

RESEARCH ARTICLE

Assessing the physical activity level among physical therapist

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Received: July 23, 2019; Accepted: August 07, 2019

ABSTRACT

Background: Physical activity (PA) helps to prevent the first- and second-degree prevention of chronic diseases and premature death. Hence, the survey project assesses the intensity of PA among physical therapists. The profession of a physical therapist requires more physical strength and endurance to do exercises to the patient. **Aims and Objectives:** This study aims to measure the PA level of physical therapist. **Materials and Methods:** It is a descriptive observational study, in which the physical therapists and postgraduate students in the state of Gujarat were selected for the survey study. The International PA Questionnaire (IPAQ) is accessible in public domain which was transformed into a Google form, sent by email to each participant. The participants were compulsorily required to fill their email id and age. This questionnaire was sent to 342 participants of that 106 responded. **Results:** About 30% of participants responded to the Google form of questionnaire, of which 78% of the responses were included in the study. About 65.6% of participants did vigorous PA. About 24.9% of participants did moderate PA. About 10.84% of participants did low PA. **Conclusion:** It concluded from the survey study that vigorous activity is more prevalent among physical therapist. The mean age of vigorous and moderate PA is lower than the mean age of low PA.

KEY WORDS: Physical Activity; Physical Therapist; International Physical Activity Questionnaire

INTRODUCTION

It has been identifying globally that physical inactivity is a major risk factor for mortality. It may lead to chronic diseases as well as other health issues.^[1]


Physical therapists are health-care professional, examine, and diagnose an individual with physical impairments, they help to prevent and restore their functions, pain relief, and mobility for wellness as well more active lifestyle. A physical therapist is providing care for people in a variety of settings

including hospitals, private practices, outpatient clinics, sports, and fitness facilities.^[2]

Physical activity (PA) is defined by the WHO as any bodily movement produced by skeletal muscle that requires energy expenditure, activities like undertaken while working, playing, etc.^[3]

Normal PA is without a doubt valuable in the secondary prevention of cardiovascular disease (CVD) and is effective in attenuating the risk of premature death among men and women. Many kinds of research support the importance of regular PA for the primary prevention of type 2 diabetes. Additional research is justified to reveal the best methods (e.g., resistance exercises versus aerobic training) and intensity levels of exercise.^[4]

Physical fitness is a measure of the body's ability to function effectively and efficiently or can be defined as a state of health and well-being of a person. Fitness can be maintained

Access this article online	
Website: www.njppp.com	Quick Response code 
DOI: 10.5455/njppp.2019.9.0726907082019	

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and achieved with healthy nutrition, properly structured exercise, adequate rest, and moderate to vigorous PA. PA defined as any bodily movement produced by skeletal muscle that results in energy expenditure. To accomplish an activity, it can be measured in kilojoules (kJ) or (kcal). Exercise is a division of PA that is organized, well planned, individually structured, purposeful, and repetitive and has as a final or intermediate objective the enhancement or maintenance of PA. Fitness is sets of attributes that are either health or skill related.^[5]

Physical therapy training for patient care can direct to work-related musculoskeletal disorders (WMSDs) seen in physical therapists at the workplace.^[6] The most of studies of WMSDs in physical therapists found out their prevalence in nine different body areas. The maximum annual occurrence of WMSDs was in the low back pain (LBP) (45%), followed by the wrists and hands (29.6%), upper back (28.7%), neck (24.7%), and shoulders, elbows, hips and thighs, knees, and ankles and feet (each <20%).^[7] Bork *et al.* mentioned that 25% of therapists had to change their work activities as a consequence of WMSDs, most frequently by changing techniques, work postures, or body mechanics and also had informed that specialty areas to WMSDs and found that therapists working in hospitals had a higher prevalence of LBP and ankle and foot symptoms than those working in other settings.^[7]

Regardless of having such detailed knowledge about physical activities and fitness did by physical therapist, it has been observed that many of the physical therapists do not implement in their daily patient care and living, and therefore, it is important to conduct the survey to know the PA level among the physical therapists. The objective of the study was to measure the PA level among physical therapists.

MATERIALS AND METHODS

The approval was obtained from the “Institutional Ethical Committee” of H. M. Patel Centre for Medical Care and Education, Karamsad, Anand, Gujarat, India, before initiating the study.

The descriptive observational study was conducted in the form of a survey. In that, the long form of the International PA Questionnaire (IPAQ) was transformed into Google form and link of it sent to each participant through email.

The participants included physical therapists and postgraduate students while excluding the trainee, interns, undergraduate, and retired physical therapist. The IPAQ was sent to a total of 342 participants.

Based on guidelines, data processing and analysis of the IPAQ, data which are unreasonably high were to be excluded. These data were to be considered outliers. All cases in which the sum total of walking, moderate, and vigorous time

variables was greater than 960 min should be excluded from the analysis.

Data were collected and reported with IPAQ as a continuous measure. One measure of the quantity of activity can be computed by weighting each one type of activity by its energy needs defined in metabolic equivalents (METs) to yield a score in MET-minutes. METs were multiples of the resting metabolic rate and a MET-minute is computed by multiplying the MET score of activity by the minutes performed.

There were three levels of PA proposed to classify populations, i.e., low, moderate, and high. The long form of IPAQ asked in detail about walking, moderate, and vigorous intensity of PA in each of the four domains of questionnaire.

RESULTS

The descriptive study was conducted where the data were taken from Google excel sheet and converted to Microsoft Excel sheet. The data were analyzed using the descriptive method from the present study.

The questionnaire was emailed to 342 participants of which 106 participants responded, which may be due to lack of interest or busy schedule. Of 106, 83 participants were selected for data analysis of IPAQ who having a mean age of 28.56 ± 6.48 [Table 1]. Participants in which the sum total of all walking, moderate, and vigorous intensity of PA, the time variable was greater than 960 min were excluded from the analysis of data. Just values of 10 min or more than it for activity were included in the calculation, as required to achieve health benefits.

Eighty-three participants were divided among three categories that are high, moderate, and low. Fifty-four participants of 83 which had the total PA of at least 3000 MET-minutes/week were kept under a high category. The mean \pm SD of age and total PA of those 54 participants were 27.85 ± 6.34 years and $13,835.69 \pm 20731.70$, respectively [Table 2, Figure 1].

Twenty participants of 83 had a total PA below 3000 MET-minutes/week were kept under a moderate category. The mean \pm SD of age and total PA of those 20 participants were 29.35 ± 6.79 years and 1637.8 ± 774.66 , respectively [Table 2, Figure 1].

Of 83 participants, nine had total PA below 600 MET-minutes/weeks were kept under a low category. The mean \pm SD of age and total PA of those nine participants were 31.0 ± 6.52 years and 259.89 ± 217.22 , respectively [Table 2, Figure 1].

As shown in Table 3, average of total MET for walking is 3194.64 while according to PA level of moderate and vigorous activity, mean MET is 3095.10 and 3133.74 subsequently.

Table 1: Mean age

Variable	Observation	Mean±SD
Age	83	28.56±6.48

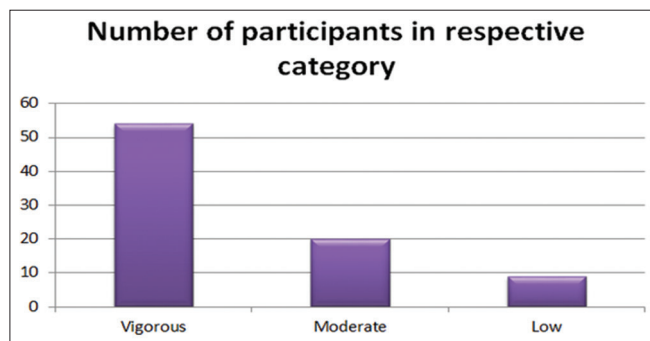
Table 2: Mean age of participants in each category

Category	Total physical activity (Mean±SD)	Age (Mean±SD)
High (n=54)	13,835.69±20731.70	27.85±6.34
Moderate (n=20)	1637.80±774.66	29.35±6.79
Low (n=9)	259.80±217.22	31.0±6.52

Table 3: MET level of physical activity of participants in each category

Variable (n=83)	Mean±SD
Total walking MET-minutes/week	3194.64±1010.91
Total moderate MET-minutes/week	3095.10±5729.62
Total vigorous MET-minutes/week	3133.74±7321.18

METs: Metabolic equivalents

**Figure 1:** Level of activity of participants

DISCUSSION

No doubt to state the number of benefits of PA doing regularly for health and wealth. PA or exercise promotion should not be done alone; it must be part of an integrated approach to augment well lifestyle behaviors. It is also essential to focus on the sedentary time that carries self-determining health risks. The easy message of “move more and sit less” is created on the basis of the strong body data.^[8]

It has been recommended that PA for an individual is 30 min/session of moderate intensity; 5 days/week to gain health benefits as well reduces the risk of secondary or chronic diseases. For example, adults aged between 18 and 64 years should do at least 150 min of moderate-intensity aerobic PA in a week or 75 min of vigorous-intensity aerobic PA in a week or a combination of forms of PA. PA can be measured using MET method, one measure of MET corresponds to the level of energy expenditure while resting quietly. Individuals engaging in light, moderate, or vigorous PA had a significantly lower risk for CVD mortality, regardless of their metabolic risk factors, whereas physical inactivity results in

a gain of abdominal and visceral fat and high risk of type 2 diabetes, regardless of age, sex, ethnicity, or body mass index.^[8,9] PA is known to be overestimated by any type of self-report. This setback seems to be the majority evident for detailed PA instruments, for not as much of intensive PA, and in populations among low absolute PA levels. The 12-country study of IPAQ found a median value of 3699 METs-minute in populations described as highly active.^[10] In our study, the median levels of PA exceeded 3133.74 METs-minute which is still lower with the comparison of available literature. Physical inactivity is a modifiable risk factor for unhealthy body weight; however, before addressing health-enhancing behaviors, understanding lifestyle practices, attitudes, and beliefs are important.^[11,12] One of the research studies done by Arzu *et al.* showed that external barrier was significantly higher than the internal barrier. Lack of time was the most important external barrier and lack of energy is the most important internal barrier.^[13] The main source of PA energy expenditure in the present study was from the work-related activity and least was from domestic and gardening. In the previous studies, the leisure time activity was the foremost element of total PA,^[14] whereas in the present work, the PA done during household and leisure time was short indicating that the therapist did not have sufficient time for these activities. Reviewing the studies conducted in the United States have consistently shown walking to be the most common leisure-time PA among adults of all ages.^[15] In the current study, walking was the most frequent type of PA. More than 3000 METs/min per week of the walking was from all the domains. The most important involvement of walking was from transport-related walking. PA may also play an important role to deal with mild to moderate mental health disease, especially depression and anxiety. In the comparison of PA in depressed and no depressed people that are a difference in PA, also increase aerobic exercise or strengthening training can reduce symptoms of depression significantly. With the comparison of meditation and relaxation, PA is equally effective to reduce anxiety symptoms and panic disorder.^[16] The limitation of our study was the questionnaire IPAQ asked question of the past 7 days which may cost recall bias. This type of study can be done in large sample size over different states of the country.

CONCLUSION

The conclusion of the study was vigorous activity that is more prevalent among physical therapist and the mean age of vigorous and moderate PA is lower than the mean age of low PA.

ACKNOWLEDGMENT

We sincerely thank our Dr. R. Harihara Prakash and Dr. Daxa Mishra for their guidance and support during the study, we would also like to thank the statistics department of our

institute to help us with the analysis of the study, and finally, we would like to extend our gratitude toward the HREC for approving our research proposal and to all the participants for contributing in our study without whom the study would not have been completed.

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How to cite this article: Mehta JN, Vaghela N, Pandya P, Sheth R, Chauhan S. Assessing the physical activity level among physical therapist. *Natl J Physiol Pharm Pharmacol* 2019;9(11):1056-1059.

Source of Support: Nil, **Conflict of Interest:** None declared.