



## Knowledge, Attitude and Counselling Practice of Physiotherapists in the Promotion of Leisure-Time Physical Activity among Patients in Nigerian Hospitals

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### Abstract

*Leisure-Time Physical Activity (LTPA) represents an important aspect of national and community life and is widely recognised as a major component for prevention and management of several chronic diseases. Physiotherapists (PTs), as health care practitioners, are well placed in promoting LT physically active lifestyle. The aim of this study was to investigate the association among level of knowledge, attitude and counselling practice (CP) of PTs in the promotion of LTPA among patients in some Nigerian hospitals. Three hundred and forty eight practising PTs recruited from various public and private hospitals in 22 states in Nigeria participated in this study. They completed a modified 20-item “Physical Activity Promotion in Physical Therapy” Questionnaire, which collected information on LTPA promotion in physiotherapy practice. Data obtained were analysed using descriptive and inferential statistics at an alpha level of 0.05. Results showed that thirty seven (10.6%) of the respondents had high knowledge while two hundred and six (59.2%) had good attitude in the LTPA promotion among patients. Only seventy (20.1%) of the respondents counselled more than 10 patients in the past one month on the benefit of engaging in physically active lifestyle during their leisure time. There was a significant association between attitude (confidence) of the PTs in LTPA promotion and their CP to patients ( $p = 0.02$ ). In conclusion, PTs need to include prescription of LTPA as part of regular treatment and home programme plans for their patients. The study also highlights the basis for PTs to improve their knowledge on the dosage and specific recommendation of LTPA for health benefits of their patients.*

**Keywords:** *Leisure Time; Physical Activity; Knowledge; Attitude; Counselling Practice.*

### Introduction

In spite of the well-recognised benefits of physical activity, millions of people worldwide are physically inactive (Reichert, Barros, Domingues & Hallal, 2005). More importantly, the prevalence of physical inactivity is growing (Centres for Disease Control and Prevention, 2004; Reichert, Barros, Domingues & Hallal, 2005). Physical

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activity (PA) is accepted worldwide as a public health priority (Shirley, van der Ploeg & Bauman, 2010). It is a modifiable risk factor for cardiovascular disease and a widening variety of other chronic diseases, including diabetes mellitus, cancer (colon and breast), obesity, hypertension, bone and joint diseases (osteoporosis and osteoarthritis), and depression (Warburton, Nicol & Bredin, 2006). A physically active lifestyle has been shown to significantly reduce the risk of developing cardiovascular disease, obesity, type 2 diabetes mellitus, several forms of cancer, and depression (Mathers, Vos, Stevenson & Begg, 2000; Haskell *et al.*, 2004; Bauman, 2004; Garrett, Brasure & Schmitz, 2004). Regular physical activity decreases all-cause mortality risk by 20% to 30% compared with insufficient activity (Lee & Skerrett, 2001). Most of these effects on all-cause mortality can be assigned to the positive effects of physical activity on cardiovascular disease and cancer, the leading causes of mortality and morbidity in the Western world (Shirley *et al.*, 2010).

Epidemiological studies have indicated chronic diseases of lifestyle as the leading cause of mortality in the world, representing 60% of all deaths (World Health Organisation [WHO], 2008). The burden of mortality, morbidity and disability attributable to chronic diseases is currently greatest and is continually growing in the developing countries (Frantz & Ngambare, 2013). It was estimated that by 2020, chronic diseases associated with diet and lifestyle in Sub-Saharan Africa (SSA) will constitute almost 50% of the burden of disease (Sobngwi, Mauvais-Jarvis, Vexiau, Mbanaya & Gautier, 2001; WHO, 2005). Presently, SSA is witnessing rapid epidemiological transition and plagued with high prevalence of chronic Non-Communicable Diseases (NCDs) such as obesity, hypertension, cardiovascular disease, type 2 diabetes and some cancers (BeLue, *et al.*, 2009; Awotidebe *et al.*, 2014).

The importance of LTPA for promoting health and preventing disease is well established (Garber *et al.*, 2011; WHO, 2010; Haskell, Lee, Pate, Powell, Blair & Franklin, 2007). Literature has highlighted that lack of physical activity, unhealthy diet, tobacco and alcohol use contribute in a large part to chronic diseases of lifestyle (Yach, Hawkes, Gould & Hofman, 2004). Evidence from epidemiological studies have, however, shown that participation in Leisure-Time Physical Activity (LTPA) as a form of health behaviour offers a recognisable health benefits in preventing chronic NCDs (Pate, 2002; WHO, 2010).

Physiotherapists, as health care practitioners, are ideally positioned to promote physical activity as a health promotion measure. Many patients that attend health care centres have health problems that could be prevented by a physically active lifestyle (Stubbs, Vita, van der Ploeg, Bauman & Smith, 2007). For the past decade, there has been a focus on using primary care physicians to promote physical activity. Strategies implemented by physicians have demonstrated mixed success (Marshall, Booth & Bauman, 2005) with most programmes showing modest effect only in the short term (Smith, Merom, Harris & Bauman, 2004). Many health professionals including physiotherapists take health promotion as an integral part of their role (Frantz & Ngambare, 2013). It is on this premise that health promotion and health education are currently one of the core competencies expected from the physiotherapy profession.

Physiotherapists have great potential for physical activity promotion (Verhagen & Engbers, 2009) by prescribing exercises for a wide range of conditions requiring rehabilitation. Currently, physiotherapy is not mainly a tertiary prevention discipline, but equipped with the ideal skills and potential to act in a primary prevention role (Rea, HoppMarshak, Neish & Davis, 2004). Proficiency of prescription of non-treatment physical activity programmes during consultation can best be predicted by the physiotherapist's level of confidence in applying such programmes in patient management (Rea, HoppMarshak, Neish & Davis, 2004). Although it is believed that physiotherapists should be involved in physical activity promotion, the views of individual physiotherapists about their potential role in leisure-time physical activity promotion practice or their degrees of confidence in engaging in such activities are not well known (Verhagen & Engbers, 2009). As evidence mounts worldwide that promotion of LTPA is a necessity in the 21<sup>st</sup> century (Oja, Bull, Fogelholm & Martin, 2010), there is a need for research focussing on how physiotherapists translate this evidence into clinical practice (O'Donoghue, Doody & Cusack, 2011). Hence, this study was designed to investigate the level of knowledge, attitude and counselling practice of physiotherapists towards promotion of leisure-time physical activity among patients.

## Methods

A total of three hundred and forty-eight physiotherapists (201 males and 147 females) aged 21 years and above participated in this population-based study. It involved physiotherapists working in both public and private hospitals in 22 states spread across all the geo-political zones in Nigeria. Participants were selected according to a multistage sampling strategy. An informed consent was attached to a modified 20-item "Physical Activity Promotion in Physical Therapy" Questionnaire, which was sent to all the participants which they completed and returned.

## Questionnaire design

A questionnaire titled 'Physical Activity in Physical Therapy Practice' was adopted from a previous study by Shirley *et al.* (2010). Minor amendments were made on the questionnaire to make it relevant for Leisure-Time Physical Activity. Appendix I of the questionnaire contained items 1-9 with information on the socio-demographic data of the participants, while the Appendix II covered topics on knowledge on the amount of physical activity required for health benefits in adults (4 items), perception of the role of physical therapists in physical activity promotion (2 items), confidence in promoting physical activity (3 items), and feasibility of different physical activity promotion strategies (4 items). All items were scored on a 5-point Likert scale.

The responses to the questions on knowledge, role perception, confidence, feasibility and barriers were dichotomised by combining the 2 "agree" options and combining the "neutral" with the 2 "disagree" options. The question on number of patients counselled about physical activity each month was dichotomised at 10 or more per month and fewer than 10 per month, because the division resulted in 2 groups of almost equal size and thus optimised statistical power for the analysis. Participants were also asked about

the number of patients they had encouraged in the previous month to lead a more physically active lifestyle.

### **Data analysis**

Descriptive statistics of frequency counts and percentages were used to summarise the data. Inferential statistics of Chi-square was used to determine the association of barriers, work experience, relative physical activity levels of physiotherapists, knowledge and attitude to leisure-time physical activity promotion with the number of patients counselled in a month. The results were presented using tables, histograms and pie charts. The level of significance was set at  $p < 0.05$ .

### **Results**

A total of 400 questionnaire forms were distributed and 348 copies were returned, giving a response rate of 87%. One hundred and seventy-four [174] (50.0%) of the respondents had 1 to 5 years practising experience, 17 (4.9%) had working experience of 16 to 20 years while 6 (1.7%) had worked for 20 years and above.

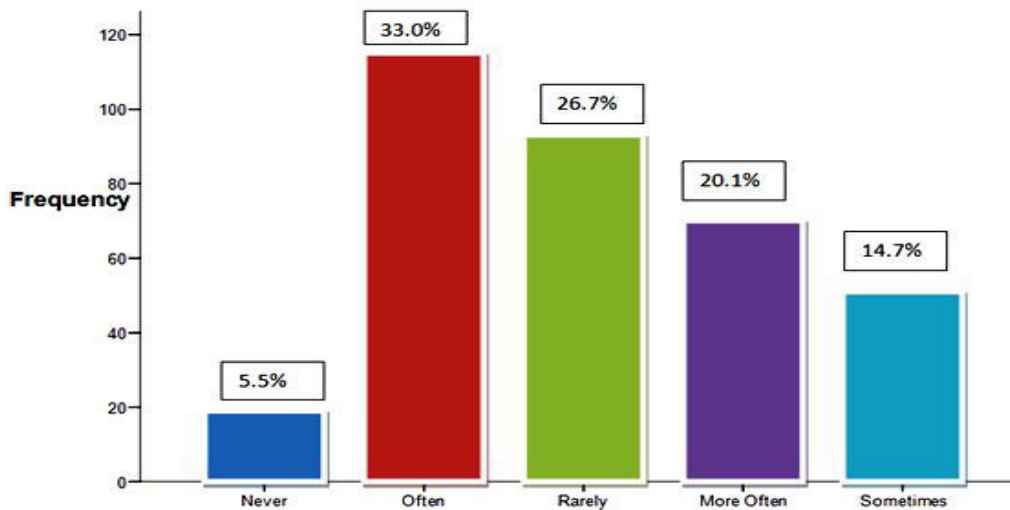
The mean number of patients seen weekly by the physiotherapists was  $20.7 \pm 12.2$  patients. Twenty-seven (7.8%) respondents treated 1 to 10 patients per week, 190 (54.6%) of the respondents treated 11 to 20 patients in a week while 15 (4.3%) of the respondents treated 40 patients and above per week. Forty-four [44] (12.6%) of the respondents worked for 21 to 30 hours per week, 197 (56.6%) worked for 31 to 40 hours per week while 12 (3.4%) them worked for 50 hours and above per week. The mean number of weekly working hours was  $36.4 \pm 12.3$  hours, 105 (30.1%) of the respondents had undergone post qualification training in physiotherapy while 243 (69.8%) of respondents had no post qualification training in physiotherapy. One hundred and eight (31.0%) of the respondents were aware of the WHO physical activity recommendation guideline while 240 (69%) of the respondents were not aware of the guideline.

Eighty-seven [87] (80.6%) of the respondents that were aware of the WHO physical activity recommendation guideline were able to state it correctly while 21 (19.4%) who were aware of the recommendation guideline were unable to state it correctly. Seventy-seven (22.1%) respondents considered themselves much more active than other Nigerians while 4 (1.1%) considered themselves as much less active as other Nigerians of the same age and gender.

Thirty-seven (10.6%) of the respondents had high knowledge while two hundred and six (59.2%) had good attitude in the Leisure-Time Physical Activity promotion among patients. Only seventy (20.1%) of the respondents counselled more than 10 patients in the past one month on the benefits of engaging in physically active lifestyle during their leisure time. The mean of the number of patients counselled within the last month by the respondents are presented graphically in Figure 1.

**Table 1:** Respondents' knowledge and attitude to leisure-time physical activity promotion

<b>Variable</b>	<b>Strongly Agreed</b>	<b>Agreed</b>	<b>Not Sure</b>	<b>Disagreed</b>	<b>Strongly Disagreed</b>
	n (%)	n (%)	n (%)	n (%)	n (%)
<b>Knowledge of physical activity message</b>					
Generally, being active each day is enough physical activity to improve health	66(19.0)	136(39.1)	41(11.8)	86(24.7)	19(5.5)
Half an hour of walking on most days is all the exercise that is needed for good health	48 (13.8)	115 (33.0)	59 (17.0)	101 (29.0)	25 (7.2)
Exercise that is good for health must make you puff and pant	23 (6.6)	88 (25.3)	69(19.8)	118(33.9)	50 (14.4)
Several short walks of 10 minutes each on most days is better than one round of golf per week for good health	67(19.3)	160(46.0)	78 (22.4)	38 (10.9)	5(1.4)
<b>Perception of role</b>					
Discussing the benefits of a Leisure-Time physically active lifestyle with patients is part of the physical therapist's role	130(37.4)	163 (46.8)	40 (11.5)	13 (3.7)	2 (0.6)
Suggesting to patients ways to increase daily LTPA is part of the physical therapist's role	127(36.5)	158 (45.4)	41 (11.8)	13 (3.7)	9 (2.6)
<b>Confidence in promoting physical activity</b>					
I feel confident in giving general advice to patients	134(38.5)	166 (47.7)	31 (8.9)	13 (3.7)	4(1.1)



**Figure 1:** *Frequency of counselling among the respondents*

Chi square analysis (Table 2) showed that there was no statistically significant association between the knowledge of respondents in leisure-time physical activity promotion and their counselling practice to patients in a month. Also, there was no significant association between attitude (role perception) of the respondents in leisure-time physical activity promotion and their counselling practice to patients in a month. There was a significant association between attitude (confidence) of the respondents in leisure-time physical activity promotion and their counselling practice to patients in a month. Physiotherapists who gave more patients leisure-time physical activity advice were more likely to feel confident in suggesting specific leisure-time physical activity programmes as depicted in Table 1.

Chi square analysis showed that there was no statistically significant association between practice of leisure-time physical activity promotion in patients' management and years of working experience of physiotherapists. Chi square analysis also showed that there was no statistically significant association between practice of leisure-time physical activity promotion in patients' management and the relative physical activity levels of physiotherapists (Table 3).

**Table 2:** Relationship between knowledge and attitude (role perception and confidence) in Leisure-time physical activity promotion and number of patients counselled in a month

Variable		Counselled <10 patients/month n=278	Counselled ≥ 10 patients/month n=70	$\chi^2$	<i>p</i>
<b>Knowledge of LTPA message</b>					
Generally being active each day is enough Physical activity to improve health	High	161(79.7)	41(20.3)	0.10	0.921
	Low	117(80.1)	29(19.9)		
Half an hour of walking on most days is all the exercise that is needed for good health	High	133(81.6)	30(18.4)	0.558	0.455
	Low	145(78.4)	40(21.6)		
Exercise that is good for health must make you puff and pant	High	83(74.8)	28(25.2)	2.649	0.104
	Low	195(82.3)	42(17.7)		
Several short walks of 10 minutes each on most days is better than one round of golf per week for good health	High	176(77.5)	51(22.5)	2.248	0.134
	Low	102(84.3)	19(15.7)		
<b>Perception of role</b>					
Discussing the benefits of a Leisure-Time physically active lifestyle with patients is part of the physical therapist's role	High	234(79.9)	59(20.1)	0.001	0.982
	Low	44(80.0)	11(20.0)		
Suggesting to patients ways to increase daily LTPA is part of the physical therapist's role	High	223(78.2)	62(21.8)	2.633	0.105
	Low	55(87.3)	8(12.7)		
<b>Confidence in promoting LTPA</b>					
I feel confident in giving general advice to patients on a physically active lifestyle	High	240(80.0)	60(20.0)	0.018	0.894
	Low	38(79.2)	10(20.8)		
I feel confident in suggesting specific LTPA programmes for my patients	High	217(76.7)	66(23.3)	9.695	0.002*
	Low	61(93.8)	4(6.2)		
Physical therapists should be physically active to act as a role model for their patients	High	225(77.6)	65(22.4)	5.723	0.017*
	Low	53(91.4)	5(8.6)		

Level of significance set at 0.05, LTPA=Leisure-Time Physical activity. \* indicates significance. Values are frequencies (percentages) unless otherwise indicated

**Table 3:** Relationship between work experience, relative physical activity levels of physiotherapists and the number of patients counselled in a month

	Counselled <10 patients/month	Counselled ≥10 patients/month	$\chi^2$	<i>p</i>
<b>Work experience (years)</b>				
1-5	143	31	8.679	0.070
6-10	79	26		
11-15	4	5		
16-20	12	5		
>20	3	3		
<b>Relative physical activity levels</b>				
Much less active	4	0	5.318	0.256
Slightly less active	20	2		
About the same	54	19		
Slightly much active	114	28		
Much more active	56	21		

Level of significance set at 0.05. *P* values are for Chi square test.

## Discussion

The main purpose of this study was to determine the knowledge, attitude and counselling practice of physiotherapists in the promotion of leisure-time physical activity among patients in some Nigerian hospitals. The study showed that whereas one third of the surveyed physiotherapists had high knowledge of leisure-time physical activity promotion, most of them counselled less than 10 patients in a month. This may imply that Nigerian physiotherapists at the moment operate mainly in the tertiary prevention capacity and that knowledge of leisure time physical activity is yet to be well circulated among them. A study conducted among physiotherapists and physicians in the Northern part of Nigeria on physical activity promotion revealed that many of the physiotherapists have knowledge deficits on the correct dosage required for better health for their patients and that many of them may require knowledge update on health enhancing physical activity for effective health promotion and primary prevention of non-communicable diseases (Oyeyemi *et al.*, 2017).

The present study revealed that there was no significant association between the attitude (role perception) of the surveyed physiotherapists in leisure-time physical activity promotion among patients and their counselling practice. This indicates that good attitude (role perception) of surveyed Nigerian physiotherapists in leisure-time physical activity promotion had no influence on their counselling practice of their patients. A study by Aweto *et al.* (2013) reported similar findings in physical activity promotion in patient management and their counselling practice where attitude of physiotherapists had no influence on their counselling practice.

A significant association was recorded between the attitude (confidence) of the surveyed physiotherapists in leisure-time physical activity promotion among patients and their counselling practice. Physiotherapists who gave more patients leisure-time physical activity advice were more likely to feel confident in suggesting specific leisure-time physical activity programmes. In addition, physiotherapists who are on



their own physically active are more likely to act as a role model for their patients which will, in turn, boost their confidence in the promotion of leisure-time physical activity in patient management. A study by Barrett, Darker and Hussey (2012) showed that physiotherapists had good attitude towards physical activity promotion which was reflected in their counselling practice as they counselled more patients compared to general practitioners (physicians) who saw LTPA promotion as being opportunistic and ad hoc services. Report of the study of Oyeyemi *et al.* (2017) has also revealed that physiotherapists and physicians in Nigeria demonstrated good disposition to promoting physical activity. Report of a study in Brazil has revealed that physicians and nurses deemed physical activity promotion and counselling as a great importance in primary health care, but the health teams would benefit from continued education programmes to improve their knowledge regarding physical activity (Florindo *et al.*, 2013). Leijon *et al.* (2008) reported that among the various health care professionals in Sweden, physiotherapists provided the highest numbers of physical activity referrals and physicians provided the lowest. This difference may be due to the fact that physiotherapists have extensive training on exercise prescription for both primary and tertiary prevention of diseases and disabilities.

There was no significant association between counselling practice of leisure-time physical activity promotion among patients and years of working experience of respondents suggesting that respondents' years of experience do not have influence on their counselling practice. There was also no significant association between counselling practice of leisure-time physical activity promotion among patients and relative physical activity level of respondents indicating that physiotherapists' level of physical activity does not, in any way, influence their counselling practice in the promotion of leisure-time physical activity among patients. The authors do not have direct literature to either buttress or argue this observation.

The present study revealed that only 31% of respondents were aware of the World Health Organization's recommendation guidelines on physical activity level. This observation is in tandem with the findings of other studies which have recorded low levels of knowledge of WHO recommendation guidelines on physical activity level among healthcare providers (Aweto *et al.*, 2013; Shirley *et al.*, 2010). Reports of a Nigerian study has also revealed that there is the need for knowledge update among Nigerian healthcare professionals which include physiotherapists and physicians on health enhancing physical activity for effective health promotion and primary prevention of non-communicable diseases so that they can serve as good advocates for physical activity promotion in Nigeria which is the position of Oyeyemi *et al.* (2017).

## **Conclusion**

Nigerian physiotherapists have demonstrated good attitude towards leisure-time physical activity promotion in this study. However, only a few of them have good knowledge of leisure-time physical activity promotion among patients. The results have implications in integrating brief counselling into usual treatment sessions as a way of leisure-time physical activity promotion in patient management.

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