OPEN ACCESS

Journal of Advances in Sports and Physical Education
Abbreviated Key Title: J Adv Sport Phys Edu
ISSN 2616-8642 (Print) |ISSN 2617-3905 (Online)
Scholars Middle East Publishers, Dubai, United Arab Emirates
Journal homepage: https://saudijournals.com

Original Research Article

Knowledge, Attitude and Practice of Physical Activities in Post COVID 19 Lockdown among Adult Learners in South East Nigeria

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DOI: 10.36348/jaspe.2022.v05i09.001 | **Received:** 11.06.2022 | **Accepted:** 18.07.2022 | **Published:** 08.09.2022

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Abstract

Background: Reduction in physical activity, irrespective of the cause, as well as increase in the prevalence of sedentary behaviours are strongly associated with the development of some of the most serious health problems adults face such as , diabetes and cardiovascular diseases. Consequently, the World Health Organization (WHO) recommends that adults should undertake regular physical activity. Many adults lack knowledge of the physical activity recommendations. The aim of the study is to determine the knowledge, attitude and physical activity level in post Covid- 19 lockdown among adult learners in South East Nigeria. ***Methods:*** The descriptive research design was adopted for the study. Researchers' structured questionnaire on knowledge of, and attitude towards physical activities and the short form of the International Physical Activity Questionnaire (IPAQ) were used to collect data. ***Results:*** Though the adult learners possess high level of knowledge of physical activities (64.10 %), majority do not know the physical activity recommendations by the WHO, while only 58.46% showed positive attitude towards physical activities. Physical activity level of the respondents as reported through the short form of the IPAQ showed that 54.87 % are low, 26.84 % are moderate while only 18.29 % has high physical activity level. ***Conclusion:*** The adult learners had high level of knowledge of physical activity, positive attitude towards physical activity. This did not translate to high level of physical activity. Public health awareness and health talks on the benefits of physical activities and WHO physical activity guidelines and recommendations should be mounted by the institutions.

Keywords: Knowledge, Attitude, Physical Activity, Covid-19, Adult learners.

INTRODUCTION

The lockdown preceding the outbreak of the corona virus disease (COVID 19) increased sedentary lifestyle among various population groups. Sedentary behaviour has been identified as one of the major causes of many chronic diseases such as cardiovascular disease, stroke, cancer, type 2diabetes, and obesity (Ainsworth *et al*, 2018). The outbreak of COVID 19 throughout the world and the health challenges it posed led to its declaration as a pandemic by the World Health Organization in 2020. Consequently, the Nigerian government in line with global health recommendations imposed a nationwide lockdown. The lockdown involved forceful stay at home for a long period of time, which by implication led to increased physical inactivity and sedentary behaviour globally, as populations across the globe were advised to stay at home and avoid contact with individuals outside their households. According to Honey-Roses, Anguelovski and Bohigas (nd) the lockdowns and other measures that constrain travel have restricted access to gyms, parks and other venues where people can be active, thereby leading to unintended consequence of reducing physical activity (Sallis *et al*, 2021). Early studies in United States indicated a significant reduction in physical activity levels since the beginning of the pandemic (Ammar *et al*, 2020); (Duncan *et al*, 2020); (Meyer *et al*, 2020). Also, a recent cross- sectional survey of the Indian population showed that only 17% of people were engaged in moderate to vigorous physical activities daily during COVID -19 lockdown (Nilima *et al*, 2020). However, during the period of lockdown in Ireland, activities that require access to facilities such as gym and swimming as well as team-based activities declined, while participation in running

and cycling increased (Sports Ireland, 2020). A recent study in Australia found that overall physical activity levels declined by 44% (Australia Leisure Network, 2020). The study also noted changes in how people are fulfilling their active living needs, with 25% reporting that they walk daily and 30% indicating that they had tried a home based workout (Australia Leisure Network, 2020)

The prevalence of physical inactivity in Nigeria prior to the COVID 19 lockdown had been high. (Puepet *et al,* 2008) reported a prevalence of physical inactivity of about 50% among persons living in a community in Northern Nigeria. Also, (Adegoke *et al,* 2011) reported 41% inactivity among their respondents; while in a study conducted by (Adeniyi *et al,* 2015), a total of 156 representing 68.7% of the participants presented with low levels of physical activity, 48 (21.3%) presented with moderate level while 23 (10%) presented with high level of physical activity. Hence, creating further awareness of physical activity benefits is a public health priority and of utmost importance.

Physical activity is defined as any body movement produced by skeletal muscles that result in energy expenditure which increases body calorie output and also the heart rate to burn more calories in the body and maintaining physical fitness (PBRC, 2009). It encompasses all activities, at any intensity, performed during any time of day or night (Pedišić, 2014). According to the World Health Organization (WHO, 2022) physical activity refers to all movement. Popular ways to be active include walking, cycling, wheeling, sports, and active recreation and play, and can be done at any time of the day, any level of skill and for enjoyment by everybody (WHO, 2022). In the views of (Oliveira, 2012) today's technology is radically altering people's day-to-day life and how people function and think. These technologies causes people to become lazy, decrease physical activity level, and has led to eating unbalanced diet, smoking and drinking alcohol, which are becoming increasingly prevalent in both developed and developing countries (Imbellino, 2014). This shows that modern living provides many conveniences except a natural physical activity. Hence, the overall reduction in physical activity, irrespective of the cause, as well as the increase in the prevalence of sedentary behaviours are strongly associated with the development of some of the most serious health problems people have faced such as , diabetes and cardiovascular diseases (Woessner *et al,*)

Researchers have confirmed the benefits of physical activity and the consequent negative effects of inactivity for physical and mental well-being. The positive effects of physical activities are well-known. In adults, physical activity confers benefits for the following health outcomes: all-cause mortality, cardiovascular disease mortality, incident hypertension, incident type 2 diabetes, incident site-specific cancers, mental health (reduced symptoms of anxiety and depression), cognitive health and sleep and measures of adiposity may also improve (Bull *et al,* 2020). It is a modifiable risk factor that can effectively curb the growing burden of chronic diseases' (Nethan *et al,* 2017).

Physical inactivity is estimated to contribute to 2 million deaths per year worldwide (WHO, 2002). It is the most common cause of poor health and the fourth leading cause of death worldwide (World Health Organization, 2010). Physical inactivity leads to an increase in the prevalence of non-communicable diseases. Any amount of physical activity (PA) provides a significant health benefit to people of all ages and abilities (Bull *et al,* 2020). Consequently, the World Health Organization recommended reduction in the level of inactivity as a key priority intervention for preventing the increasing chronic diseases' mortality and morbidity occurring in Africa (WHO, 2005).

In view of this, the (WHO, 2020) recommends adults aged 18 to 64 years should undertake regular physical activity. This should include at least 150–300 min of moderate-intensity aerobic physical activity, or at least 75–150 min of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate-intensity and vigorous-intensity activity throughout the week for substantial health benefits. Also, adults should also do muscle-strengthening activities at moderate or greater intensity that involve all major muscle groups on 2 or more days a week, as these provide additional health benefits. The WHO further recommended that adults may increase moderate-intensity aerobic physical activity to >300 min, or do >150 min of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate- intensity and vigorous-intensity activity throughout the week for additional health benefits (when not contraindicated for those with chronic conditions). For older adults (those aged 65 years and older), the WHO recommended in addition to the above, that as part of their weekly physical activity, they should do varied multi-component physical activity that emphasizes functional balance and strength training at moderate or greater intensity on 3 or more days a week, to enhance functional capacity and to prevent falls.

Knowledge of the benefits of physical activities and its health implications are the foundations for people to engage in more physical activity. Improving and understanding the benefits of physical activities might be the first step to the establishment of healthy physical activity behaviours for regular participation in physical activity. Knowledge therefore, play significant role in motivation to participate in physical activities.

One might expect knowledge to ultimately influence attitudes toward physical activity. Subsequently, attitude can be predictive of motivation to engage in physical activity (Craeynest *et al*, 2006). Yet, it remains unclear if knowledge of the benefits of physical activity could affect motivation to engage in physical activity. If individuals are aware of the benefits, they may not know the minimum amount of physical activity to attain these benefits. How much knowledge of physical activity benefits plays a role in physical activity participation is unclear as various investigations and studies published in this field are somewhat equivocal. Thus, the aim of this study was to find answers to these questions and to make a significant contribution to the present awareness of the importance of physical activity.

Furthermore, physical activity as a form of health behavior may be explained using the social cognitive theory. Psychosocial factors such as perceived benefit, social support, self-efficacy and perceived barriers are recognized as the core features that may determine physical activity engagement (Awotidebe *et al*, 2014). This situation might not be different among adult learners in the National Open University of Nigeria.

The National Open University of Nigeria is an open and distance learning (ODL) Institution renowned for providing functional, flexible, accessible, cost effective education adequate for flourishing in the 21st Century and beyond. It is Nigeria's largest tertiary institution in terms of student numbers and is popularly referred to as 'NOUN'. By its nature as an ODL institution, NOUN does not provide lectures to students in normal classrooms except some certain study Centre's. A diverse range of students from all walks of life are attracted to the National Open University of Nigeria. Students of NOUN are required to read each study unit of the course materials, text books and read other materials which may be provided. The programmer requires students to spend a lot of time to read. Students enrolled in NOUN programmers are often unable to dedicate sufficient time to engage in physical activities due to the expectations of their academic programmers as well as other family priorities. More research is therefore needed to develop a better understanding of the knowledge, attitude towards physical activities and physical activity level among students of the NOUN, South East Nigeria.

The purpose of this study is to determine the knowledge, attitude and practice of physical activities in post Covid-19 lockdown among adult learners in South East Nigeria. Specifically, the study investigated the:

1. Knowledge of the benefits of physical activities possessed by adult learners in NOUN, South East Nigeria;
2. Attitude of adult learners in NOUN, South East Nigeria towards physical activities;
3. Physical activity level of adult learners in NOUN, South East Nigeria.

METHOD

The researchers adopted the descriptive research design in determining the knowledge, attitude towards and practice of physical activity of students of the NOUN. The study area is South East Nigeria, which comprises five states. There are five NOUN study centres namely: Awka (Abagana), Enugu, Owerri (Nekede) Abakalilki and Umudike. There are also two community study centres in Enugu State and three special study centres (in Nigerian Prisons in Enugu, Awka and Umudike). These states share similar characteristics in the areas of education, culture and economy. The population of this zone is growing rapidly and this leads to high increase of both public and private sector employees. There is therefore high demand for higher education in these states. Due to the fact that many of them are working while many others are into one private business or the other, many wish to either further their education while retaining their jobs and business or even change their initial field of study to enhance their career or acquire new skills to improve their standards of living.

Instruments for data collection included Researchers' structured instrument on knowledge of, and attitude towards physical activities and the short form of the International Physical Activity Questionnaire (IPAQ). To determine the knowledge of physical activities, frequency and percentages were used. Okafor (1997) criteria for describing level of knowledge were adopted. In this regard, a knowledge score of less than 20 per cent was considered very low level of knowledge; 21-39 per cent as low; 40-59 per cent as moderate; 60-79 per cent as high and 80 and above as very high level of knowledge.

To determine the attitude of the adult learners towards physical activities, frequency and percentages were also used. The four point Likert-type scale of strongly agreed (SA), agree (A), disagree (D) and strongly disagree (SD) were dichotomized. Responses indicating SA and A were categorized as positive attitude while responses indicating D and SD were categorized as negative attitude. The criterion for deciding a positive or a negative attitude was based on WHO (1997) international cut off point of 50 per cent. Therefore, attitudinal responses that had less than 50 per cent were deemed negative attitude towards physical activities, while those that had 50 per cent and above were concluded as being a positive attitude towards physical activities.

The short version of IPAQ (IPAQ-SF) was used in this study to assess physical activity undertaken across a comprehensive set of domains among the adult learners. IPAQ-SF asks questions on three specific types of activity undertaken in the four domains (IPAQ

Guidelines, 2005). The specific types of activities that were assessed were walking, moderate intensity activities and vigorous intensity activities. IPAQ is a generic scale and has a reliability of 0.80 and criterion validity of 0.30, which means that it is reliable, valid and of wide utility (Kurtze *et al*, 2008). The IPAQ-SF scoring protocol is such that the items in the questionnaire are structured to provide separate scores on walking, moderate intensity and vigorous intensity activities. The total score for the short form requires summation of the duration (in minutes) and the frequency (days) of walking, moderate intensity and vigorous intensity activities. Walking MET (minutes/ week) = 3.3 x walking minutes x walking days. According to IPAQ guidelines (2005) moderate MET (minutes/ week) = 4.0 x moderate intensity activity minutes x moderate intensity days, vigorous MET (minutes/week) = 8.0 x vigorous intensity activity minutes x vigorous intensity days. The guideline further stated that total physical activity MET (minutes / week) = sum of walking + moderate+ vigorous MET (minutes/ week) scores MET=metabolic equivalent Physical activity level was categorized into vigorous (with a minimum of 1500 MET minutes/week), moderate (with at least 600 MET minutes / week), and low if activity is lower than 600 MET minutes/ week (IPAQ guidelines, 2005).

The cumulative score of the participants were calculated using the IPAQ grading protocol. The participants were therefore classified as having low, moderate or high physical activity, based on this protocol. According to the protocol, individuals who performed physical activity for seven or more days a week for at least 20 minutes were considered to be "highly" active. Those who performed physical activity for five or more days for at least 20 minutes were considered to be "moderately" active; while individuals who didn't meet the above two criteria were considered to have "low" physical activity.

RESULTS

Table 1: Knowledge of the benefits of physical activities possessed by adult learners in NOUN, South East Nigeria (n = 585)

Knowledge of Physical activity	**Correct**		**Incorrect**		
Knowledge of the concept of Physical activity	**f**	**%**	**f**	**%**	**Decision**
Physical activity is any bodily movement produced by contractions of skeletal muscles	438	74.87	147	25.13	HLK
Physical activities that are safe increases breathing rate and make you sweat mildly	441	75.38	144	24.62	HLK
Physical activities includes chopping of wood, gardening and other farm work	475	81.20	110	18.80	VHL
Physical activities includes walking, running and exercising, games and sports	491	83.93	94	16.07	VHL
Cluster Total	**461**	**78.80**	**124**	**21.20**	**HLK**
Knowledge of the WHO recommendations of Physical activity for adults	**f**	**%**	**f**	**%**	**Decision**
The WHO recommends adults should do at least 150 minutes of moderate-intensity physical activity per week	116	19.83	469	80.17	VLK
75 minutes of vigorous-intensity aerobic physical activity is recommended by WHO per week	124	21.20	461	78.80	LLK
An equivalent combination of moderate- and vigorous-intensity activity can also be engaged in weekly	239	40.85	346	59.15	MLK
Cluster Total	**160**	**27.35**	**425**	**72.65**	**LLK**
Knowledge of the benefits of Physical activity	**f**	**%**	**f**	**%**	**Decision**
Regular physical activities reduces the risk of all-cause mortality	448	76.58	137	23.42	HLK
Safe physical activities reduces the risk of developing major chronic diseases	398	68.03	187	31.97	HLK
When safely done physical activities can help one in managing stress	503	85.98	82	14.02	VHL
Physical exercises helps one to reduce feeling of depression	499	85.30	86	14.70	VHL
Safe physical activities helps to prevent common muskulo-skeletal disorders	298	50.94	287	49.06	MLK
It reduces the risk of premature death	321	54.87	264	45.13	MLK
Regular physical activities can prevent psychological stress	459	78.46	126	12.54	HLK
Cluster Total	**418**	**71.45**	**167**	**28.55**	**HLK**
The overall level of knowledge	**375**	**64.10**	**210**	**35.90**	HLK

Key: VLK = **V**ery Low Level of Knowledge; LLK = Low Level of Knowledge; MLK = Moderate Level of Knowledge; HLK = High Level of Knowledge VHL = Very High Level of Knowledge.

Results in Table 1 show that adult learners in NOUN, South East Nigeria possess high level of knowledge of physical activities 375 (64.10 %). The table equally revealed that they possess high level of knowledge of the concept of physical activity and the benefits of physical activity 461 (78.80%) and 418 (71.45%) respectively. The table further showed that the adult learners possess low level of knowledge of the WHO physical activity recommendations for adults.

Table 2: Attitude of Adult learners towards Physical Activity (n = 585)

	Positive		Negative	
Attitude towards physical activity	**f**	**%**	**f**	**%**
I am not concerned about my physical activity level	236	40.34	349	59.66
I do not think or believe everyone needs to exercise	412	70.43	173	29.57
I should be engaging in physical activities to maintain a healthy lifestyle	433	74.02	152	25.98
If I need to go to places somewhere near, I choose to walk rather than taking any other mean of transportation. E.g. Going to class or café	257	43.93	328	56.07
I prefer to play with my laptop instead of engaging in physical activity after work or studies	361	61.71	224	38.29
I would engage in more physical activity if I had more time.	311	53.16	274	46.84
I hate taking part in exercises	343	58.63	242	41.37
I feel happy participating in physical exercises	426	72.82	159	27.18
I feel comfortable discussing about exercise with my peers	299	51.11	286	48.89
The overall attitude towards physical activity	**342**	**58.46**	**243**	**41.54**

Result in Table 2 indicated that 342 (58.46%) of adult learners in NOUN showed positive attitude towards physical activities, while 243 (41.54 %) indicated negative attitude towards physical activities.

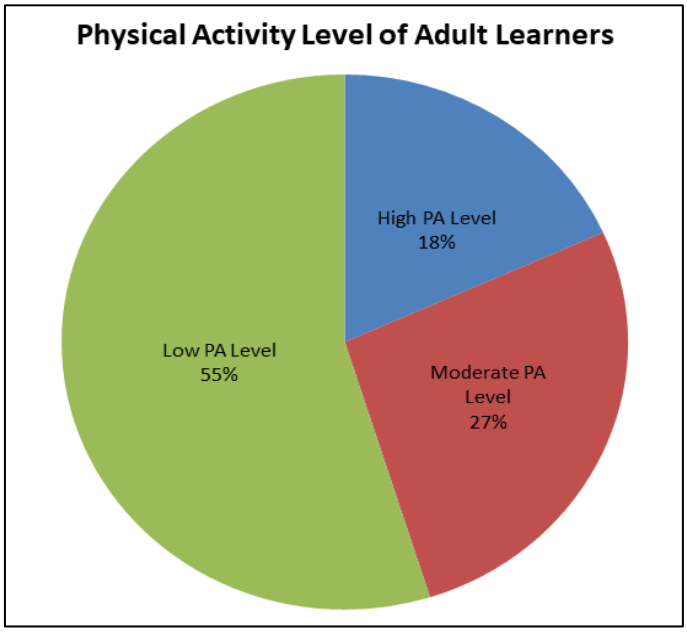

Figure 1: Physical Activity Level of Adult Learners

Figure 1 showed the result of the physical activity level of the adult learners in NOUN, South East Nigeria as reported by the respondents, through the short form of the IPAQ. The table showed that 107 (18 %) has high physical activity level, 157 (27 %) has moderate physical activity level. The table also revealed that majority of the respondents 321 (55 %) is categorized as having low physical activity level.

DISCUSSION

Results in Table 1 show that adult learners in NOUN, South East Nigeria possess high level of knowledge of physical activities 375 (64.10 %). Table 1 equally revealed that the respondents possess high level of knowledge of the concept of physical activity and the benefits of physical activity 461 (78.80%) and 418 (71.45%) respectively. This is not surprising but expected. Majority of the respondents agree that physical activities not only include walking, running and exercising, games and sports; but also chopping of wood, gardening and other farm work. Physical activity and health promotion has been a matter of concern for a lot people especially in this post Covid-19 lockdown in order to reduce sedentary lifestyle. Moreover, many

awareness programmers had been ongoing to address the consequences of physical inactivity during the lockdown. The results agree with (Ramautar *et al*, 2021), who reported that majority of participants 82.49 per cent, displayed excellent knowledge of physical activity.

The table further showed that only 160 (27.3 %) of adult learners responded correctly the WHO physical activity recommendations for adults. This implies that they possess low level of knowledge of the WHO physical activity recommendations for adults. This is not surprising because most public health awareness programmers are directed to the benefits of physical activity without indebt information on the physical recommendations as stipulated by the WHO. This finding is in line with the findings of (Jadhav *et al*, 2021) who reported that only 19 per cent of physiotherapists could give the correct answer in all three domains of WHO PA guidelines.

The results as shown in Table 2 indicated that 342 (58.46 %) of adult learners in NOUN South East Nigeria has positive attitude towards physical activity, while 243 (41.54 %) has negative attitude towards physical activity. This is most worrisome and unexpected. It is expected that knowledge of the benefits of physical activity should translate to higher number of the respondents exhibiting positive attitude towards physical activity. This finding did not concur with (Jadhav *et al*, 2021) who reported that 70 per cent of physiotherapists were found with an appropriate attitude as they met the 150 min of moderate PA per week; and (Ramautar *et al*, 2021) who found that majority of the participants in their study had a good attitude towards physical activity (n = 157; 72.35%). However, the study by (Jadhav *et al*, 2021) was conducted among Physiotherapists who are expected to display higher Knowledge, attitude and practices of physical activity due to the nature of their profession.

Findings in Figure 1 showed that majority of the respondents 321 (54.87 %) is categorized as having low physical activity level, while 157 (26.84 %) has moderate physical activity level. Only 107 (18.29%) has high physical activity level. This is not surprising because quite a number of the respondents displayed negative attitude towards physical activities not minding that majority possessed high level of knowledge of physical activities. The findings of this study did not deviate from earlier findings by scholars in Nigeria. (Puepet *et al*, 2008) reported a prevalence of physical inactivity of about 50% among persons living in a community in Northern Nigeria; while in a study conducted by (Adeniyi *et al*, 2015), a total of 156 representing 68.7% of the participants presented with low levels of physical activity, 48 (21.3%) presented with moderate level while 23 (10%) presented with high level of physical activity. This reveals that in spite of public health education on the benefits of physical activity and health promotion, the situation is yet to improve noticeably in Nigeria. The findings of this study agree with a study conducted amongst healthcare workers in Sweden, which reported that having better knowledge of the benefits of physical activity did not translate into the individuals having better practices of physical activity (Jonsdottir *et al*, 2011). This to a large extent might have been an after effect of the Covid-19 lockdown, as this has been reported by scholars globally (Nilima *et al*, 2020).

CONCLUSION

The adult learners in this study showed high level of knowledge and majority has positive attitude towards physical activity. However, this did not translate to high level of physical activity as majority of the respondents' physical activity level is low. The NOUN administration should therefore put in place appropriate strategies that would enhance the learners' physical activity level in other to improve their health. The strategies may include public health awareness campaigns, health talks, and lectures on the benefits of physical activities and WHO physical activity guidelines and recommendations.

This Research was funded by Tertiary Education Trust Fund (TETFUND) of the Nigerian government under the Institution Based Research (IBR). The fund number is: TETFUND/DR&D/CE/UNI/NSUKKA/RP/VOL.1

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