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Evaluation of Levels of Physical Activity among Students of S. S. Agrawal Institute of Physiotherapy and Medical Care Education

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ABSTRACT

Objectives: To evaluate the levels of physical activity among the physiotherapy students of S.S. Agrawal Institute of Physiotherapy and Medical Care Education.

Methods: The Global Physical Activity Questionnaire (GPAQ) was developed by the World Health Organization (WHO) in 2002. By using it cross-sectional analysis of 130 physiotherapy students aging 18-22 years was conducted in order to assess levels of Physical Activity (PA). Informed consent was taken priorly, data was collected & analysis was done.

Results: Out of 130 students 10% subjects were having vigorous PA. 58% subjects were having moderate PA. 68% subjects were having low PA. Out of 130 subjects 47% were normal, 30% underweight, 16% over-weight & 6% were obese.

Conclusion: This result shows that 68% subjects were found to have low PA. 16% were over-weight and 6% were obese. There is need to encourage them because they are the ones who are going to provide major advice for physical activities to the patients, so they must be physically active first and it is necessary to further prevent other non-communicable diseases.

Key Words: Physical Activity, Physiotherapy Students, Physical Activity Assessment, BMI, NCDs

INTRODUCTION

We are facing a phase of continuously increasing NCDs (non-communicable diseases) associated with sedentary lifestyle and obesity which continues to persist throughout adulthood¹. Present study was conducted with the objective to measure levels physical activity among physiotherapy students by using Global Physical Activity Questionnaire (GPAQ), is an instrument for measuring the levels of physical activity done by an individual, has been a confirmed source of evaluation and analysis put forward by WHO¹. College is a time of great change for young adults. Newly found independence allows the college student to make decisions and choices by his or herself and one of the most important decisions a college student may make is how to incorporate physical activity (PA) into a busy lifestyle¹. Because students are the ones who are going to provide major

advice for physical activities to the patients, they must be physically active first. Due to overload of the curriculum there may be a chance of decreased level of physical activity. Therefore, the aim of this study is to assess the physical activity among the students of Physiotherapy College.

Benefits of Physical Activity:

- Reduces the risk of chronic disease occurrence.¹
- Obesity reduction.¹
- Enhanced cognitive function.²
- Enhanced body image and self esteem.²
- Reduce, help and manage cardiovascular disease and type-2 diabetes mellitus.³
- Building strong muscles and bones.⁴
- Prevents unhealthy weight gain.^{1,2,4,6,7}

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Physical Activity Guidelines for Children and Youth:

These are recently developed guidelines which target children and youth that they should involve at least 60 min of physical activity daily and they should be encouraged to reduce time in sedentary activities and behavior and increased amount of sedentary activities may lead to increase risk of cardiovascular diseases and obesity.¹

Reasons for Physical Inactivity:

70% of young population does not have regular physical activity i.e.; 16-20 years. The most often reasons for physical inactivity may be thought as:

- Too many responsibilities at academic level³
- Lack of time³
- Lack of interest is the additional factors³.
- Obese children and adolescents are main characteristics barrier of a low PA and along with that parental influences can also determine the amount of physical activity done^{7,8}.

MATERIALS AND METHODS

The cross-sectional analysis of students of S.S. Agrawal College of physiotherapy, Navsari was done using conventional method. We selected physiotherapy students to check their level of physical activity from 130 samples in which 113 subjects were females and 17 subjects were male of age 18 to 22 years. For this investigation we moved toward the participants exclusively just as in gatherings, earlier consent was taken and intention of study was explained. According to that demographic data was collected on the basis of which BMI was calculated and after that GPAQ was explained and filled by students.

Global Physical Activity Questionnaire (GPAQ)

WHO developed GPAQ for assessing physical activity in countries around the world. It was mainly developed to be used in developing countries it checks physical activities in different domains like work, transportation, recreation and amount of time spent in sedentary activities. According to questionnaire from the total of 130 subjects each one was asked individually each question and then metabolic equivalent (MET) was calculated in min/week.⁹ Table 1 shows classification of levels of physical activity in GPAQ¹. Total physical activity MET-minutes/week (= the sum of the total MET minutes of activity computed for each setting).

Equation: Total Physical Activity = [(P2 * P3 * 8) + (P5 * P6 * 4) + (P8 * P9 * 4) + (P11 * P12 * 8) + (P14 * P15 * 4)]¹

Statistical Method

The data were calculated using SPSS 24.0 version.

Data was presented as mean; standard deviation (SD) describes the demographic data of the subjects. Frequency and percentage were calculated for levels of physical activity and categories of BMI.

RESULTS

Out of 130 students 52.3% were having low PA, 40% moderate PA, 7.6% high PA. Out of 130 students 30% were underweight, 47% were normal 16% were over-weight & 6 % were obese.

DISCUSSION

The study was conducted among Physiotherapy students of S. S. Agrawal Institute of Physiotherapy & Medical Care Education, Navsari. By using GPAQ scoring for calculating physical activity across the domains of work, transport & recreational, out of sample size of 130 subjects, 68 (52.3%) subjects were found to have low physical activity, 52 (40%) subjects were having moderate physical activity, 10 (7.6%) subjects were having vigorous physical activity.

Out of 130 subjects, 39 (30%) subjects were found to have underweight, 62 (47%) subjects were found to have normal BMI, 21 (16%) subjects were overweight & 8 (6%) subjects were obese. In one of the studies which compared physical activity level in hostellers & day schoolers, hostellers had significantly lesser physical activity than day schooler in transport & recreational domain ($p < 0.001$). So adequate facilities should be available to the one living in hostellers.¹

In this study, barriers for low physical activity in 52.3% subjects can be due to college workload, lack of motivation, lack of sleep, no exercise partner, inactive social background, lack of place to exercise, lack of knowledge about how to exercise or workout, embarrassed to exercise with others, do not enjoy exercising, current health problems, lack of time to exercise, etc. This leads to physical inactivity & increases the risk for non communicable diseases like; cardiovascular diseases, stroke, hypertension, diabetes mellitus, obesity, back pain, osteoporosis, cancer, stress, depression, Alzheimer's disease, dementia, etc¹⁰.

To avoid the barriers, educate the students about the benefits of exercising, i.e., vigorous physical activities are more beneficial for improving health, improving appearance, maintain healthy weight, improve endurance, improve strength, increase energy expenditure, reduces stress, increase self esteem, loses extra calories, etc. Also educate students for multiple forms of exercise so due to that there will be increase in positive social norms. Physical activity for students, i.e., atleast 60 minutes of moderate to vigorous physical activity a day.¹⁰

Adapting sedentary lifestyle in early years of life make the person lazy & inactive in their adulthood. This leads to risk of severely life threatening diseases in their future life. To prevent this, awareness programs & encouragement related to physical activity need to be undertaken by the students such as, including; sports, athletics, aerobics or yoga. And all these measures should be regarded as an investment not as a burden.¹¹ Apart from that knowledge about daily physical activity habit has been suggested for that pamphlets, posters, group discussion, etc.

It was found in study, that males were more likely to be engaged in physical activity than the females. Females should be educated regarding importance & benefits of physical activity. They should be given multiple opportunities to participate in every programs & event on campus.

Above all, parents & peer involvement in physical activity has greater influence on students, which leads to higher physical activity. Thus social support is an important factor in determining the level of physical activity¹². In college, targeting peers may be a primary strategy to increase activity among students & parents. Parents can be a good supporter in encouraging their children to exercise.

CONCLUSION

From the above study, we concluded that 52.3% (68) subjects were doing low physical activity, 40% (52) subjects were doing moderate physical activity & 7.6% (10) subjects were doing vigorous physical activity. It was also found that, 30% (39) were underweight, 47% (62) subjects were having normal BMI, 16% (21) subjects were overweight & 6% (8) subjects were obese. Thus, lack of adequate physical activity increase the risk for non communicable disease (NCDs) & it is an easy, cheap & effective way to avoid health diseases.

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Table 1: Classification showing levels of physical activity in GPAQ'

DOMAIN	MET* VALUE
Work	Moderate MET value = 4.0 Vigorous MET value = 8.0
Transport	Cycling and walking MET value = 4.0
Recreation	Moderate MET value = 4.0 Vigorous MET value = 8.0

*The Metabolic Equivalent (MET): The amount of oxygen required per minute under quite resting conditions, equal to 3.5ML of oxygen consumed per kilogram of body weight per minute¹³.

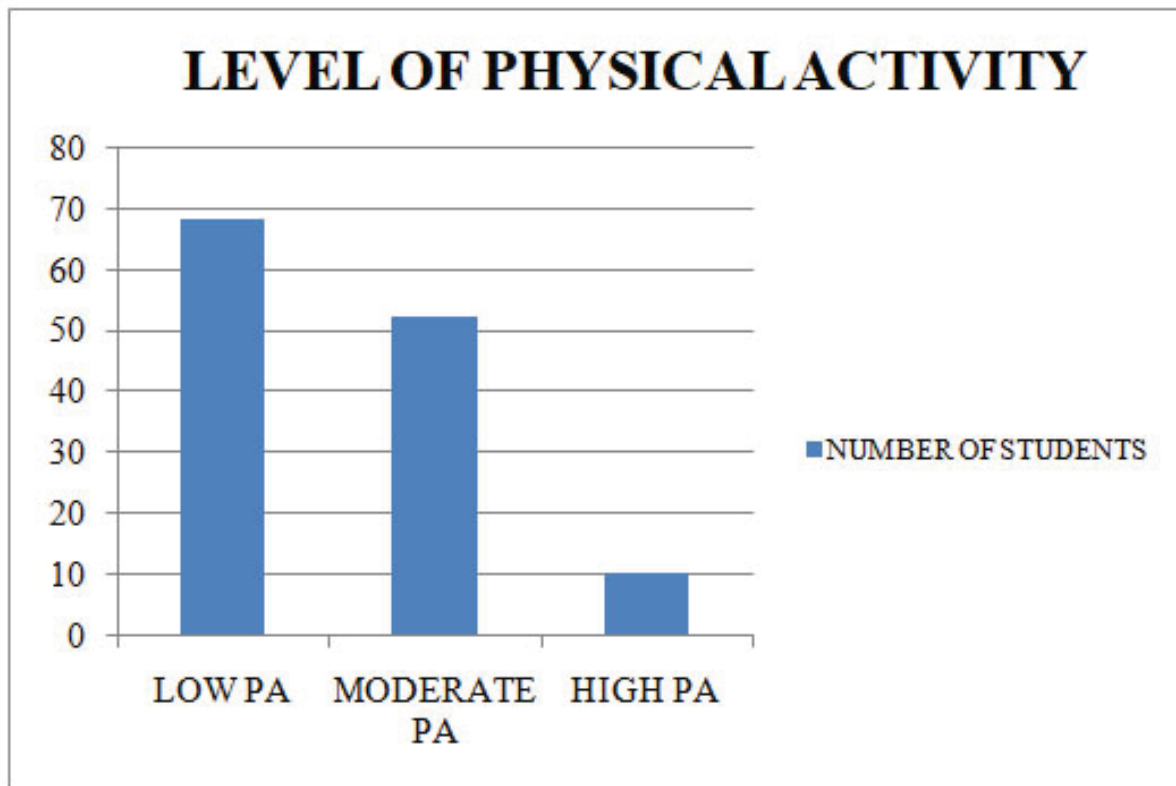


Figure 1: Levels of Physical Activity of Students in Percentage.