Physical Activity Awareness and Participation among Health Professionals in Selected Hospitals in Kano Metropolis, Nigeria

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Abstract

***Background**: Evaluating the level of physical activity participation and awareness among healthcare professionals is expedient as it will reveal how well health professionals know about physical activity and engage in it.* ***Purpose**: This study was aimed at evaluating the physical activity participation and awareness among health professionals in selected hospitals in Kano Metropolis, Nigeria.* ***Materials and method**: Cluster and convenient sampling techniques were used to select respondents for the study. The population that was included were health professionals from the fields of Physiotherapy, Nursing, Dentistry, Radiography, Medical Laboratory Sciences, Medicine, Surgery, Pediatrics, O&G, and Ophthalmology working in five major hospitals in Kano Metropolis. The International Physical Activity Questionnaire Short Version was used to evaluate the participation level of health professionals. The Physical Activity Awareness Questionnaire was used to assess the awareness level of physical activity among healthcare professionals. Descriptive statistics of mean and standard deviation were used to summarize the results of the study. Analysis of Variance (ANOVA) was used to determine the difference in physical activity participation and awareness across health professions and years of professional practice. The Statistical Package for Social Science (SPSS Version 20) was used for the data analysis at an alpha level of 0.05.* ***Results**: About 49.6% of the respondents had a moderate physical activity participation level, and 78.8% of them had high physical activity awareness. There was a statistically significant difference in physical activity participation across health professions.* ***Conclusion**: The majority of the health professionals reported moderate participation in physical activity and had high awareness about it.*

Keywords: *Physical Activity, Awareness, Participation, Health Professionals*

Introduction

Physical activity has been reported to add life to years with the potential of adding years to life (Kruk, 2009). Human health status improvement is directly related to an increase in physical activity (Warburton, Nicol, & Bredin, 2006); thus, physical activity is

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crucial in keeping sound heath (Iwuala*et al*, 2015).In addition, the prevention of various chronic diseases and lowering of the risk of developing premature death ensued with Physical activity (Warburton *et al*, 2006; Booth, Roberts, & Laye, 2012; Lahti, Holstila, Lahelma, & Rahkonen, 2014). It has also been shown to reduce the risk of mortality (Lahti *et al*, 2014). On the other hand, insufficient participation in Physical activity results in physical inactivity [World Health Organization (WHO), 2020) which is associated with an increased risk of mortality (Lahti *et al*, 2014), and its insufficiency has been reported to account for approximately 3.2 million yearly mortalities worldwide (WHO, 2020). Insufficient physical activity impacts negatively mental health and quality of life (Guthold, Stevens, Riley, & Bull, 2018). Furthermore, Physical inactivity is among the leading risk factors for Non-Communicable Diseases (NCDs) (WHO, 2020) and it is the primary cause of chronic disease (Booth *et al*, 2012). According to the WHO (2020) report, in Africa, NCDs are fast increasing and are likely to surpass communicable, maternal, perinatal, and nutritional diseases combined as the most frequent cause of death by 2030.

More importantly, the WHO member states target a 10% reduction in physical inactivity worldwide by the year 2025. Akarolo-Anthony and Adebamowo (2014) reported that more than 80% of professional urbanite Nigerian adults do not meet the WHO recommendation for physical activity. Elimination of Physical inactivity would ensure a reduction in certain major non-communicable diseases and increase life expectancy (Lee *et al*, 2012). The healthcare setting is an important setting for the promotion of health with many health professionals that can actively promote physical activity (WHO, 2018). Physical activity levels in the population can be improved through physical activity or exercise prescribed by healthcare professionals (WHO, 2018).

Healthcare professionals are a physically and mentally burdened group with many of them keeping away from daily physical activity owing to a lack of free time due to the peculiar nature of hospital work (Saridi *et al*, 2019). Yet, their physical activity level can be boosted by raising knowledge and awareness associated with the benefit of physical activity (Saridi *et al*, 2019). It is therefore important to explore the level of awareness and participation in physical activity among healthcare professionals. Because healthcare professionals are actively engaged in the management of patients at preventive, curative, and rehabilitation stages, they spend a significant percentage of time taking care of patients, and it is not known if despite such schedules they spare time to participate in physical activity. They have been shown to be more likely to be providers of physical activity counseling which is useful in improving patient's lifestyles and can become physical activity role models (Lobelo & Quevedo, 2016); however, it may be that some of them rarely practice exercise or are physically inactive. Such would negatively impact physical activity counseling since it has been reported by Lobelo and Quevedo (2016) that more often and confident counselling on the relevance of physical activity to the patients is more expected to be provided by physically active health professionals. Furthermore, most times, the studies done on physical activity and related parameters are centered on patients and their caregivers and rarely centered on the healthcare providers who are as well humans and an integral aspect of society.

In addition, the healthcare setting is being recognized as a suitable place for physical activity prescription (Teferei, 2020), in Nigeria, with Physiotherapists and Physicians being likely good advocates for optimisation of physical activity promotion outcomes (Oyeyemi *et al*, 2017).To what extent health professionals are aware and participate in physical activity needs to be well delineated. Moreover, health professionals differ based on discipline or specialty, and as such awareness of the physical activity as well as participation in it may vary from one profession/professional to another. Thus, it will be vital to explore such information and appreciate the differences and peculiarities that exist among health professions/professionals in order to proffer ways of improving physical activity. Also, it is vital to note that certain characteristics such as socio-demographic and or health characteristics of the health professionals may influence the physical activity awareness of the participants. This study was therefore aimed at determining the participation and awareness level of physical activity, differences in physical activity participation among healthcare professionals, and how physical activity awareness is associated with selected socio-demographic and health characteristics of the health professionals in Kano.

Methods

The study was a cross-sectional survey where a two-stage sampling technique was used in recruiting the respondents. The cluster sampling technique was first used to stratify the participants into eight clusters based on their discipline in each of the study sites, and convenience sampling was then used to select respondents from each of the eight clusters in each of the study sites. Th**ose** included in the study were health professionals from the fields of Physiotherapy, Nursing, Dentistry, Radiography, Medical Laboratory Sciences, Medicine, Obstetrics & Gynaecology, Paediatrics, Ophthalmology, and Surgery working in five major hospitals in Kano Metropolis. The hospitals include Aminu Kano Teaching Hospital (AKTH); Sir Muhammad Sunusi Specialist Hospital; Sheikh Muhammad Jiddah General Hospital; Murtala Mohammed Specialist Hospital and Muhammad Abdullahi Wase Teaching Hospital.

Data Collection Instruments

Proforma: This is a specially designed data collection sheet that was used to collect information on the socio-demographic characteristics of healthcare professionals.

The International Physical Activity Questionnaire, IPAQ-Short Version was used to evaluate the physical activity participation level of Health Professionals. The IPAQ short form asks participants about the activities undertaken in the last 7 days, including reporting the time spent in the physical activity carried out in various situations at each intensity of walking, moderate intensity, and vigorous intensity (Wolin *et alet al*, 2008). The IPAQ short form which provides information on time expended in performing waking, moderate-intensity activity, vigorous-intensity activity, and sedentary activity has been shown to have reasonable psychometric properties including validity and reliability (Craig *et al*, 2003).

The Physical Activity Awareness Questionnaire previously used in the study of Aliyu (2012) was adopted and used to assess the awareness level of physical activity among healthcare professionals. The questionnaire contains seventeen items regarding physical

activity awareness. Total scores between 0-10 were rated as low awareness, 11-22 as moderate, and 23-34 were rated as high.

Data Collection Procedure

Ethical approval from the Health Research Ethics Committee of the College of Health Sciences, Bayero University, Kano (BUK/CHS/REC/VII/16), and that of the Kano State Ministry of Health (MOH/Off/797/TI/781), was sought and obtained. Following approval, prospective respondents for the study were approached and all information related to the study was detailed including benefits and right of withdrawal from the study. Health Professionals who consented to participate signed a written informed consent form. Thereafter, study questionnaires that were self-administered were distributed to the included respondents in the study. Questionnaires were later retrieved from the respondents after completion.

Data Analysis Procedure

Descriptive statistics of frequency and percentage were used to summarize the results of the study. Analysis of Variance was used in determining the differences in physical activity participation across disciplines as well as the duration of professional practice. Chi-square was used in determining the association between physical activity awareness and selected socio-demographic and health characteristics of the participants. The Statistical Package for Social Science (SPSS Version 20) was used for the data analysis at an alpha level of 0.05.

Results

A total of 253 questionnaires were distributed to the respondents and 250 (98.81%) were completed and returned. Out of the 250 respondents, the majority 56.4% were males with most of them (65.6%) within the age range of 20-33 years. Among the respondents, medical doctors had the highest representation (19.6%) closely followed by nurses (18.4%) and physiotherapists (16.4%). Most Participants (56.8%) had 1 to 6 years of working experience. The majority of them (94%) were from tertiary and secondary hospitals (Table 1). Of the 250 respondents who responded, about 124(49.6%) reported moderate physical activity performance, and 71(28.4%) reported high performance (Table 2). In terms of physical activity awareness, 20% of the participants had moderate awareness; while about 78.8% had a high awareness level of physical activity (Table 2).

On physical activity participation level, close to half (47.82%) of Radiographers reported higher participation levels above the other health professionals, while 81.82% of the Optometrists reported moderate participation levels more than the other health professionals (Table 3). For physical activity awareness level, 92.68% of Physiotherapists reported high awareness levels than any other health professional group, closely followed by Radiographers (91.30%) (Table 3). There was a statistically significant difference ($p<0.05$) in physical activity participation levels across the health professional groups (Table 4). The difference in physical activity participation lies between Optometrists versus each Nurses and Medical Laboratory Scientists; Radiographers versus each Dentists, Medical Doctors, Optometrists, and Pharmacists.

Physical activity Participation did not significantly differ ($p>0.05$) across the duration of professional practice (Table 4).

Table 5 below shows the association between physical activity awareness with each of the health disciplines, years of working experience, age, gender, and hospital settings of the participants. The result of the study has shown no statistically significant association ($p>0.05$) between physical activity awareness and each of health disciplines χ^2 (14, N=250) =19.523, p=0.146; years of working experience χ^2 (10, N=250) =4.234, p=0.936; age χ^2 (4, N=250) =4.687, p=0.321; gender χ^2 (2, N=250) =4.336, p=0.114; and hospital settings of the participants χ^2 (8, N=250) =8.205, p=0.414.

Table 1: *Socio-Demographic Characteristics of the Respondents*

Variables		Frequency (n)	Percentage(%)
Age	20-32yrs	164	65.6
	33-46yrs	69	27.6
	47-60yrs	17	6.8
Sex	Male	141	56.4
	Female	109	43.6
Marital Status	Single	118	47.2
	Married	132	52.8
Health Professionals	Physiotherapists	41	16.4
	Nurses	46	18.4
	Dentists	28	11.2
	Radiographers	23	9.2
	Medical Laboratory Scientists	28	11.2
	Medical Doctors	49	19.6
	Optometrists	11	4.4
	Pharmacists	24	9.6
Years of Working Experience	1-6yrs	144	57.8
	7-12yrs	63	25.3
	13-18yrs	28	11.2
	19-24yrs	7	2.8
	25-30yrs	3	1.2
	31-36	4	1.6
Hospitals	SMJGH	15	6.0
	SMSSH	45	18.0
	MMSH	45	18.0
	MAWSH	50	20
	AKTH	95	38.0

SMJGH=Sheikh Mohammed Jidda General Hospital; MMSH=Murtala Muhammad Specialist Hospital; SMSSH=Sir Mohammed Sanusi Specialist Hospital; MAWTH=Muhammad Abdullahi Wase Teaching Hospital; AKTH=Aminu Kano Teaching Hospital

Table 2: *Physical Activity Participation and awareness of the respondents based on International Physical Activity Questionnaire score and PAAQ Scores respectively*

Variables	Participation level	Frequency (n)	Percentage (%)
IPAQ Scores	Low	33	13.2
	Moderate	124	49.6
	High	71	28.4
	Unsure	17	6.8
	Not Given	5	2.0
PAAQ Scores	**Awareness level**		
	Low	3	1.2
	Moderate	50	20.0
	High	197	78.8

IPAQ=International Physical Activity Questionnaire
PAAQ= Physical Activity Awareness Questionnaire

Table 3: *Respondents' Level of Physical Activity Participation and Awareness*

Health Professionals	Physical activity participation level					
	Low n(%)	Moderate n(%)	High n(%)	Unsure n(%)	Not given n(%)	Total n
Health Professionals Physiotherapists	6(14.63)	22(53.66)	12(29.27)	1(2.44)	0(0.00)	41
Nurses	5(10.87)	17(36.96)	18(39.13)	3(6.52)	3(6.52)	46
Dentists	3(10.71)	16(57.14)	7(25)	1(3.57)	1(3.57)	28
Radiographers	2(8.69)	9(39.13)	11(47.82)	1(4.34)	0(0)	23
Med Lab Scientists	3(10.71)	12(42.86)	8(28.57)	5(17.86)	0(0)	28
Medical Doctors	11(22.45)	26(53.06)	10(20.41)	1(2.04)	1(2.04)	49
Optometrist	1(9.09)	9(81.82)	0(0.00)	1(9.09)	0(0)	11
Pharmacist	2(8.33)	13(54.17)	5(20.83)	4(16.67)	0(0)	24
Total	33(13.2)	124(49.6)	71(28.4)	17(6.8)	5(2)	250

		Physical activity awareness level			
		Low n(%)	Moderate n(%)	High n(%)	Total n
Health Professionals	Physiotherapists	0(0)	3(7.3)	38(92.68)	41
	Nurses	0(0)	9(19.56)	37(80.43)	46
	Dentists	0(0)	6(21.43)	22(78.57)	28
	Radiographers	0(0)	2(8.69)	21(91.30)	23
	Med Lab Scientists	0(0)	9(32.14)	19(67.86)	28
	Medical Doctors	1(2.04)	12(24.49)	36(73.47)	49
	Optometrists	1(9.09)	2(18.18)	8(72.73)	11
	Pharmacists	1(4.17)	7(29.17)	16(66.67)	24

Total	3 (1.2)	50(20)	197(78.8)	250

Key: n=frequency, %=percentage

Table 4: *Difference in Physical Activity Participation across Disciplines and Years of Work Experience*

Variable	Sum of Squares	df	Mean Square	F-Value	P-Value
Disciplines					
PAP Between group	63601559.7	7	9085937.109	2.192	0.036*
Within group	965773961.9	233	4144952.626		
Years of Work experience					
PAP Between group	31315749.57	5	6263149.914	1.475	0.199
Within group	998059772.1	235	4247062.860		

PAP=Physical Activity Participation

Table 5: *Association between Physical Activity Awareness with Each of the Health Disciplines, Years of Working Experience, Age, Gender, and Hospital Settings Of The Participants.*

Variables	Physical activity awareness level					
Health Professionals	Low	Moderate	High	Likelihood ratio	Cramer's V	P-value
Physiotherapists	0	3	38	19.523	0.204	0.146
Nurses	0	9	37			
Dentists	0	6	22			
Radiographers	0	2	21			
Med. Lab. Scientists	0	9	19			
Medical Doctors	1	12	36			
Optometrists	1	2	8			
Pharmacists	1	7	16			
Years of working experience						
1-6 years	1	27	117	4.234	0.100	0.936
7-12 years	1	13	49			
13-18 years	1	5	22			
19-24 years	0	2	5			
25-30 years	0	1	2			
31-36 years	0	2	2			
Age of the participants						
20-32 years	1	36	121	4.687	0.096	0.321
33-46 years	2	10	62			
47-60 years	0	4	14			
Gender of the participants						
Male	3	25	113	4.336	0.114	0.114
Female	0	25	84			
Hospitals of the participants						
SMJGH	0	3	12	8.205	0.127	0.414
SMSSH	2	8	35			
MMSH	1	12	32			
MAWTH	0	10	40			
AKTH	0	17	78			

SMJGH: Sheikh Muhammad Jidda General Hospital; SMSSH: Sir Muhammad Sunusi Specialist Hospital, MMSH: Murtala Muhammad Specialist Hospital; MAWTH: Muhammad Abdullahi Wase Teaching Hospital, AKTH: Aminu Kano Teaching Hospital

Discussion

The study was aimed at evaluating the physical activity participation and awareness among healthcare professionals in selected hospitals in Kano Metropolis. The majority of the participants had a duration of professional practice ranging from 1-6 years. This in essence implies that a good number of the participants are early carrier professionals.

The result of this study revealed that moderate and high physical activity participation levels were found in the majority (over 70%) of the participants, the finding is similar to that of a South African study by Kunene and Taukobong (2015) who also reported that most of the respondents (60%) had moderate (29%) and high (31%) physical activity levels. Although the two studies were conducted in two different country settings, the similarity in their findings may not be unconnected with similarity in terms of health professionals included in the study as well as the outcome measure used in assessing the physical activity level. The findings could also be attributed to the fact that a sizable percentage of the respondents were within the age range of 20-32 years and professional practice duration of 1-6 years which both signify youth age in which individuals are expected to be more physically active. The finding is a pointer to the fact that though a sizable number of health professionals were found to be moderately or highly physically active, few of them would be required to be more physically active from their present state of low physical activity level in order to improve their health status and enable them to provide better care to their patients or clients. In addition, the findings are also in line with that of Oyeyemi, Oyeyemi, Jidda, & Babagana (2013) who found 68.6% of Nigerian adults to be sufficiently active. However, the finding is contrary to the finding of a Nigerian study by Iwuala *et al* (2015) in which the majority of healthcare professionals were observed to have low physical activity levels. The difference in the findings between the two may be attributed to the fact that the present study had a more balanced percentage representation of the healthcare professionals in the study population compared to the study of Iwuala *et al* (2015) where the study respondents were predominantly medical doctors and nurses. Another difference is that while the present study respondents were drawn from different hospitals including secondary and tertiary ones, the study by Iwuala *et al* (2015) draw participants from one teaching hospital. Another possible explanation of the difference is environment and work settings difference in the health professionals who participated in the two studies may bring about the difference in the findings.

Although the majority of the health professionals in each discipline fell in moderate or high participation levels, Radiographers reported higher participation levels and Optometrist reported more moderate participation levels. More physical activity participation levels by these professionals may likely be due to their lifestyle or personal factors influencing their participation. The study result has revealed a statistically significant difference in physical activity participation levels among health professionals. The difference in physical activity participation lies mainly between

Optometrists versus each Nurses and Medical Laboratory Scientists; Radiographers versus each Dentists, Medical Doctors, Optometrists, and Pharmacists. This finding signaled the need to determine and explore specific factors influencing physical activity participation levels in each health discipline in the future. There was no statistically significant difference in physical activity participation level across years of professional practice which implies that years of professional practice do not influence or affect physical activity participation level.

Furthermore, the majority of the respondents had high physical activity awareness which is in tandem with the findings of Bolarinde, Olagbegi, Daniel, & Akinrinbola (2015) who found a sizable percentage of respondents to be aware of the health benefits of physical activity. This implies that majority of the health professionals may be well aware of the requirements and benefits of physical activities. The high awareness level obtained could be linked to the reason why most respondents in the study were found to be of moderate and high physical activity participation levels. Though most of the health professionals in each discipline had high awareness levels, physiotherapists were found to be more highly aware of physical activity than all other health professionals. The finding on physiotherapists is not unexpected due to the fact that physiotherapists are one of the leading health experts in physical activity prescription and execution. The finding on physiotherapists is backed by the findings of Chevan and Haskvitz (2010) who found that physical therapists, their assistants, and students meet physical activity guidelines of Center for Disease Control and Prevention and American College of Sports Medicine at higher rates than the health-diagnosing professionals and US adult population. The findings on the physiotherapists could also be linked to and supported by the findings of Abaraogu, Edeonuh, & Frantz (2016) who reported that in Nigerian Physiotherapy practice, physical activity levels are evaluated with frequent provision of intervention. The result of the study has shown no statistically significant association between physical activity awareness and each of the health disciplines; years of working experience; age; gender and hospital settings of the participants. This finding implies that the selected socio-demographic variables used in this study do not have a relation with the physical activity awareness of the participants which calls for designing future studies to explore other factors that may have an association with the physical activity awareness of the participants.

The limitation of this study is the non-consideration and inclusion of certain factors such as the nature of work, work schedules, and work duration of the health professionals which could have an impact on the differences found in physical activity participation among the health professionals. It is therefore recommended that such factors and others not considered in this study should be considered in future similar studies.

Conclusion

It can be concluded that the majority of the healthcare professionals moderately participated in physical activity and had high awareness about it. Physical activity participation differed significantly across health professional disciplines, but it did not significantly differ across categories of years of professional practice. Physical activity awareness is not significantly associated with the selected socio-demographic and

health characteristics of the participants. Thus, in general, it can be deduced from the results that most health professionals in Kano engage in physical activity moderately and are highly aware of it.

References

Abaraogu, U. O., Edeonuh, J. C., & Frantz, J. (2016). Promoting physical activity and exercise in daily practice: current practices, barriers, and training needs of physiotherapists in eastern Nigeria. *Physiotherapy Canada*, *68*(1), 37-45.

Akarolo-Anthony, S. N., &Adebamowo, C. A. (2014). Prevalence and correlates of leisure-time physical activity among Nigerians. *BMC Public Health*, *14*(1), 1-8.

Aliyu F.Y (2012). *Physical activity status and awareness of health benefits of physical activity among lecturers in Bayero University, Kano* (Unpublished research project). Department of Physiotherapy, Bayero University, Kano, Kano, Nigeria.

Bolarinde,S.O., Olagbegi,O.M., Daniel,E.O.,&Akinrinbola, B. (2015). Knowledge, Attitude, and Practice of Physical Activity Among Health Professionals in A Nigerian Tertiary Health Institution. *South American Journal of Public Health*, *3*(2),

Booth, F. W., Roberts, C. K., &Laye, M. J. (2012). Lack of exercise is a major cause of chronic diseases. *Comprehensive physiology*, *2*(2), 1143..

Chevan, J., &Haskvitz, E. M. (2010). Do as I do: exercise habits of physical therapists, physical therapist assistants, and student physical therapists. *Physical therapy*, *90*(5), 726-734.

Craig, C. L., Marshall, A. L., Sjöström, M., Bauman, A. E., Booth, M. L., Ainsworth, B. E., ... & Oja, P. (2003). International physical activity questionnaire: 12-country reliability and validity. *Medicine & science in sports & exercise*, *35*(8), 1381-1395..

Guthold, R., Stevens, G. A., Riley, L. M., & Bull, F. C. (2018). Worldwide trends in insufficient physical activity from 2001 to 2016: a pooled analysis of 358 population-based surveys with 1· 9 million participants. *The lancet global health*, *6*(10), e1077-e1086.

Iwuala, S. O., Sekoni, A. O., Olamoyegun, M. A., Akanbi, M. A., Sabir, A. A., &Ayankogbe, O. O. (2015). Self-Reported Physical Activity among Health Care Professionals in South- West Nigeria. *Nigerian Journal of clinical practice*, *18*(6), 790-795.

Kunene, S. H., &Taukobong, N. P. (2015). Level of physical activity of health professionals in a district hospital in KwaZulu-Natal, South Africa. *The South African Journal of Physiotherapy*, *71*(1).

Kruk, J.(2009). Physical activity and health. *Asian Pacific Journal of Cancer Prevention*,*10*(5), 721-8.

Lahti, J., Holstila, A., Lahelma, E., &Rahkonen, O. (2014). Leisure-time physical activity and all-cause mortality. *PLoS One*, *9*(7), e101548.

Lee,I.M., Shiroma,E.J., Lobelo, F., Puska, P., Blair,S.N., &Katzmarzyk, P.T. (2012).Impact of Physical Inactivity on the World's Major Non-Communicable Diseases. *Lancet*,*380*(9838), 219-29.

Lobelo, F., & de Quevedo, I. G. (2016). The evidence is in support of physicians and health care providers as physical activity role models. *American Journal of lifestyle medicine*, *10*(1), 36-52.

Oyeyemi, A. L., Oyeyemi, A. Y., Habib, R. Y., Usman, R. B., Sunday, J. U., & Usman, Z. (2017). A survey of physicians and physiotherapists on physical activity promotion in Nigeria. *Archives of physiotherapy*, *7*(1), 1-8.

Oyeyemi, A. L., Oyeyemi, A. Y., Jidda, Z. A., &Babagana, F. (2013). Prevalence of physical activity among adults in a metropolitan Nigerian city: a cross-sectional study. *Journal of Epidemiology*, JE20120116.

Saridi, M., Filippopoulou, T., Tzitzikos, G., Sarafis, P., Souliotis, K., &Karakatsani, D. (2019). Correlating physical activity and quality of life of healthcare workers. *BMC research notes*, *12*(1), 1-6.

Teferi, G. (2020). Physical Activity Prescription among Healthcare Professionals in Hospital Setting: In the Application of the Theory of Planned Behavior. *International Journal of Science, Technology, and Society*, *8*(1), 1.

Warburton, D. E., Nicol, C. W., & Bredin, S. S. (2006). Health benefits of physical activity: the evidence. *Cmaj*, *174*(6), 801-809.

Wolin, K. Y., Heil, D. P., Askew, S., Matthews, C. E., & Bennett, G. G. (2008). Validation of the international physical activity questionnaire-short among blacks. *Journal of Physical Activity and Health*, *5*(5), 746-760.

World Health Organisation (WHO). Noncommunicable diseases and their risk factors. Retrieved_from_https://www.who.int/ncds/prevention/physical-activity/introduction/en/

World Health Organization (WHO). (2018). Promoting Physical Activity in The Health Sector Current status and success stories from the European Union Member States of the WHO European Region