

Attitude towards Modifiable Risk Factors of Non Communicable Diseases among Staff of Ondo State Tertiary Institutions

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Abstract: *This study examined attitudes towards the modifiable risk factors of Non-Communicable Diseases (NCDs) among staff of tertiary institutions in Ondo State, Nigeria. Specifically, it assessed the general disposition of academic and non-academic staff towards behaviours such as physical inactivity, unhealthy diets, poor sleep habits, substance use, and preventive health practices. The study also investigated whether these attitudes differed significantly by gender and staff category. A descriptive survey design was employed, involving 1,580 respondents drawn through a multistage sampling procedure from five tertiary institutions. Data were collected using a validated and reliable self-structured questionnaire, the Attitude towards Modifiable Risk Factors Questionnaire (AMRFQ). Descriptive statistics were used to analyse the research questions, while t-tests were applied to test hypotheses at a 0.05 level of significance. Findings revealed that although staff generally dismissed common misconceptions that NCDs only affect the wealthy or elderly, a significant proportion expressed unhealthy attitudes such as a preference for fried foods, irregular sleep, and tolerance of occasional smoking and alcohol consumption. No statistically significant differences were found in attitudes based on gender or staff category, indicating that these views were broadly shared across demographic lines. The results underscore the need for comprehensive, targeted health interventions across all staff groups. It is recommended that institutions implement regular health education programmes, promote workplace wellness initiatives, integrate preventive health workshops into staff development, and collaborate with public health professionals to design behaviour change strategies. Addressing these attitudinal gaps is crucial to reducing the long-term risk and burden of NCDs in the tertiary education sector.*

Keywords: attitude, modifiable risk factors, non-communicable diseases, staff, tertiary institutions

INTRODUCTION

The health and productivity of individuals in any society are strongly influenced by their lifestyle choices and the presence or absence of disease. Among the major global health threats today are Non-Communicable Diseases (NCDs), which are not infectious and typically persist over long periods. These chronic conditions primarily cardiovascular diseases, cancers, chronic respiratory diseases, and

diabetes are driven largely by modifiable risk factors such as unhealthy diet, physical inactivity, tobacco use, harmful use of alcohol, stress, and inadequate rest or lack of regular medical checkups (Heine et al., 2021). The burden of NCDs continues to escalate, especially in developing countries, where health systems are already strained by communicable diseases and limited resources.

In Nigeria, the prevalence of NCDs has reached alarming levels. An estimated eight million Nigerians suffer from hypertension, while four million live with diabetes, and about 100,000 new cancer cases are diagnosed annually (Ibukun & Adebayo, 2021). These diseases not only cause individual suffering but also have far-reaching socio-economic implications, including increased healthcare costs, reduced productivity, and loss of skilled workforce. In many cases, these conditions are worsened by limited public awareness, poor access to preventive health services, and negative attitudes towards healthy lifestyle changes.

The modifiable risk factors of NCDs are of particular concern because they offer a window for prevention and control. Behavioural risk factors such as sedentary lifestyle, unhealthy dietary practices, tobacco use, and harmful alcohol consumption are largely preventable (Gharouni et al., 2020). Yet, they remain prevalent, especially among individuals whose work routines and environments contribute to unhealthy habits. Staff of tertiary institutions, for instance, often face demanding schedules, sedentary work patterns, stress, and limited time for physical activity or proper nutrition, which predispose them to these risk factors.

The staff of tertiary institutions in Ondo State are key players in the intellectual and economic development of the region. However, their health may be compromised by attitudes and behaviours that heighten their susceptibility to NCDs. Academic environments, by their nature, encourage long hours of work, mental exertion, and often neglect of physical health. Despite being highly educated, this group may still harbour negative attitudes towards healthy practices, contributing to the rising cases of NCDs in these settings. It becomes crucial, therefore, to explore their attitudes towards modifiable risk factors such as their perceptions of physical activity, rest, nutrition, alcohol consumption, smoking, and regular health checks.

Eze et al. (2021) identified tobacco use, physical inactivity, unhealthy diet, and harmful use of alcohol as key modifiable behaviours associated with NCDs. These behaviours lead to metabolic and physiological changes such as raised blood pressure, elevated cholesterol levels, obesity, and raised blood glucose, all of which are intermediate risk factors for NCDs (GBD, 2015). The presence of these modifiable risk factors is often linked with personal attitudes, knowledge levels, and beliefs. Chen et al. (2020) further classified risk factors into modifiable (reversible) and non-modifiable (unchangeable), noting that modifiable risk factors are influenced by lifestyle and behaviour and can be addressed through interventions.

Attitude plays a pivotal role in determining how individuals manage their health. A positive attitude towards healthy behaviours encourages individuals to avoid risk factors and embrace preventive practices (Challa et al., 2023). Conversely, negative attitudes may lead to unhealthy lifestyle choices, even when individuals are aware of the health implications. Among staff of tertiary institutions, attitudes towards exercise, nutrition, and health screenings can either facilitate or hinder efforts to reduce the incidence of NCDs.

The findings across various studies reveal that attitudes towards modifiable risk factors of Non-Communicable Diseases (NCDs) remain generally poor, with varying levels of awareness and behavioural differences across demographic lines such as age, gender, and socio-economic status. Aladeniyi et al. (2017) found that 44.1% of patients surveyed displayed poor attitudes towards NCDs, suggesting a need for targeted educational interventions. Similarly, Egbi et al. (2015) reported that although a high percentage of older Americans had their blood pressure checked, many lacked awareness of their readings or the implications of systolic hypertension. Notably, 46% were unaware of their blood pressure, and 30% of those with elevated systolic readings did not acknowledge having hypertension. Although most recognised lifestyle changes as beneficial, limited awareness rather than cost was the primary barrier to effective control.

In a Nigerian rural context, Idris et al. (2020) observed limited awareness of childhood hypertension among adults, with 62% of respondents unaware that such a condition could affect children. This highlights the general lack of awareness concerning NCDs, especially in underserved communities. Further, several studies demonstrated significant gender-related findings. Kato et al. (2023) indicated a higher prevalence of hypertension in males, attributed to lower awareness or biological differences. Contrarily, other findings, such as those of Odukoya et al. (2024), showed mixed outcomes regarding gender disparities in hypertension control, possibly due to differences in study settings and methodologies.

Odusanya and Tayo (2020) added that built environments influence gendered behaviours, such as physical activity and dietary habits, which in turn affect NCD risks. Tshuma (2014) found that age, income, and occupation were significantly associated with NCD prevalence, with older adults (≥ 60 years) showing higher rates. Odusanya and Tayo (2020) similarly observed a greater NCD burden among men in rural Vietnam, with farmers less affected compared to individuals in other occupations. Odukoya et al. (2024) also noted a higher NCD incidence in men than women in Nigeria's Niger Delta region. Altogether, these findings suggest a consistent pattern of gender and socio-economic differences in NCD risk and awareness, pointing to the urgent need for tailored public health strategies that address not only individual behaviours but also structural determinants and knowledge gaps in both rural and urban populations.

The urgency of this issue lies in the fact that these staff members are expected to contribute meaningfully to national development through education, research, and community service. However, when NCDs reduce their productivity and overall wellbeing, the broader goals of tertiary education and national advancement are undermined. Addressing this challenge requires an in-depth understanding of their attitudes towards modifiable risk factors of NCDs.

This study, therefore, seeks to investigate the attitudes of staff of Ondo State tertiary institutions towards modifiable risk factors of non-communicable diseases. By understanding the underlying perceptions and behaviours, the findings of this study could help shape health promotion strategies and institutional wellness programmes that encourage healthier lifestyles and ultimately reduce the burden of NCDs in academic communities.

The purpose of this study was to examine attitude towards the modifiable risk factors of Non Communicable Diseases among staff of tertiary institutions in Ondo state, Nigeria. The objectives of

this study are to assess the attitude of staff in tertiary institutions in Ondo State towards modifiable risk factors of Non-Communicable Diseases (NCDs), and to determine whether there are significant differences in these attitudes based on gender and staff category (academic versus non-academic). The study aims to identify behavioural patterns related to NCD prevention and explore potential disparities in attitude that could inform targeted health interventions within the tertiary education sector.

METHOD

The study adopted a descriptive survey research design to investigate attitudes towards modifiable risk factors of non-communicable diseases (NCDs) among academic and non-academic staff in tertiary institutions across Ondo State, Nigeria. A total of 1,580 respondents were selected using a multistage sampling procedure involving simple and stratified random techniques across five institutions, including universities, a polytechnic, and a college of education. Faculties and departments were randomly selected, and respondents were proportionately drawn from male and female strata to ensure broad representation. The instrument for data collection was a self-structured, close-ended questionnaire titled Attitude towards Modifiable Risk Factors Questionnaire (AMRFQ), comprising two sections. Section A addressed socio-demographic details, while Section B employed a five-point Likert scale to assess attitudes toward modifiable NCD risk factors, including physical inactivity, unhealthy diets, smoking, alcohol consumption, obesity, sleep habits, and medical check-ups.

To ensure the instrument's validity, the structured questionnaire underwent face and content validation by experts in Human Kinetics and Health Education, as well as Test and Measurement, who vetted and revised it for appropriateness. Construct validity was assessed by administering the instrument to 20 respondents from a non-sampled institution and comparing their responses with those from a standardised instrument, after which expert recommendations were incorporated to improve the tool. For reliability, Cronbach's alpha was used to test internal consistency through a pilot study conducted on 20 respondents outside the sampled locations, resulting in a reliability coefficient of 0.835, indicating high consistency. For data collection, the researcher and six trained assistants visited selected institutions, secured permissions with a letter of introduction, explained the study's purpose to obtain informed consent, ensured confidentiality, and allowed sufficient time for completion. Data were analysed using descriptive statistics for research questions and t-test for hypotheses at a 0.05 significance level.

RESULTS

Research Question 1: What is the attitude of staff of tertiary institutions in Ondo state, towards modifiable risk factors of Non-Communicable Diseases?

The data were collated and analysed using descriptive statistics such as mean and standard deviation. In table 3, the mean score cut-off mark of 2.50 was derived by finding the average of the scoring system. Mean score of items greater than mean cut-off of 2.50 were accepted while those less than 2.50 were rejected.

Table 1: Mean Scores of attitude towards modifiable risk factors of NCD

S/N	ITEMS	Mean	S.D	Remark
1.	NCDs are diseases of the rich people	2.30	0.63	Disagreed
2.	NCDs are diseases that affect only old people	2.32	0.64	Disagreed
3.	NCDs are diseases that are self-inflicted	2.81	0.74	Agreed
4.	Exercise is not needed to maintain a healthy lifestyle	2.44	0.75	Disagreed
5.	Housework as an exercise is enough for a day	2.33	0.64	Disagreed
6.	One can have a slim body, without exercising	2.69	0.74	Agreed
7.	Fruit and vegetable are not needed for maintaining good health	2.38	0.65	Disagreed
8.	I enjoy late night eating	3.23	0.55	Agreed
9.	I cannot do without eating fried foods	3.19	0.61	Agreed
10.	I enjoy my foods when I can feel the taste of salt in it	2.62	0.58	Agreed
11	I cannot do without eating snacks	2.66	0.59	Agreed
12	I don't need to maintain 6-8 hours' sleep everyday for good health	3.22	0.56	Agreed
13	It is not possible to find time to rest in the midst of busy schedule	2.66	0.59	Agreed
14	Smoking must not be avoided like a plaque	1.28	0.53	Disagreed
15	Smoking joints must not be avoided	1.24	0.53	Disagreed
16	Occasional smoking cannot affect health	2.66	0.59	Agreed
17	One don't need to avoid drinking alcohol to prevent NCDs	2.39	0.66	Disagreed
18	Little quantity of alcohol cannot have effect on health	2.66	0.59	Agreed
19	It is only heavy alcohol drinkers that can have health problems	3.23	0.53	Agreed

Mean Cut-off: 2.50

Table 1 showed the attitude of staff of tertiary institutions in Ondo state, towards modifiable risk factors of Non-Communicable Diseases. Using the criterion mean score of 2.50 as cut-off to determine the affirmative of each statement, the respondents indicated that the attitude towards modifiable risk factors of Non-Communicable Diseases are NCD are self-inflicted (Mean = 2.81), one can have slim body without exercising (Mean = 2.69), enjoyed late night eating (Mean = 3.23), cannot do without eating fried food (Mean = 3.19), enjoy foods with taste of salt in it (Mean = 2.62), cannot do without eating snacks (Mean = 2.66), don't need to maintain 6-8 hours sleep everyday (Mean = 3.22), not possible to find time to rest in the midst of busy schedule (Mean = 2.66), occasional smoking cannot affect health (Mean = 2.66), little quantity of alcohol cannot have effect on health (Mean = 2.66) and only heavy alcohol drinkers that can have health problems (Mean = 3.23). The least factors related to the attitude towards modifiable risk factors of Non-Communicable Diseases included NCDs are diseases of the rich people (\bar{x} = 2.30), NCDs are diseases that affect only old people (\bar{x} = 2.32), exercise is not needed to maintain a healthy lifestyle (\bar{x} = 2.44), housework as an exercise is enough for a day (\bar{x} = 2.33), fruit and vegetable are not needed for maintaining good health (\bar{x} = 2.38), smoking must not be avoided like a plaque (\bar{x} = 1.28), smoking joints must not be avoided (\bar{x} = 1.24), and one don't need to avoid drinking alcohol to prevent NCDs (\bar{x} = 2.39).

Test of Hypotheses

Ho1: There is no significant gender difference in attitude towards modifiable risk factors of Non-Communicable Diseases among staff of tertiary institutions.

Table 2: Gender difference in attitude towards modifiable risk factors of NCD

Variations	N	Mean	SD	df	t _{cal}	P
Male	763	52.63	4.04	1435	0.201	0.841
Female	674	52.59	3.70			

$P > 0.05$

Table 2 shows that the t-cal value of 0.201 was not significant because the P value (0.841) > 0.05 . This implies that null hypothesis was not rejected. Hence, there was no significant gender difference in attitude towards modifiable risk factors of Non-Communicable Diseases among staff of tertiary institutions.

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

Table 3: Difference in attitude towards the modifiable risk factors of NCD between academic and non-academic staff

Variations	N	Mean	SD	df	t _{cal}	P
Academic	912	52.54	3.95	1435	0.952	0.341
Non-academic	525	52.74	3.76			

$P > 0.05$

Table 3 shows that the t-cal value of 0.952 was not significant because the P value (0.341) > 0.05 . This implies that null hypothesis was not rejected. Hence, there was no significant difference between academic and non-academic staff of tertiary institutions in attitude towards the modifiable risk factors of Non-Communicable Diseases.

DISCUSSION

The findings from the study reveal that staff of tertiary institutions in Ondo State hold mixed attitudes toward modifiable risk factors of Non-Communicable Diseases (NCDs), with a significant number expressing unhealthy behaviours and misconceptions. For instance, many respondents agreed with statements such as enjoying late-night eating (Mean = 3.23), an inability to avoid fried foods (Mean = 3.19), and believing that one can have a slim body without exercising (Mean = 2.69). These views indicate a poor disposition towards healthy lifestyle practices, aligning with studies like those of Odukoya et al. (2024), who observed that lifestyle choices, especially diet and physical inactivity, were major contributors to diabetes prevalence among Lagos residents. Similarly, Tshuma (2014) reported poor awareness and preventive practices related to hypertension among public workers in Ondo State, pointing to a broader challenge in health behaviour adoption despite access to health information among educated populations.

Conversely, respondents rejected erroneous beliefs such as "NCDs are diseases of the rich" (Mean = 2.30) and "only old people suffer NCDs" (Mean = 2.32), showing a fair level of awareness regarding the demographics of NCD risk. However, the acceptance of other faulty beliefs, such as occasional smoking or small quantities of alcohol being harmless (both Mean = 2.66), underscores gaps in comprehensive understanding of NCD risks. This finding reflects the conclusions of Kato et al. (2023), who documented significant lifestyle risk factors such as alcohol intake, poor diet, and physical inactivity among university employees, despite relatively high levels of education. Additionally, Idris et al. (2020) argued that poor digital health literacy impedes the ability of individuals to engage with accurate health information, potentially explaining why misconceptions persist even among tertiary institution staff.

Interestingly, the study found no significant differences in attitudes based on gender ($p = 0.841$) or job designation (academic vs. non-academic, $p = 0.341$). This uniformity in attitude cuts across social and professional lines, implying that interventions need to target the entire population regardless of demographic distinctions. This outcome supports the findings of Gharouni et al. (2020), who noted that obesity and other risk factors were prevalent among both male and female public workers in Ondo State, regardless of their professional roles. Moreover, the Global Burden of Disease Study (GBD, 2015) stresses that modifiable risk factors such as diet, physical inactivity, and substance use are widespread and not confined to specific population subgroups. The implications are clear: comprehensive, culturally relevant health promotion strategies targeting all staff categories are essential for fostering positive health attitudes and behaviours towards NCD prevention in tertiary institutions.

CONCLUSION

The findings reveal that while staff of tertiary institutions in Ondo State generally reject misconceptions about non-communicable diseases (NCDs) being exclusive to the rich or the elderly, there remains a concerning level of unhealthy attitudes towards modifiable risk factors such as diet, physical inactivity, poor sleep habits, and substance use. These attitudes suggest a gap between knowledge and lifestyle choices, which may hinder effective prevention of NCDs despite awareness. The lack of significant differences in attitudes across gender and job classifications further indicates that these behaviours and beliefs are pervasive among the staff population.

Recommendations

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

1. Tertiary institutions should organise regular, evidence-based health education programmes focused on correcting unhealthy attitudes towards diet, physical inactivity, sleep, and substance use. These campaigns should be tailored to address the specific misconceptions identified among staff members.
2. Institutions should establish workplace wellness programmes that encourage staff participation in physical activities, provide access to healthy meal options, and create awareness about the importance of adequate sleep and avoidance of harmful substances.
3. Periodic workshops and seminars should be integrated into staff development plans to enhance knowledge and foster a culture of preventive health behaviours, irrespective of gender or job classification.

4. Tertiary institutions should collaborate with public health experts and psychologists to design and implement behavioural change interventions aimed at shifting negative attitudes and reinforcing positive health behaviours among academic and non-academic staff.

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