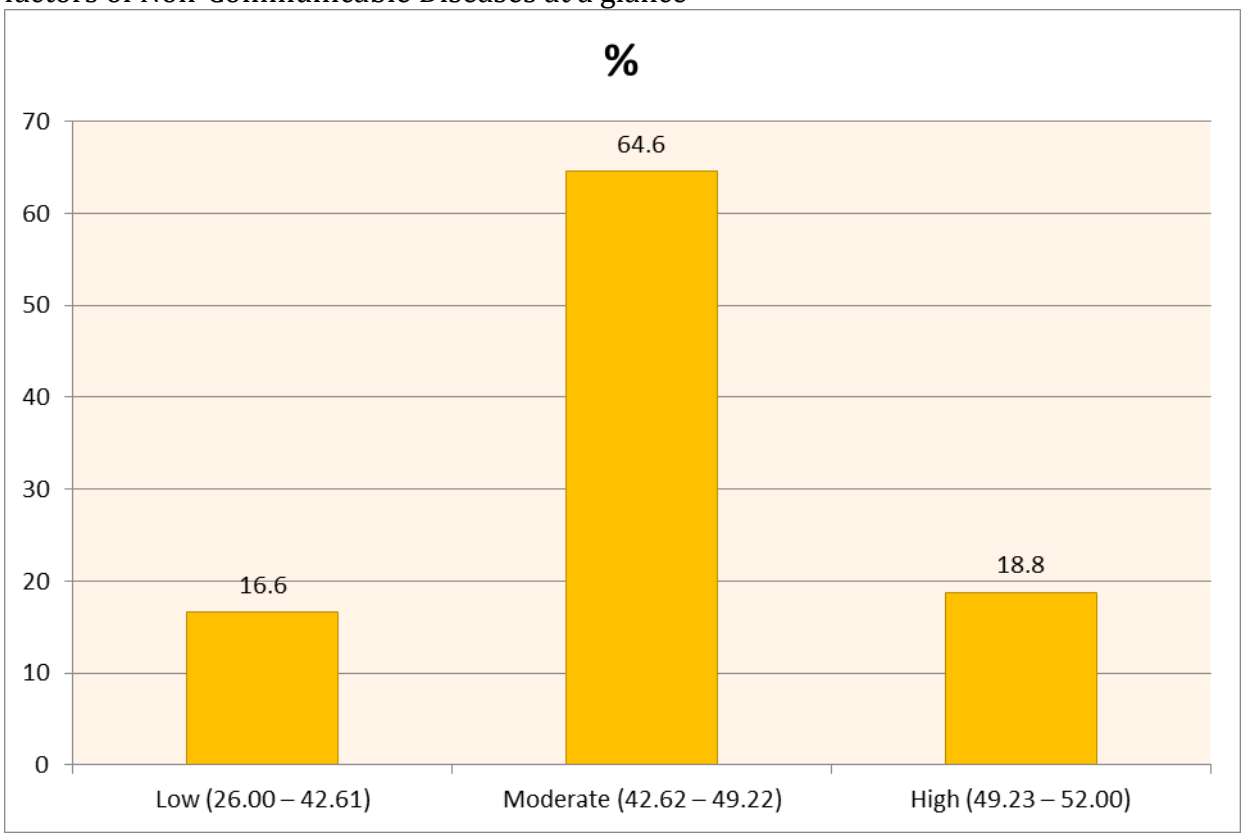

Figure ii: Bar Chart showing level of knowledge of modifiable risk factors of Non-Communicable Diseases among the respondents

Test of Hypotheses

Hypothesis 1: There is no significant gender difference in knowledge of modifiable risk factors of Non-Communicable Diseases among staff of tertiary institutions.

Table 3: Gender difference in knowledge of modifiable risk factors of NCD

Variations	N	Mean	SD	df	t_{cal}	P
Male	763	45.68	3.30	1435	2.914*	0.004
Female	674	46.19	3.29			

*P<0.05

Table 3 shows that the t-cal value of 2.914 was significant because the P value (0.004) < 0.05. This implies that null hypothesis was rejected. Hence, there was significant gender difference in knowledge of modifiable risk factors of Non-Communicable Diseases among staff of tertiary institutions. There was a mean difference of 0.51 in favour of female staff on knowledge of modifiable risk factors of Non-Communicable Diseases.

Hypothesis 2: There is no significant difference between academic and non-academic staff of tertiary institutions in knowledge of the modifiable risk factors of Non-Communicable Diseases.

Table 4: Difference in knowledge of modifiable risk factors of NCD between academic and non-academic staff

Variations	N	Mean	SD	df	t_{cal}	P
Academic	912	46.16	3.39	1435	2.135*	0.033
Non-academic	525	45.78	3.25			

*P<0.05

Table 4 shows that the t-cal value of 2.135 was significant because the P value (0.033) < 0.05. This implies that null hypothesis was rejected. Hence, there was significant difference between academic and non-academic staff of tertiary institutions in knowledge of the modifiable risk factors of Non-Communicable Diseases. There was a mean difference of 0.38 in favour of academic staff on knowledge of modifiable risk factors of Non-Communicable Diseases.

Discussion

The study revealed that the level of knowledge of Non-Communicable Diseases among staff of tertiary institutions in Ondo state was moderate. This implies that most of the staff of tertiary institutions in Ondo State have moderate knowledge of Non-Communicable Diseases. The probable reason for the moderate knowledge might be because the respondents considered in this study were mostly educated. In consonance with the finding of the study, Awad and Al-Nafisi (2014) concluded that respondents who were bankers had good knowledge of NCDs. This finding contradicted the finding of Brent, et al. (2013) who submitted that levels of knowledge of NCD were generally low.

The study also revealed that the level of knowledge of modifiable risk factors of Non-Communicable Diseases among staff of tertiary institutions in Ondo state was moderate. This implies that most of the staff of tertiary institutions in Ondo State have moderate knowledge of modifiable risk factors of Non-Communicable Diseases. The probable reason for the moderate knowledge might be because the respondents considered in this study were mostly educated. In consonance with the finding of this study, Ali and Jimoh (2011) who conducted a study among staff of universities concluded that staff of universities had moderate knowledge of non-modifiable risk factors of NCDs. The finding of Zuhaid, Zahir and Diju, (2012) however contradicted this finding as they concluded that there is less knowledge regarding risk factors

of NCDs, which are lack of physical activity, excessive sugar intake, obesity, family history and stress. In another study of Vaidya, Aryal, & Krettek (2013), they concluded that respondents have lack of knowledge regarding physical inactivity which is the risk factors of cardiovascular diseases.

On gender difference, the study revealed that there was significant gender difference in knowledge of modifiable risk factors of Non-Communicable Diseases among staff of tertiary institutions in Ondo state. There was a mean difference in favour of female staff on knowledge of modifiable risk factors of Non-Communicable Diseases. This implies that female staff have more knowledge of modifiable risk factors of Non-Communicable Diseases than male staff. The probable reason for this finding might be because female gender are mostly care givers. In consonance with the finding, Olusegun, et al. (2011) found that females are more knowledgeable than male on risk factors of NCD.

On difference between academic and non-academic staff, the study revealed that there was significant difference between academic and non-academic staff of tertiary institutions in knowledge of the modifiable risk factors of Non-Communicable Diseases. There was a mean difference in favour of academic staff on knowledge of modifiable risk factors of Non-Communicable Diseases. This implies that academic staff have more knowledge of modifiable risk factors of Non-Communicable Diseases than non-academic staff. The probable reason for the difference might be due to the level of education of academic staff. In line with this finding, Alzeidan, et al, (2016) concluded that academic staff are knowledgeable than non-academic staff on risk factors of Non-Communicable Diseases.

Conclusions

Sequel to the findings of this study, it was concluded that staff of tertiary institutions have moderate level of knowledge of Non-Communicable Diseases and modifiable risk factors of Non-Communicable Diseases. Also, knowledge of modifiable risk factors of NCDs differs based on gender while academic staff possessed adequate knowledge of modifiable risk factors of NCDs than non-academic staff. The target respondents in this study ought to have high knowledge of modifiable risk factors of NCDs but their knowledge of modifiable risk factors of NCDs is still at moderate level. Hence, the need for appropriate recommendations.

Recommendations

Based on the findings of this study, the following recommendations were made.

1. Understanding and having a sufficiently high knowledge of non-communicable diseases and it's modifiable risk factors is vital in tackling the increasing prevalence of these diseases among staff of tertiary institutions in Ondo state. Hence, targeted health education of staff is needed to provide knowledge of non-communicable diseases
2. A training programme on the modification of the modifiable risk factors of non-communicable diseases should be offered yearly for university workers.
3. University management should design and implement workplace health and wellness programmes within the institution which will improve staff physical activity, rest and healthy diet.

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Cite this article:

Author(s), OLORUNTOBA, JACINTA ASTOSIME, (2020). " Knowledge of The Modifiable Risk Factors of Non Communicable Diseases Among Staff of Tertiary Institutions in Ondo State, Nigeria", **Name of the Journal**: International Journal of Medicine, Nursing & Health Sciences, (IJMNHS.COM), P, 22 –32. DOI: www.doi.org/10.5281/zenodo.4404419 , Issue: 1, Vol.: 1, Article: 3, Month: November, Year: 2020. Retrieved from https://www.ijmnhs.com/all-issues/

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