

Level of Physical Activity and Quality of Life of Healthcare Workers in A Tertiary Health Institution in Southwestern Nigeria

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Abstract

Background: Healthcare workers are physically and mentally burdened due to frequent work shifts rotation, demanding tasks, together with family-related issues which limit their participation in planned physical activity program. **Objective:** The aim of the present study was to investigate healthcare workers' levels of Physical activity and their Quality of Life. **Methods:** 62 healthcare workers from Federal Medical Center, Owo, Nigeria participated in this study. Ethical approval was obtained from the Institution's Health Research Ethics Committee before the commencement of the study. Data was Obtained using the International Physical Activity Questionnaire (IPAQ) and the WHOQoL-BREF. Analysis was done using descriptive statistics of percentages and frequency while inferential statistics Chi square test and Mann Whitney U test was used for the test of significance. Alpha level was set at 0.05. **Results:** High prevalence (51.5%) of low level of physical activity was observed among health care workers. There was no significant difference between age ($X^2 = 0.404$, $p > 0.05$); gender ($X^2 = 0.554$, $p > 0.05$); work category ($X^2 = 0.841$, $p > 0.05$) BMI ($X^2 = 0.632$, $p > 0.05$) and the three categories of physical activity. A significant difference was observed in the overall QoL between male and female respondents ($U = 249.500$, $p = 0.002$). Similarly, there was a significant difference in Overall QoL between workers in clinical department and workers in administration department ($U = 260.000$, $p = 0.002$). **Conclusion:** There is high prevalence of low level of physical activity among health workers. The increase clinical workload among health workers probably contributed to low level of physical activity and QoL among health workers in core clinical departments.

Keywords: Health Workers, Physical Activity, Quality of life.

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INTRODUCTION

Physical activity (PA) has been defined as any bodily movement produced by skeletal muscles such as housework, walking, sports, dancing, and any other activities that resulting in energy expenditure (Yildirim *et al.*, 2016). Physical activity can either be of moderate intensity or vigorous intensity which helps to improve physical health and overall wellbeing (WHO, 2020).

Engaging in regular physical activity has been proven to be effective in preventing and managing non-communicable diseases like heart disease, stroke, diabetes, and some cancers. Additionally, it can help to prevent hypertension, maintain a healthy body weight, and improve mental health, quality of life, and overall well-being. Physical activity has also been reported to have a positive effect on performance in the workplace

activities within the house, capacity to assess leisure, and mental state (Karakaş and Yaman, 2017).

According to the World Health Organization, approximately 1 in 4 adults worldwide are not active enough, and more than 80% of the world's adolescent population is insufficiently physically active. In African countries, the prevalence rates of physical activity vary significantly, and the reasons for these variations are not always clear. For instance, the prevalence of physical inactivity in Mauritania, Swaziland, and South Africa were reported to be 52.6%, 49.1%, and 44.7%, respectively, while Burkina Faso, Malawi, and Ghana had relatively low prevalence rates of 7.8%, 8.4%, and 8.8%, respectively (Guthold *et al.*, 2008). Additionally, Mozambique and Malawi, located in southeastern Africa, had high reported prevalence rates of physical activity (around 95%), while Mali and Mauritania, two

West African countries, had a prevalence of approximately 50% (Guthold *et al.*, 2011).

Quality of life (QOL) is a broad concept that refers to an individual's overall well-being and satisfaction with different aspects of life, including physical, psychological, social, and environmental factors (WHO 1995). QOL can be influenced by many factors, such as socioeconomic status, health status, social support, and environmental conditions. The main aim in life quality is to determine how much the individual is satisfied or uncomfortable with his / her physical, psychological, social functions and economic situations (Dilbaz, 1996).

Research has shown that QOL is an important predictor of health outcomes, including mortality, morbidity, and health service utilization. Improving QOL has therefore become an important goal in health care, and interventions aimed at enhancing QOL have been developed for various populations, such as people with chronic diseases, elderly individuals, and cancer patients. These interventions may include physical exercise, social support, and environmental modifications. Although there is no evidence that physical activity prolongs life however, physical activity has been shown to reduce the speed of some negative changes in the body that will occur with aging, and to make it easier to protect from some diseases.

Healthcare workers are set of workers that are physically and mentally burdened due to frequent work shifts rotation, demanding tasks, together with family-related issues which limit their participation in planned physical activity program (Maria *et al.*, 2019). A study that explores physical activity level and quality of life among hospital workers is therefore necessary. The aim of the present study therefore was to investigate healthcare workers' levels of Physical activity and their Quality of Life

MATERIALS AND METHODS

The sample consisted of 62 healthcare workers from Federal Medical Center, Owo, Nigeria. The study protocol was submitted to the Health Research Ethics Committee of Federal Medical Centre, Owo for review and the ethical approval was therefore obtained before the commencement of the study. The rationale behind the study was explained to all participants and informed consent was obtained before their participation. Data was obtained from respondents using a self-administered questionnaire consisting of 3 parts. Part A sought information on demographic characteristics. Part B was the International Physical Activity Questionnaire (IPAQ) for information regarding physical activity. The result from IPAQ allowed energy expenditure to be estimated in metabolic equivalent minutes per week (MET-min/week). An average MET score is attributed for each

type of activity: 3.3 METs for walking, 4.0 METs for moderate activity and 8.0 for vigorous activity. Part C of the questionnaire focus on Quality of Life (QoL) using the validated English version of the the WHOQoL-BREF. The brief version contains 26 items, with four main domains for interpretation: physical health domain; psychological health domain; social relationships and environment domain. Data were analyzed using descriptive statistics of percentages and frequency while inferential statistics Chi square test and Mann Whitney U test was used for the test of significance. Alpha level was set at 0.05.

RESULT

Presented in Table 1 is the sociodemographic characteristics and physical activity level of the respondents. 62 healthcare workers participated in this study, 25 (40.3%) were male while 37 (59.7%) were female. Age group with highest percentage was 41-50 years (38.6%). Majority of the respondents were married (75.7%). Half of the respondents (50.0%) are clinical staff while the remaining half were administrative staff of the health facility. Participants with normal weight and overweight were in the same proportions (40.3%). The result also showed that majority of the respondents had low level of Physical activity (51.5%).

Table 2 showed the result of Chi Square test for Physical Activity Level by Age, Gender, Work category and Body Mass Index. The result revealed no significant difference between age ($X^2 = 0.404$, $p > 0.05$); gender ($X^2 = 0.554$, $p > 0.05$); work category ($X^2 = 0.841$, $p > 0.05$) BMI ($X^2 = 0.632$, $p > 0.05$) and the three categories of Physical activity.

Presented in table 3 is the result of Mann Whitney U test of significance difference between the domains of QoL and respondents' gender. The result revealed a significant difference in all the domains of quality of life between male and female respondents (PF $p = 0.005$; PSY $p = 0.013$; SOC $p = 0.010$; ENV $p = 0.005$). Female respondents had the highest mean rank value than male respondents in all the domains of QoL. Similarly, the result shows a significant difference in the overall QoL between male and female respondents ($p = 0.002$) with female respondents having higher mean rank value than male respondents (37.26).

Comparison of QoL between respondents working in Clinical and administrative section revealed a significant difference in all domains of QoL (PF $p = 0.016$; PSY $p = 0.007$; SOC $p = 0.001$; ENV $p = 0.001$). Also, there was a significant difference in Overall QoL between workers in clinical and administration department ($p = 0.002$) with workers in administration departments having higher mean rank value than the workers in clinical department (38.61).

Table 1: Sociodemographic characteristics of the respondents

Variables	N (62)	%
Age		
21-30	15	24.2
31-40	10	16.1
41-50	24	38.6
51-60	13	20.9
Gender		
Male	25	40.3
Female	37	59.7
Marital Status		
Single	13	20.9
Married	47	75.7
Widow	1	1.6
Divorced	1	1.6
Education		
Secondary	2	3.2
OND	4	6.4
HND	9	14.5
BSc	37	59.6
MSc	9	14.5
PhD	1	1.6
Work Category		
Clinical	31	50.0
Administration	31	50.0
BMI		
Underweight	1	1.6
Normal	25	40.3
Overweight	25	40.3
Obese	11	17.7
PA Level		
Low	32	51.5
Moderate	12	19.3
High	18	28.9

Table 2: Chi Square test for Physical Activity Level by Age, Gender, Department and BMI

	Variable	Low PA (n=32)	Moderate PA (n=12)	High PA (n=18)	X ²
Age	21-30 (15)	6 (40.0%)	2 (13.3%)	7 (46.7%)	0.404 (p>0.05)
	31-40 (10)	4 (40.0%)	3 (30.0%)	3 (30.0%)	
	41-50 (24)	14 (58.3%)	6 (25.0%)	4(16.7%)	
	51-60 (13)	8(61.5%)	1 (7.7%)	4 (30.8%)	
Gender	Male (25)	11(44.0%)	5 (20.0%)	9 (36.0%)	0.554 (p>0.05)
	Female (37)	21 (56.8%)	7 (18.9%)	9 (24.3%)	
Work Category	Clinical	17(54.8%)	6 (19.4%)	8 (25.8%)	0.841 (p>0.05)
	Administrative	15 (48.4%)	6 (19.4%)	10 (32.3%)	
BMI	Underweight (1)	0 (0.0%)	0 (0.0%)	1(100.0%)	0.632 (p>0.05)
	Normal (25)	13 (52.0%)	6 (24.0%)	6 (24.0%)	
	Overweight (25)	12 (48.0%)	4 (16.0%)	9 (36.0%)	
	Obese (11)	7 (63.3%)	2 (18.2%)	2 (18.2%)	

Table 3: Mann Whitney U test of significance between Gender, Work category and QoL domains

Variable	Male (Mean rank) n =25	Female (Mean rank) n=37	Mann-Whitney U	P- value
Physical Function (PF)	23.76	36.73	269.000	0.005**
Psychological Health (PSY)	24.64	36.14	291.000	0.013**
Social Relationship (SOC)	24.40	36.30	285.000	0.010**
Environmental Health (ENV)	23.80	36.70	270.000	0.005**
Overall QoL	22.98	37.26	249.500	0.002**

	Clinical (Mean rank) n =31	Administrative (Mean rank) n =31		
Physical Function (PF)	26.06	36.94	312.000	0.016**
Psychological Health (PSY)	25.35	37.65	290.000	0.007**
Social Relationship (SOC)	23.84	39.16	243.000	0.001**
Environmental Health (ENV)	23.89	39.11	244.500	0.001**
Overall QoL	24.39	38.61	260.000	0.002**

DISCUSSION

The present study investigated healthcare workers' levels of Physical activity and their Quality of Life. The result showed that majority of the healthcare workers had low level of Physical activity. This finding is similar to the findings from previous studies that reported low level of physical activity among health workers (Makri and Pligou, 2008; Biernat *et al.*, 2012; Molina *et al.*, 2017; Maria *et al.*, 2019). Bolarinde *et al.*, (2023) observed that majority of health care worker do not participate in workplace based aerobic program aimed at increasing level of physical activity because of lack of spare time for exercise. The same view was expressed by Maria *et al.*, (2019) that reported lack of free time, long working hours and workers negligence as the main reasons for low level of physical activity among health workers. In addition, working in a hospital is usually a physically taxing job and when combined with demanding household chores, it can reduce one's willingness to engage in other Physical Activities (Harenstam, 2005; Jonsdottir *et al.*, 2011; Maria *et al.*, 2019)

Observation from the analysis of data from the present study showed no significant difference between the three categories of physical activity (low, moderate and high PA) and respondents age group, gender, work category and BMI. This finding shows that neither age nor any of the selected variables (gender, work category, BMI) have any significant effect on the level of health workers involvement in physical activity. The major determinant of participation in physical activity among health workers could therefore be the workload and time factor. This has been the researchers' observation from other previous studies (Harenstam, 2005; Jonsdottir *et al.*, 2011; Maria *et al.*, 2019; Bolarinde *et al.*, 2023). Specifically, Maria *et al.*, (2019) reported that, the main reasons preventing health workers from engaging in physical activity are: the lack of free time, the working hours. Similarly, Bolarinde *et al.*, (2023) reported lack of spare time due to work overload as the major reasons for low level of physical activity among health care workers

Studies regarding quality of life have reported differences between genders (Bisegger *et al.*, 2005; Michel *et al.*, 2009). Findings from the present study revealed a significant difference in all the domains of quality of life between male and female respondents with female health workers having higher mean rank value than the male health workers, similarly, female health care workers had a significant higher mean rank value

than the male counterpart. This finding contradicts the report of Maria *et al.*, (2019) that reported higher QoL among male health care workers. The reason for the variation could probably be due to higher proportion of female to male ratio in this study.

The comparison between QoL and working categories of health workers revealed a significant difference in all domains of QoL and overall QoL between workers in clinical department and those in administration department within the same hospital environment. The result shows that health workers in the administrative section had higher mean rank value than those in the core clinical department. The observed mean rank was highest in the social relationship and environmental domains of the QoL. This finding however contradicts the report from the study of Marial *et al.*, (2019) that work assignment did not have effects on QoL. The observation from the present study regarding working categories and QoL could therefore be attributed to the more relax mood in the administration department that is void of pressure of handling critical clinical and emergency cases that characterized the clinical department.

CONCLUSION

Engaging in regular physical activity has been shown to be beneficial in many ways however, the result from the present study shows low level of physical activity among health workers. The increase clinical workload among health workers probably contributed to low level of physical activity and QoL among health workers in core clinical departments.

Clinical Implication

Health workers are at the forefront of health care system in any nation. Significant efforts should be made by health ministry, relevant agencies and head of health institutions to reduce the workload of clinical workers through employments of more clinical staff so as to create a little more leisure time for health workers to participate in regular physical activities thereby improving their quality of life.

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