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A prevalence study of physical activity levels among college going students of Lucknow

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Abstract

Objective: Our paper aims at describing the physical activity levels among college going students of Lucknow.

Methods: The study was conducted at Kalicharan PG College, University of Lucknow in Uttar Pradesh. A sample of 60 students was drawn using purposive sampling. Data were collected based on the "short form IPAQ questionnaire. Data analysis was performed in accordance with the recommendations of the international physical activity questionnaire (IPAQ-SF) toolkit.

Results: A sum of 60 humanities students took part in the study. The age range of participants was 17 to 24 years. In fact finding (20%) Humanities students were considered Sedentary (category-I), 56.56% were found low active (category-II), 23.33% participant were fall under moderate active (category-III), 8.33% participants were fall under Active (category-IV), 6.66% and rest of 5% participants were found in high active (category-V).

Conclusions: The study shows that this is worth considering some participants do not achieve the recommended level of physical activity, which indicates tightness concern for public health. The findings point to the need to promote behavior change activities physical activity in the study population.

Keywords: Physical activity, international physical activity questionnaire, sedentary and humanities students etc.

Introduction

The term "physical activity" refers to any type of movement that requires the use of skeletal muscles and requires energy expenditure. The World Health Organization (WHO) recommends that to achieve health benefits, people aged 18 to 64 should engage in at least 150 minutes of moderate-to-vigorous exercise and 2 days of muscle-strengthening exercise. The WHO recommendations are justified by the fact that muscles can produce continuous movement when used during routine occupational, sports, fitness, home and other activities. As a result, it has several advantages such as better social skills, excellent health, healthy body weight, and better sleep. Additionally, it may help reduce the risk of early mortality, coronary heart disease, strokes, high blood pressure, obesity and non-communicable diseases (NCDs). Physical inactivity and sedentary lifestyles are major public health problems, especially among young adults such as students who have difficulty balancing academic, professional and personal responsibilities.

Physical Activity Level in India

India faces significant challenges regarding physical activity levels among its population. According to various studies and surveys, a large proportion of Indians engage in insufficient physical activity, contributing to rising rates of non-communicable diseases (NCDs) such as diabetes, cardiovascular diseases, and obesity.

Prevalence of insufficient physical activity

A study published by the Lancet Global Health in 2018 found that approximately 34% of Indians were insufficiently active, meaning they did not meet the recommended levels of physical activity set by the World Health Organization (WHO). Urbanization, sedentary jobs, and changes in transportation habits are contributing factors.

Gender Disparities

Physical activity levels are lower among women compared to men in India. Cultural norms, safety concerns, and household responsibilities often limit women's opportunities for physical activity.

Age and Activity Levels

Physical activity tends to decrease with age in India, with older adults being particularly inactive. This trend poses health risks, especially given the aging population.

Government Initiatives

The Indian government has recognized the need to promote physical activity as part of its broader health strategy. Programs like "Fit India Movement" aim to encourage more active lifestyles across the country.

Impact of physical inactivity

The lack of physical activity is linked to a higher incidence of NCDs. India's healthcare system is under strain due to the rising burden of these diseases, which are exacerbated by inactive lifestyles.

Trends in physical activity

It would be important to understand the trends in physical activity reported in India and elsewhere. A study conducted by the Indian Council of Medical Research examined physical activity patterns among adults across India. The study found that of the 14,227 people surveyed, 54.4% (N=7,740) were inactive, 31.9% (N=4,538) were active, and 13.7% (N=1,949) were very active. This trend is of concern because the proportion of the inactive population appears to be very significant. There are several studies that show that falling levels of physical activity among young people are a cause for concern in many countries. Physical activity patterns among university students have attracted some attention worldwide in recent years. A study of European university students from 13 countries examined trends in smoking, diet, exercise, and attitudes to health. The study compared trends between the results of two surveys conducted in 1990 and 2000 and suggested that the differences in health behaviors, beliefs, and risk awareness were disappointing. In another study, 259 medical students aged 18-22 were surveyed using the International Physical Activity Questionnaire (IPAQ) in Bangalore. The study found that 41.3% were high in physical activity, 43.2% were moderate in physical activity, and 15.4% were low in physical activity, respectively.

Objectives of the Study

The primary objective of the study was to understand the proportion of students at Kalicharan PG College, who fall under different categories of physical activity (i.e., Sedentary, low active, Moderate active, Active and high active). Throughout the study, we aimed to understand the differences in the physical activity profiles with respect to age and gender.

Methodology

Study Design and Sampling

This survey study was planned and conducted at a Kalicharan

PG College, Lucknow in Uttar Pradesh. All the participants were UG students from humanities group. The sample size 60 (male and female) participants selected for this study using random sampling. The age ranged between 17-24 years.

Data Collection in the Study

The data collection was performed on the "IPAQ-Short form", which serves as a common tool that can be used to obtain internationally comparable data on health-related physical activity, using a self-administered offline form. A hard copy of questionnaire was given to selected students and they were asked to fill out responses, no deadline was set for responding questions included in the questionnaire. All participants were asked to honestly complete the forms by choosing the best option describing their level of physical activity in relation to each of the three questions on the IPAQ-SF. Data were collected according to direction method.

Data Analysis

The data analysis to evaluate physical activity patterns was carried out according to the data processing rules of the IPAQ. The major steps involved in this process were data cleaning, excluding the outliers based on the maximum values allowed; this ensured receiving minimum values for the duration of the reported activity; truncation of data; calculating MET minutes per week scores for walking, moderate-intensity; and vigorous-intensity activities; as well as calculating the Total Physical Activity Scores. All these steps were followed per the guidelines of the IPAQ. The final step was to classify the entire sample into categorical data in terms of (1) Sedentary-when score is less than 15 (2) low active-when score is between 15-24 (3) Moderate Active - when score is 25-40 (4) Active- When score is 41-60 (5) High active - when score is more than 60. For analysis of collected data researcher used Mean, Standard Deviation. Percentage and t-test was applied for testing the hypothesis at 0.05 level of significance.

Results

Table 1: Distribution of participants based on their gender, and age groups.

Variables	Total N=60	Sedentary	Low active	Moderate active	Active	High active
	60	34	14	05	04	03
Age in years						
17-20	45	26	09	05	04	01
21-24	15	08	05	00	00	02
Gender						
Male	37	20	10	02	02	03
Female	23	14	04	03	02	00

Table 1 represent the overall distribution of subjects into Sedentary Low active, Moderate Active, Active, High Active of gender wise and age wise. The participation of male are much better than female participants. Similarly, age group of 17-20 has much better than age group 21-24. We can see that the most number of participants lie under the sedentary level of physical activity index.

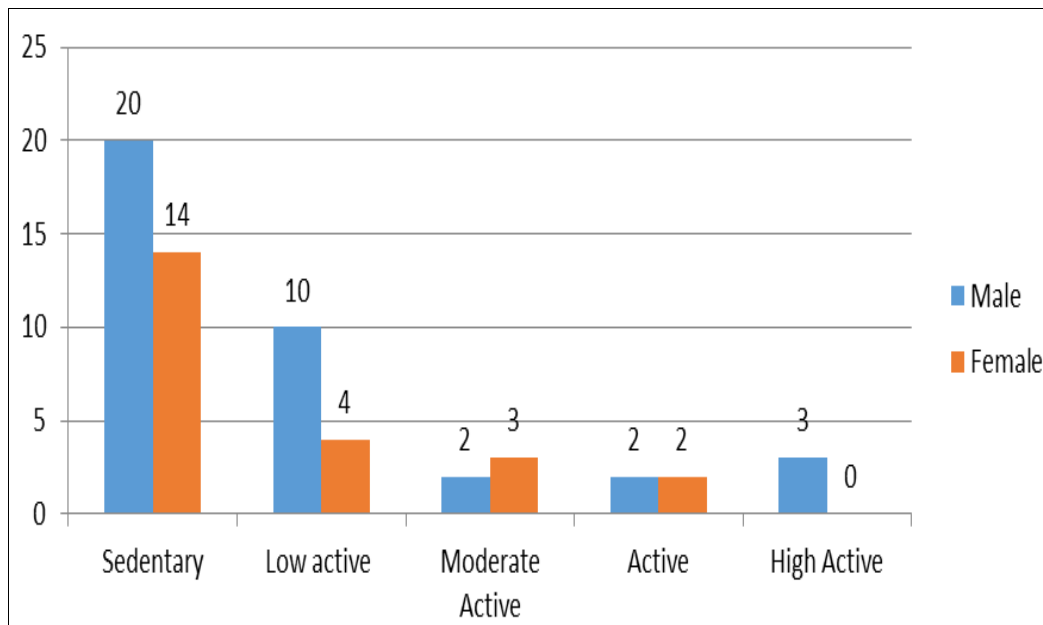


Fig 1: Graphical Presentation of Physical Activity Index status of Male and Female Students of Lucknow University.

Table 2: Show the descriptive statistics of age and gender of physical activity index of Lucknow University Students.

Variables	N=60	Mean	SD	P-Value
Male	37	1.32	0.47	0.001
Female	23	1.13	0.34	
17-20	45	1.44	0.50	0.001
21-24	15	1.20	0.41	

Table 2, shows the mean and standard deviation of male (1.32, 0.47) and female (1.13, 0.34) of physical activity index and mean and standard deviation of age group 17-20 (1.44, 0.50) and 21-24 (1.20, 0.41) with same p value 0.001 for gender and age group. The calculated 't' value is 0.001, which is less than the tabulated value, so that there is no significant difference has been found at 0.05 level.

Conclusion

In our sample, we report that about 56.56% of all students fall under the "sedentary" category (33.33% among all male and 23.33% among all female students), about 23.33% of all students fall under "low active" category (16.66% among all male and 6.66% among all female students). About 8.33% of all students fall under "Moderate active" category (3.33% among all male and 5% among all female students).about 6.66% of all students fall under "Active" category (3.33% among all male and 3.33% among all female students).about 5% of all students fall under "High active" category (5% among all male and 0% among all female students).

In the comparison of physical activity index between gender and age group of the participant, researcher has found 0.001 'P' value which is less than the tabulated value. So, no significant difference has been found at 0.05 level.

In our study, we found that physical activity levels go on decreasing as the age increases (i.e., students with the lowest physical activity rates belong to higher age groups, and highly active students belong to lower age groups). Our study also suggests that physical education and other aspects of health are inadequately and heterogeneously represented in university curricula. These topics are required to be incorporated into regular curricula in all streams of higher education in Indian universities.

Our sample reported a better physical activity pattern in

comparison to the reported overall physical activity levels of the adult population of India. Our results also suggest that health-related topics are inadequately represented in many of the streams of higher education in the university.

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