American Journal of Health Research
2022; 10(2): 36-39
http://www.sciencepublishinggroup.com/j/ajhr
doi: 10.11648/j.ajhr.20221002.13
ISSN: 2330-8788 (Print); ISSN: 2330-8796 (Online)

Evaluation of Health Related Physical Fitness Profile of Academic and Non-academic Staff of Federal University Dutsin-Ma, Nigeria

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To cite this article:

Badaki Olusegun Lasisi, Matazu Yunusa Magaji, Sani Mohammed Usman, Olarinoye-Awujoola Funke Abosede, Ladani Benjamin Abu. Evaluation of Health Related Physical Fitness Profile of Academic and Non-academic Staff of Federal University Dutsin-Ma, Nigeria. *American Journal of Health Research*. Vol. 10, No. 2, 2022, pp. 36-39. doi: 10.11648/j.ajhr.20221002.13

Received: November 8, 2021; **Accepted**: November 30, 2021; **Published**: April 9, 2022

Abstract: *Aim:* This study evaluated profile of health related physical fitness of Academic and Non-academic staff of Federal University Dutsin-Ma, Nigeria. Design of the study: An ex-post facto research design was used for this study. *Methods:* The population for the study was four hundred and seventy-one (471) staff that came out for the study within three months. The sample was made up of 174 academics and 297 Non-academic staff which were purposively selected that participated in the study. The components of health-related physical fitness assessed were; cardio-respiratory fitness, flexibility, muscular endurance, muscular strength and body composition (optimal body fat levels) using appropriate field tests. *Results:* The result of the study shows that; both the academic and Non-academic staff do not show reasonable level of physical fitness in their body composition, muscular endurance, flexibility and muscular strength. Only the cardio respiratory fitness of participants was good. *Conclusion:* The study concluded that, both the academic and Non-academic staff of Federal University Dutsin-ma do not possess high profile of physical fitness with emphasis on their body composition, muscular endurance, flexibility and muscular strength which are of the necessity for quality living. It was also found that the level of actual involvement in physical fitness activities was very low. *Recommendations:* It was recommended that; there is the need for academic and Non-academic staff to be motivated by the University authority by making a policy on participation in physical activity during leisure time in order to reduce incidences of hypokinetic diseases amongst them; more indoor and outdoor facilities to be built to accommodate staffs to participate in sporting activities.

Keywords: Evaluation, Health Related, Physical Fitness, Academic, Non-academic

1. Introduction

Physical fitness was seen as a capacity to carry out the day's activities without undue fatigue.

But today, due to automation and challenges in life styles, physical fitness is now seen as a measure of the body's ability to function efficiently, adequately and effectively in work and leisure activities, to be healthy, to resist hypokinetic diseases and to meet emergency situations in life [4].

The five components of physical fitness that are most importantly related to one's health and that can be directly measured are cardio-respiratory fitness, muscular endurance, muscular strength, flexibility and body composition (optimal body fat levels). Consequently, these qualities constitute the health-related components of physical fitness. Individuals who measure or are rated high on each of these components are capable of living a life to its fullest extent, and are less prone to medical conditions. Hence, individuals who are physically fit are healthier, are able to maintain the most optimal body weight, and are not prone to cardiac and any other health related problems. Thus, the quality of life is improved, and productivity in work places is enhanced and loss of man-hour

due to frequent visits to medical centres is minimized [12].

Alla, J. B. and Ajibua M. A. [2] revealed in their study, that academic staff of tertiary institutions have more free time to expend on leisure activities than the Non-academic staff. By nature of their assignment, academic staff are researchers whose schedule of duty or academic activities are not restricted to normal school hours and may interfere with their personal lives frequently and thus preventing them from having enough free time for leisure [18]. This might have reflected in the frequency of their involvement in leisure activities. As expected there were differences in the frequency of leisure activity involvement between academic and Non-academic staff in tertiary institutions. The number of academic staff that were involved in leisure activities not less than 20 minutes once or twice a week on regular basis were more than Non-academic staff. Studies also showed that Non-academic staff that participated in leisure activities of not less than 20 minutes more than twice in a week on regular basis was higher than that of academic staff. This confirmed the issue of lack of much free time for leisure activities among academic staff. [8] were of the opinion that participation in active leisure may affects quality of life and life satisfaction. The concept of international expression of the importance of leisure can be found in the "Declaration of human right" of the United Nations [16, 17]. The Declaration recognizes the right of everyman to rest, to leisure, to freely participation in cultural life of his community and emphasizes the importance of ensuring that children and adults have full opportunity for play and recreation which will fully promote the development of their personality.

According to [1] health-related physical fitness was seen as a state characterised by ability to perform daily activities with vigour and a demonstration of traits and capacities that are associated with low risk of premature development of hypokinetic diseases. The hypokinetic diseases are diseases and conditions associated with inactivity and poor fitness, such as; high blood pressure, diabetes, obesity, osteoporosis, some cancer, and so forth. The implication of this definition is that individuals who excel in one of the variety of sporting events may not necessarily possess optimal levels of body fat, cardio-respiratory fitness or musculoskeletal fitness, and as a consequence may be at higher risk for the development of chronic diseases. Conversely, individuals may be rated low in virtually all the skills-proficiency related components and be physically fit and healthy by participating in regular aerobic and musculoskeletal exercises to improve cardiorespiratory fitness, optimal body fat levels, flexibility, muscular endurance and muscular strength [1].

This study was thus, undertaken to assess the health related physical fitness profile (cardio-respiratory fitness, body composition (optimal body fat levels) and musculoskeletal fitness (flexibility, muscular endurance and muscular strength) of staff of Federal University, Dutsin-Ma, Katsina State, Nigeria. This study will afford the Exercise Scientists the opportunity to have knowledge of staff fitness status, design fitness programmes that will improve their quality of life and productivity, cut down loss of man hours due to frequent visits to medical centre for conditions that can be improved by participating in regular physical activities.

2. Materials and Methods

Objective: The objective of this study was to evaluate the physical fitness ((Body Composition, Cardiovascular Respiratory, Muscular Endurance, Flexibility and Muscular Strength) profile of academic and Non-academic staff of Federal University Dutsin-Ma, Nigeria.

Hypothesis: There is no significant relationship between the physical fitness profiles (Body Composition, Cardiovascular Respiratory, Muscular Endurance, Flexibility and Muscular Strength) of academic and non- academic staff of Federal University Dutsin-Ma.

Design of the study: The design for this study was Expost-Facto research design, in which the investigator studied the dependent variable and examined the data retrospectively to establish causes, relationships or associations and their meanings [10] The population for this was four hundred and seventy-one (471) staff that were conveniently participated in the study, which comprised 174 academics and 297 Non-academic staff. Purposive sampling method was used on the basis of the researcher's judgment of the typicality or possession of particular characteristics by the population [10] Thus, the sample was selected for specific purpose that is of interest to the researcher. The components of health-related physical fitness profile (cardio-respiratory fitness, flexibility, muscular endurance, muscular strength and body composition) were assessed using appropriate field tests; such as; Cardio-respiratory fitness was assessed using five minutes Harvard Step Test, flexibility with Sit and Reach Test, muscular endurance with Pull-Up Test on horizontal bars, muscular strength with Standing Shot put and body composition with Skinfold Calipers.

Permission: The protocol to carry out the study was to get ethical permission from the Federal University Dutsin-Ma to conduct this study. Consent permission was sought from each of the staff that participated. Data collected for this study were analysed using descriptive statistics of percentages, mean and standard deviation to describe the demographic characteristics and physical fitness profiles of the participants. While the hypothesis was tested using Pearson Product Moment Correlation at 0.05 level of significant.

3. Results

Table 1 revealed description of physical fitness profile of academic staff in Federal University Dutsin-Ma. 174 academic staff participated in the study with 13.72 mean and 4.47 of standard deviation of body composition, 25.00 ±12.50 of cardiorespiratory fitness, 9.66 ± 4.51 of Muscular endurance, 7.33 ± 2.78 of Flexibility and 6.53 ± 1.01 of Muscular strength.

Table 2 also shows that 297 non- academic staff participated in the study with 14.56 mean and 4.87 of standard deviation of body composition, 21.60 ± 11.14 of

Cardiorespiratory fitness, 9.38 ± 4.21 of Muscular endurance, 6.81 ± 2.60 of Flexibility and 6.46 ± 0.89 of Muscular strength. Only the cardiovascular fitness of participants was good while other indicators were relatively poor. The Body mass index that was less than 19.7 was regarded to be poor.

Hypothesis: There is no significant relationship between the Non-academic and academic staff of Federal University Dutsin-Ma in their level of physical fitness profile.

Table 1. *Mean and Standard Deviation of Physical Fitness Profile of Academic and Non- Academic Staff in Federal University Dutsin-Ma.*

Physical Fitness	Number	Mean	Standard Deviation	Standard Error
Body Composition				
Academic	174	13.72	4.47	0.34
Non Academic	297	14.56	4.87	0.28
Cardiorespiratory fitness				
Academic	174	25.00	12.50	0.95
Non Academic	297	21.60	11.14	0.65
Muscular Endurance				
Academic	174	9.66	4. 51	0.34
Non Academic	297	9.38	4.21	0.24
Flexibility				
Academic	174	7.33	2.78	0.21
Non Academic	297	6.81	2.60	0.15
Muscular Strength				
Academic	174	6.53	1.01	0.77
Non Academic	297	6.46	0.89	0.05

Table 2. *Showing correlation of Non-academic and academic staff level of physical fitness profile.*

Variable	Non Academic Staff	Academic Staff
Academic		1
Correlation	0.858**	
Sig. (2-tailed)	0.000	
Number	174	174
Non- Academic	1	
Correlation		0.858**
Sig.(2-tailed)		0.000
Number	297	174

Note: Significant (P<0.05) correlated and significantly related.

Table 2 revealed a strong significant relationship in the physical fitness profile of academic and Non-academic staff of Federal University Dutsin-Ma Katsina State, Nigeria. The Table shows correlated coefficient r= 0.858**, P<0.05. Therefore hypothesis is there rejected. This implies that the health related physical fitness of both academic and Non-academic staff of Federal University Dutsin-Ma is low which could exposed them to hypokinetic diseases.

4. Discussion of the Findings

The findings revealed that both the academic and Non-academic staff do not show reasonable level of physical fitness in their body composition, muscular endurance, flexibility and muscular strength. Only the cardiorespiratory fitness of participants was relatively good. This study was in contrast with [4] that non-involvement in physical activity by academic staff was classified as inactive. Conversely**,** [3] concurred that individuals may be rated low in virtually all the skills-proficiency related components and be physically fit and healthy by participating in regular aerobic and musculoskeletal exercises to improve cardiorespiratory fitness, optimal body fat levels (acceptable body weight), flexibility, muscular endurance and muscular strength.

However, [5] in [11] were in agreement with this study that out of 250 Iranian academic staff, 195 were physically active while 51 were physically inactive. They further revealed in their study that the world is witnessing a significant increase of the global burden of non-communicable diseases such as cardiovascular diseases, cancer and chronic respiratory diseases which has resulted to sudden death of some people due to inactivity. Also the study of [9] suggested that excess body fat is associated with increase chances for heart disease, high blood pressure, high cholesterol, diabetes, stroke, and some cancer. These can be controlled and managed through regular involvement in exercise as prescribed and monitored by Exercise Scientist. Likewise, [11] agreed that regular and appropriate physical activity could promote health by reducing the risk of death through reduction in occurrence of heart diseases, reduction of blood pressure, blood cholesterol, risk of colon and breast cancers, as well as reduction in the risk of developing diabetes. This therefore shows that exercise in several ways contributes to human happiness, posture, mood, decreased anxiety, depression and elevated level of self-esteem among others.

This study was in agreement with [13] that the none adherence to health and fitness related programmes by the majority of the university staff in University of Ilorin, Nigeria had made them to develop excess fat in the stomach and buttocks as a result of sedentary lifestyle due to long hours of sitting behaviour in their work places. [15, 6] opined that the body mass index is the most frequently used method for assessing obesity due to its simplicity and appropriate for a large population studies. The correlation between BMI number and body fatness indicated fairly strong, however, it may be criticized because individual variation tends to produce misclassification. [14] also reveals that staff and students of the University of Ilorin were of the opinion that occupational stress occasioned by excess work of administrative and academic activities is a common feature in the university with 633 respondents (63.3%) in agreement. Majority of the respondents 612 (61.2%) agreed that one major risk of sedentary lifestyle of university workers is obesity. [7] concurred that physical fitness has been associated with a variety of health benefits. Being physically fit reduces the risk of cardiovascular diseases, type II diabetes and obesity and improves psychological variables such as depression, anxiety and stress.

Alla, J. B. and Ajibua M. A. [2] revealed that academic staff had more free time to expend on leisure activities than the Non-academic staff. By nature of their designation, academic staff are researchers whose schedule of duty are not restricted to normal school hours and may interfere with their personal lives frequently and thus preventing them from having enough free time for leisure activity. This could also be observed in the findings of this study that majority of the

staff either in academic and Non-academic of Federal University of Dutsin-ma do not see the need to participate in physical activities after the day work in the evening as reflected in Tables 1 and 2 above. Visit to the University Clinic in Federal University Dutsin-Ma revealed large percentage numbers of staff down with one form of hypokinetic diseases or the others due to inactivity. Such diseases as in; high blood pressure, diabetes, chest pain, obesity, osteoporosis and so forth.

The finding of this study also shows very low turnout of female staff, which may be due to religion restriction on women participation in sporting activities.

5. Conclusion

The study concluded that, both the academic and Non-academic staff of Federal University Dutsin-ma do not possess high profile of physical fitness with emphasis on their body composition, muscular endurance, flexibility and muscular strength which are of the necessity for quality living. It was also found that the level of actual involvement in physical fitness activities was very low.

6. Recommendations

1) There is the need for academic and Non-academic staff to be motivated by the University by making policy on participation in physical activity during leisure time;
2) More indoor facilities to be built to accommodate the number of staffs to participate in sporting activities;
3) The University authority to fix a specific day and date in the month whereby all Staff will participate in fitness programme between the hour of 7am – 9am in order to reduce the hypokinetic diseases.

Acknowledgements

We thank the management of Federal University Dutsinma, most especially the Directorate of Advancement and Linkages of the Institution for their supports during this research. Our special thanks also goes to the TETFUND Nigeria for the grant awarded to support this project.

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