

Physical Activity and Exercise Behaviour of Senior Academic and Administrative Staff of Tertiary Institutions in Ondo State, Nigeria

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Abstract

The benefits of involvement in physical activity and exercise have grown to become a strategic health importance and thus attracted the attention of people of all age groups. Despite these benefits, it appears that senior academic and administrative staff in tertiary institutions have not been participating in physical activity and exercise. It is against this background that the study investigated physical activity and exercise behaviour of senior academic and administrative staff of tertiary institutions in Ondo State, Nigeria. The study adopted survey research design. A sample of 503 academic and administrative staff in tertiary institutions in Ondo State drawn through a purposive sampling technique was used for the study. A self-developed and validated questionnaire was used for data collection. The hypotheses formulated for the study were tested using t-test and Analysis of Variance (ANOVA). Findings of the study revealed a relatively low level of health behaviour in physical activity and exercise by the respondents for wellness status. Also, age and division of respondents which were main effects were statistically significant. However, sex and duty post of respondents were not statistically significant. Based on the findings of the study, it is recommended that senior staff of tertiary institutions should be educated on the need and usefulness of regular physical activity and exercise. Also, a keep fit exercise programme should be embarked upon in all tertiary institutions in Ondo State.

Keywords: Physical activity, wellness status, behaviour, tertiary institution, exercise, health, sedentary .

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1. Introduction

The benefits of involvement in physical activity and exercise have grown to become a strategic health importance and thus attracted the attention of people of all age groups. The World Health Organisation (WHO) is actively involved in propagating physical activity and exercise programmes around the world due to its tremendous contributions to individuals and community (Ajibua, 2012).

Physical activity is described as any bodily movement produced by skeletal muscles that results in energy expenditure for the purpose of progressive health benefits (Hoeger & Hoeger, 2002). For instance, brisk walking, running, swimming, dancing, playing squash, tennis, golf, jogging, calisthenics and involvement in other ball games are examples of physical activities. The four main types of physical activity according to National Heart, Lung and Blood Institute (2011) are aerobic, muscle-strengthening, bone-strengthening, muscle, such as those in the arms and legs. Running, swimming, walking, biking, and so on, are examples of aerobic activity. It makes the heart beat faster than usual and over time, regular aerobic activity makes the heart and lungs stronger and able to work better.

Similarly, muscle-strengthening activities improve the strength, power and endurance of the muscles. Examples include push-ups and sit-ups, lifting weights and climbing stairs. Generally, stretching activities help to improve flexibility and the ability to fully move the joints. Touching toes, side stretches and yoga exercises are examples of stretching. An individual may engage in aerobic activity with light, moderates or vigorous intensity. Moderate and vigorous intensity aerobic activity is better for the heart than light-intensity activity. However, doing light-intensity activity is better than no activity at all.

In order to gain health benefits, it is suggested that a person should do at least 30 minutes of moderate intensity physical activity on most days of the week (Kenny, 2012). The author, further recommended that for children and young people (age 18 years) they should engage in moderate-to-vigorous intensity physical activity for as least 60 minutes and up to several hours every day while for adults (age 16 – 64 years) their physical activity involvement should add up to at least 150 minutes (2½ hours) of moderate intensity activity in bouts of 10 minutes or more. For example, 30 minutes on at least five days a week. However, human movement represents a complex behaviour that is influenced by personal motivation, health and mobility issues, genetic factors, and the social and physical environments in which people live.

Exercise, on the other hand is physical activity that is planned, structured and repetitive for the purpose of conditioning any part of the body. Exercise is used to improve health, maintain fitness and is important as a means of physical rehabilitation. Although muscle contraction is the common element of all forms of exercise, many other organs and systems such as heart and lungs are affected (Myers, 2009). Exercises that demand total body involvement include jogging, running, swimming, vigorous dancing, cycling, and brisk walking (Urich, 2009). Organized games and sports that have long rest periods within the play design have only minimal influence on fitness.

The researcher observed that programmes especially planned to help individuals attain fitness are offered in numerous places such as the schools and gymnasiums, few States in Nigeria, private

clubs, federal establishments, organisations, professional associations and organized clinics. For instance, few public servants in Ekiti, Osun, Oyo and Ogun States in Nigeria do participate in monthly keep fit exercises organized by the state governments. Also, almost all the secondary school teachers in Ado-Ekiti Local government areas honour their weekly keep fit exercise. Recently, a monthly keep fit exercise has been organized for staff of Ekiti State University, Ado – Ekiti.

The benefits of physical activity and exercise have been documented in literature. Clinical and epidemiological studies have demonstrated that regular physical activity and exercise reduce the risk of death due to heart diseases and stroke, aids in reducing weight, helps prevent diabetes mellitus, strengthens bones, and enhance immune function (Medical News Today, 2004; American Heritage Medical Dictionary, 2007; Myers, 2009; Collaborating for Health, 2011 & Kenny, 2012). Similarly, the effects of physical activity on several aspects of psychological well-being among elderly participants have been reported in literature (Grimby, Grimby, Frandin & Wiklund, 1992). The findings revealed that those who exercised more had more positive emotional reactions. Also, the relationship between physical activity and several psychological factors, including meaning in life, were reported by Ruuskanen and Ruoppila (1995). In addition, adolescents who participate in greater levels of physical activity are less likely to smoke, or they smoke fewer cigarettes (Rosewater, 2010). Studies by Straurowsky; Desousa & Ducher, (2009) showed that girls who engage in physical activities improve their health and well-being, maintaining a healthy weight and reduce stress. The authors maintained that in the long term, participation in physical activity by youth is a key preventive factor for heart disease, cancer, obesity and dementias in later life.

Perhaps the greatest barriers to achieving major public health advances for sustainable development in the 21st century will result from the increasing prevalence of sedentary behaviour in young people. Many changes have taken place in the society such as increased consumerism, conveniences, and wealth orientation which have reduced the necessity to move or to be active. The general trend toward inactive (sedentary) and other unhealthy lifestyle has led to a crisis in the health care system with an increase in personal health-related tragedies. There is growing concern over the effects of sedentary lifestyles on the health of young people. Insufficient physical activity in youth is a key public health issue, partly because patterns of behaviour established during childhood may persist into adulthood (Malina, 1996).

Sedentary behaviour refers to any waking activity characterized by sitting for prolonged periods. This means that any time a person is sitting or lying down, they are engaging in sedentary behaviour. Common sedentary behaviours include TV viewing, video game playing, reading, the use of motorized transports and computer (Sedentary Behaviour Research Network, 2012). Sedentary behaviours, such as playing computer games, using the telephone, and using the internet for homework or social networking, are increasingly accessible to young people (Ho & Lee, 2001). Sedentary behaviour is associated with deleterious health outcomes, which may include increase in the risk of obesity, diabetes, heart disease and cancer (Kenny, 2012). The increasing prevalence of overweight and obesity has been attributed, in part, to reduced physical activity and increased involvement in sedentary behaviours, such as television viewing (Lobstein, Baur, Uauy, 2004). Estimates suggest that almost a third of young people in developed counties watch more than 4 hours of TV a day (Marshall, Gorely and Bidde, 2006).

The issues of inactivity has become an epidemic in Nigerian society, because of the sedentary lifestyle of a large proportion of Nigerian citizens, especially administrators, managers, public

servants and a host of others. People are not favourably disposed to participation in physical exercises for fitness and for effective job performance (Akindutire, et al 2013). Most people in Nigeria are dying from stress related disorders in greater numbers than before, due to increase in tension, hardship and sedentary behaviour. This observation holds good for some senior members of staff in the tertiary institutions in Ondo State, Nigeria. However, it seems reasonable to assume that senior academic and administrative staff of tertiary institutions are showing more interest in participating in physical activity and exercises for the purpose of attaining wellness status for enhanced job performance, the extent to which they do so has not been empirically determined. Little or no research has been carried out to ascertain the physical activity and exercise behaviour of senior academic and administrative staff of tertiary institutions in Ondo State, Nigeria, hence, the present study was undertaken to provide sufficient and reliable data.

1.2 Research Objectives

The objectives of the study are to:

- 1.2.1 assess the physical activity and exercise behaviours of senior and administrative staff in tertiary institutions in Ondo State, Nigeria
- 1.2.2 determine the extent to which demographic variables such as sex, age, division and duty post of respondents influence physical activity and exercise behaviour.

1.3 Research Hypotheses

The following hypotheses were tested at $p < 0.5$ level of significance.

- 1.3.1 There is no significant difference in the physical activity and exercise behaviour of senior academic and senior administrative staff in tertiary institutions in Ondo State
- 1.3.2 Gender of respondents will have no significant influence on physical activity and exercise behaviour.
- 1.3.3 Demographic factors such as sex, age, duty post of respondents will have no significant influence on physical activity and exercise behaviours,

2. Methodology

2.1 Research Design

The study adopted a descriptive survey research design. The survey research typology enables information to be obtained from a representative sample of the population so as to describe situation as they exist.

2.2 Population

The population of this study consisted of all senior academic and administrative staff in public tertiary institutions in Ondo State, Nigeria. The rationale for sampling this category of staff is based

on their multifarious heavy assignments which may, probably, expose them to stress. There are at present seven of such institutions in Ondo State.

2.3 Sample and Sampling technique

The study sample consisted of 503 senior academic and administrative staff in tertiary institutions in Ondo State. The respondents were stratified by their sex (either male or female); by the division (academic and administrative staff), they belong to and the type of positions they occupy (i.e. Deans, HODs, Directors, etc). A total of 244 senior academic and 259 senior administrative staff were randomly sampled from four tertiary institutions in the State. The tertiary institutions included, one Federal University; one State University; one State Polytechnic and one College of Education.

2.4 Instrument

A self-developed questionnaire was used for data collection. The instrument consisted two sections. The first part dealt with demographic variables such as gender, age, division and duty post of respondents. The second section was designed to assess some aspects of behaviour of respondents related to physical activity and exercise. The questionnaire items were constructed based on literature relating to physical activity and exercise. The 16-item questionnaire was assessed on four-point scale (ranging from rarely =1; sometimes =2; usually =3 and always =4). Thus, the most desirable health behaviour has 4 points while the least desirable has 1 point. The instrument was given to three experts in Health education, Exercise physiology and Counselling in the Universities of Ile-Ife, Ilorin and Ado-Ekiti in Nigeria for face and content validity. A questionnaire item is selected if at least two out of the three specialists agreed on the item. The 16-item questionnaire, as certified by the three experts was trial tested twice within the two weeks on a set of 60 senior staff in a tertiary institution outside the study area. The test-retest of the instrument yielded a reliability coefficient of 0.80 at 0.05 level of significance hence, the instrument was deemed good for the study.

2.5 Procedure for Data Collection

Copies of the questionnaire were administered by the researcher with the help of four research assistants. The on the spot administration of the questionnaire was adopted to ensure high return of the instrument. Instructions and explanations were given to the respondents where necessary. Copies of the questionnaires were completed independently to decrease the possibilities of comparing notes and discussing the questionnaire items.

2.6 Data Analysis

The data collected for the study were analysed using descriptive and inferential statistics such as frequency counts, percentage, t-test and Analysis of Variance. In the ANOVA analysis, the independent variables were sex of respondents as factor A (a_1 =male, a_2 = female) and division as factor B (b_1 = Academic staff, b_2 = Administrative Staff). The dependent variable was the scores obtained from the respondents. All the hypotheses were tested at 0.05 level of significance.

3. Results

3.1 Demographic Information

The analysis of the demographic variables revealed that the age of the respondents ranged from 30 years to 60 years. Also, 297 (59.0%) of the respondents were males while 206 (41.0%) were females. The data on division of respondents revealed that 244 (48.5%) were academic staff, while 259 (51.5%) respondents were administrative staff

(Table 1 here)

3.2 Hypotheses Testing

Hypothesis 1 – There is no significant difference in the physical activity and exercise behaviour of senior academic and administrative staff in tertiary institutions in Ondo State.

Table 2 showed that the mean score of 11.1 for Academic staff was greater than the mean score of 10.5 for Administrative Staff. Similarly, the t-calculated value of 2.88 was greater than the t-table value of 1.96 at $df=501$ and $p<0.05$ level of significance. Hence, the null hypothesis of no significant difference was rejected. This implies that the academic staff in this study practiced positive health behaviour with respect to physical activity and exercise higher than the administrative staff.

(Table 2 here)

Hypothesis 2: Gender of respondents will have no significant influence on physical activity and exercise behaviour.

Table 3 showed that there were differences in the mean scores of male and female respondents in each of the sixteen areas measured. However, only three of the areas measured were statistically significant. The t-calculated value was greater than the table value of 1.96 at 0.05 level of significance. Thus, male respondents practiced positive health behaviour higher than the female respondents in the areas of involving in aerobic activities, warming up before vigorous activity and following dietary practices for enhancing physical activity programme. Hence, the null hypothesis was rejected with respect to the three areas of behaviour measured.

(Table 3 here)

Hypothesis 3: Demographic factors such as sex, age, division and duty post of respondents will have no significant influence on physical activity and exercise behaviour

In order to test if the differences observed in the scores with reference to all the items in table 2 were statistically significant, various two-way Analyses Of Variance were computed. The result of the analysis are presented on tables, 4 and 5.

The result of the two-way ANOVA on physical activity and exercise behaviour with respect to sex and age of respondents are presented on table 4. The main effect of sex of respondents (Factor A) was not statistically significant. Furthermore, the sex by age (A x B) interaction was not significant. Statistical analysis, therefore, showed that male respondents did not differ from female

respondents on the areas of physical activity and exercise behaviour measured. However, the main effect of age (Factor B) was statistically significant ($F_{2,491} = 4.63$; $P < 0.05$). Scheffe post-hoc revealed that respondents under age 36 – 41 years were involved in physical activity and exercise higher than other age brackets. Therefore, hypothesis 3 was rejected with respect to Age of respondents.

(Table 4 here)

The results of the ANOVA on physical activity and exercise behaviour with respect to age and duty post of respondents are presented on table 5. The effects of Age (Factor A) and Duty post (Factor B) of respondents, which were main effects were not significant. The age by duty post (A x B) interaction was also not significant. Therefore, hypothesis 3 was not rejected with respect to age and duty post of respondents.

(Table 5 here)

4. Discussion

The present study assessed the physical and exercise behaviour of senior academic and administrative staff in tertiary institutions in Ondo State, Nigeria. Results of the study demonstrated that overall, the health behaviour of respondents in physical activity and exercise was relatively low. This finding collaborated with the previous report of Akindutire, et al (2013) that inactivity has become an epidemic in Nigeria, especially among the administrators, managers and public servants. A possible explanation for the low healthy behaviour in physical activity and exercise is the technological advancement in which automation, television and the indiscriminate use of computer have turned more citizens to desk workers and sedentary spectators (Emiola, 2008).

It was observed in the study that the grand mean scores for both male and female respondents in each of the areas measured did not meet the desirable health behaviour in physical fitness as recommended for wellness status (Hoeger & Hoeger, 2002). The findings seem to suggest that the respondents were at a greater health risks and may be vulnerable to multifarious health problems and diseases. This observation had earlier been reported by Eboh & Akarah (2006) and Adegun, et. al (2013) that people are more susceptible to diseases because of their sedentary lifestyle that puts them at risk. For instance, hyperkinetic diseases like hypertension, heart disease, stroke, obesity and diabetes have been attributed to sedentary lifestyle (Emiola, 2008). Based on these findings, researchers are now studying the health impart of sedentary behaviour in a wide range of academic domains which include epidemiology, population health, psychology, ergonomics, and physiology.

The findings of this study showed a relatively low score in the role of physical activity and exercise to minimize stress and improve physical fitness. Perhaps, the respondents in this study were not aware of the risks inherent in stress related disorders and that developing a healthy behaviour in physical activity and exercise will reduce stress, anxiety, depression, increase self-ego and improve self image (Okonkwo, 1995; 1997; & Scott, 2008). It is not out of place to observe that stress is one of the key factors usually associated with sudden death most especially among the top working class individuals in Nigeria. There is therefore, the need for regular participation in physical activity and exercise among these class of workers for the purpose of attaining a high level of health.

Another key finding in this study revealed that male respondents obtained a higher score than the female respondents. This is not surprising because some women may fear that a repeated participation in physical activity and exercise such as jogging, aerobics and tennis will harm their joints (Bill & Cooper, 1993). These findings suggest that the issue of gender difference is relevant when considering the type of physical activity and should be taken into consideration when planning for physical activity and exercise programme (Ogu, Agbamusi & Omeasiegu, 2007).

Furthermore, the statistical analysis revealed that factor such as duty post have no significant influence on physical activity and exercise behaviour of respondents. As important as this factor is, none of the previous studies endeavour to investigate it as a variable of interest.

5. Conclusion and Recommendations

It is an undeniable fact that no tertiary educational institution can become a world class institution if the senior staff are not physically fit and healthy. Based on the findings of this study, the health behaviour of respondents with respect to physical activity and exercise was relatively low. This indicates that the respondents may be compromising their health, a lifestyle of greater health risk and may be vulnerable to multifarious health problems and hypokinetic diseases like hypertension, heart diseases, stroke, obesity and diabetes.

On the basis of the findings, it is therefore recommended that senior staff of tertiary institutions should be educated on the need and usefulness of regular physical activity and exercise. Also, a keep fit exercise programme should be embarked upon in all the tertiary institutions in Ondo State. The tertiary institutions must embrace the need for regular participation in physical activity and exercises for fitness, for effectiveness and for efficiency in job performance.

Table 1 Demographic Information of Respondents

Source	F	%
<u>Sex</u>		
Male	297	59.0
Female	206	41.0
<u>Total</u>	503	100.0
<u>Age</u>		
30 – 35 years	138	27.4
36 – 41 years	116	23.1
42 – 47 years	75	14.9
48 – 53 years	96	19.1
54 – 59 years	58	11.5
60 and above	20	4.0
<u>Total</u>	503	100.0
<u>Division</u>		
Academic Staff	244	48.5
Administrative Staff	259	51.5
<u>Total</u>	503	100.0

<u>Duty Post</u>		
H. O. D/Unit	388	77.1
Dean/Director	98	19.5
Others	17	3.4
<u>Total</u>	503	100.0

Table 2: Summary of t-test analysis on physical activity and exercise behaviour by type of respondents

Source	N	\bar{X}	Sd	df	t _{cal}	t-table
Academic staff	244	11.1	2.40	501	2.88*	1.96
Administrative staff	259	10.5	2.21			

* P<0.05

Table 3: Summary of t-test analysis on physical activity and exercise behaviour by gender of respondents

Variable	Male (N=288)		Female (N = 207)		t-value (df,493)	P
	\bar{X}	SD	\bar{X}	SD		
I participate in exercise and physical activities to minimize stress and improve my level of physical fitness	2.59	.93	2.34	.89	3.03	.341
I select physical activities that are strenuous	2.37	.88	2.10	.94	3.22	.681
I include various types of conditioning activities	2.32	.90	2.18	.91	1.67	.741
I engage in aerobic activities with appropriate frequency, intensity and duration for heart and lung	2.35	.97	2.22	.89	1.57	.044*
I routinely include strength training activities	2.33	.96	2.29	.94	.50	.626
I routinely vary the types of strength-training activities	2.51	.91	2.43	.95	.07	.591
I do exercise specifically designed to maintain joint range of motion	2.51	.91	2.33	.90	2.26	.389
Exercise and physical activities can help me to improve my physical health, emotional and social well-being	2.87	.94	2.72	.98	1.71	.109

My daily routine in my place of work serves as a term of exercise for me	2.69	.94	2.54	.84	1.87	.075
I take appropriate steps to avoid injuries when participating in exercise and physical activities	2.89	.93	2.93	1.04	.45	.053
I seek appropriate treatment for all injuries from physical activities	2.84	.92	2.88	.99	-.44	.074
I warm up before beginning vigorous activity and I cool down afterward	2.60	.87	2.51	1.00	1.05	.003*
I follow sound dietary practices to a health-enhancing physical activity programme	2.76	.78	2.79	.90	-.42	.004*
I sleep seven to eight hours daily	2.69	.88	2.56	.92	1.62	.264
I refrain from using over-the-counter sleep-inducing aids	2.70	.97	2.75	1.03	-.56	.214
My level of fitness allows me to participate fully in my daily activities	3.06	.83	3.11	.83	-.74	.492

*P<0.05

Table 4: Summary of Two-way Analysis of Variance on Physical activity and exercise by sex and age of respondents

Source	Ss	df	Ms	F	Sig
Sex (A)	61.17	1	61.17	.615	.433
Age (B)	2252.79	5	450.56	4.531	.000*
Sex X Age (A x B)	440.98	5	88.19	.887	.490
Error Team s/AB	48823.14	491	99.44		

*P<0.05

Table 5: Summary of Two-way Analysis of variance on exercise and physical activity behaviour by age and duty post of respondents

Source	Ss	df	Ms	F	Sig
Age (A)	853.33	5	170.66	1.712	.130
Duty Post (B)	192.10	2	96.06	.963	.382
Age X Duty Post (A x B)	591.04	9	65.67	.659	.747
Error Team s/AB	48462.09	486	99.72		

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