

PHYSICAL ACTIVITY AND SEDENTARY BEHAVIOR OF UNDERGRADUATE STUDENTS OF LAHORE DURING COVID-19 PANDEMIC

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HIGHLIGHTS

- The current study was conducted to know the physical activity among undergraduate students during the COVID-19 pandemic. An international physical activity questionnaire was used to assess the physical activity.
- During the lockdown, approximately 57.4% had low physical activity levels, increasing their daily sitting time to 10 hours. It is the reason that has led them to adopt a sedentary lifestyle.

ABSTRACT

Background: Coronaviruses are a group of infections that cause sicknesses going from the normal virus to more extreme illnesses like severe acute respiratory syndrome and middle east respiratory syndrome. These infections were initially from creatures to individuals with COVID-19 an irresistible infection brought about by the severe intense respiratory disorder. **Objective:** To assess the physical activity and sedentary behavior of undergraduate students of Lahore during the COVID-19 lockdown.

Material and Methods: A cross-sectional study was conducted using a non-convenient sampling technique from April to Sep 2021 among 195 undergraduate students. This study was conducted and evaluated the physical activity and sedentary behavior during lockdown among undergraduate students by using the international physical activity questionnaire. The Institutional Review Board committee of The University of Lahore, Pakistan, obtained ethical approval and participants were recruited after taking their written consent. The selected

students in Lahore were undergraduate students between the ages of 18 and 35 years. Data were collected from undergraduate students of the University of Central Punjab, University of Sargodha, University of Lahore, University of Punjab and Riphah International University, Lahore. Data were analyzed by SPSS version 24.0. Frequency and percentages were calculated. **Results:** Out of 195 students 55.9% were males and 44.1% were females. The results found that 57.4% had low physical activity levels during lockdown, 30.8% had moderate and 11.8% had high physical activity levels. **Conclusion:** There is a significant reduction in physical activity in undergraduate students during the lockdown related to the COVID pandemic. Moreover, students spent 10 hours per day sitting on average.

Keywords: COVID-19, physical activity, sedentary behaviors, undergraduate students

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INTRODUCTION

Coronaviruses are a group of infections that cause sicknesses from the typical virus to more extreme illnesses like severe acute respiratory syndrome

(SARS) and middle east respiratory syndrome (MERS). These infections were initially from creatures to individuals.¹ Coronavirus illness (COVID-19) is an irresistible infection brought about by a severe intense respiratory disorder. Coronavirus was first recognized in December 2019 in Wuhan.^{2,3} Recently, the quantity of positive COVID-19 cases in Pakistan is rising indeed, which has constrained the public authority to build limitations and force a savvy lockdown in different urban areas of the nation, including Islamabad, Lahore, and Karachi precisely in a similar way when the episode was at the top in the first wave.⁴

Different health specialists have prompted general society to diminish voyaging and stay at home as a fundamental method for restricting individuals' openness to the infection as the infection transmission is kept on growing out of control. Our administration has carried out a few alleviating measures, for example, travel boycotts, closing more huge enterprises and organizations, fundamental products at the doorsteps, and working from home for representatives.⁵ The COVID-19 pandemic has likely influenced individuals' typical physical work in 2020 and stationary levels for two reasons—a functional and sedentary.⁶

A study conducted by Tyug Tan in 2021 found that people during the time of lockdown became so sedentary that they gain an average of 5 kg of weight because of physical inactivity.⁷ Regarding students, the degree of information about the sickness and the way of life embraced by the students' all-inclusive community during the current pandemic has not been researched until now. It is important to examine the parts of information and its inevitable outcomes on the way of life practices to fill this hole. The study aimed to evaluate the physical activity and sedentary behaviors of undergraduate students of the University of Lahore, during the covid-19 lockdown.

MATERIAL AND METHODS

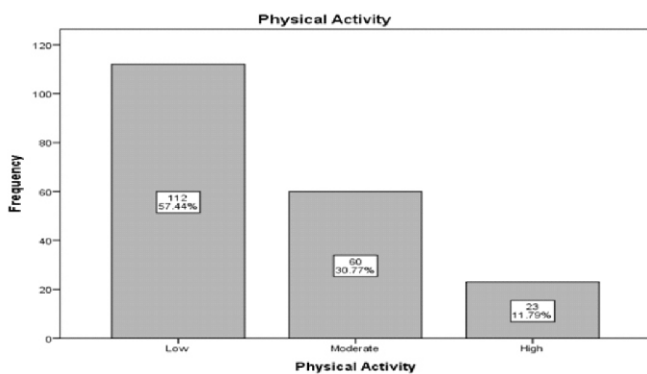
A cross-sectional study was conducted using a non-convenient sampling technique from April to Sep 2021 among 195 undergraduate students.⁹ This study was conducted and evaluated the physical activity and sedentary behavior during lockdown among undergraduate students by using the international physical activity questionnaire (IPAQ) which is a validated tool for assessing physical activity. Several studies have been conducted to test its validity and reliability, with positive results.¹⁰ The questionnaire was distributed to participants who were willing to participate in the research and who full filled the criteria. The institution reviewing committee of The University of Lahore, Pakistan, obtained ethical approval, and participants were recruited with informed consent. The selected students in Lahore were undergraduate students between the ages of 18 and 35 years. Data were collected from undergraduate students of the University of Central Punjab, University of Sargodha, University of Lahore, University of Punjab and Riphah International University, Lahore. Data were analyzed by SPSS version 24.0. Frequency and percentages were calculated.

RESULTS

Out of 195 undergraduate students, 109(55.9%) were males and 86(44.1%) were females, 73(37.4%) had age group 20-22 years, 103(52.8%) had 23-24 years while only 9.7 percent had age group 25 years and above, 154(79%) of them had normal weight, 14(7.2%) were overweight and 16(8.2%) were obese. Department of 49.7 percent participants was from physical therapy, 7.2 percent were from civil engineering, 1.5 percent from law, 7.2% from business department, 14.4% from pharmacy and only 4.1 percent from diet and nutrition. The semester of 2.1 percent was 1-3, 27.7 from 4-6 and 70.3% from semesters 7-10 (Table I). Physical activity of 112(57.4%) was low during the lockdown, 60(30.8%) had moderate and 23(11.8%) had high physical activity levels during the pandemic (Figure I).

Table I: Physical Activity and Sedentary Behavior among Undergraduate Students

Variables	Mean Standard Deviation
MET minutes per week for vigorous physical activity	412.31 ± 12.69
MET minutes per week for moderate physical activity	168.92 ± 61.14
MET minutes per week for walking	730.49 ± 9.8
Total MET per week	1311.75 ± 22.77
Time spent sitting	10.04 ± 4.42

**Figure I: Physical Activity Level among Undergraduate Students**

DISCUSSION

The purpose of this study was to evaluate the physical activity levels and the sedentary time of undergraduate students of Lahore assumed during COVID-19 lockdown. Due to the lockdown, there is a significant reduction in the physical activity of students as people spent their most of time sitting. Same outcomes were found in research conveyed in 2020, which inferred that decrease in actual work among Italian students during home imprisonment in light of the

pandemic. Advancing dynamic ways of life during the non-pandemic sum may have had beneficial outcomes.¹¹

The current study depicted that 55.41 percent were males who showed greater participation. It showed that 57.4 participants with low levels of physical activity and adverse consequences of home restriction on physical activity, bringing about a huge decline in days, minutes/day, and energy consumption (metabolic equivalent task units each week) for three types of actual work (lively force, moderate power and strolling movement) during the pre-home imprisonment conditions. The same results were seen in research carried out in 2021 which concluded a very low level of physical activity during lockdown.⁸ This study showed that students spend a lot of their time sitting on average 10.04 hours per day which shows their sedentary time. The same results were seen in research carried out in 2020 which concluded that people were physically inactive and adopted a sedentary behavior.¹² During lockdown students were confined to home and they had to do their all activities at home even study online which took them in a sitting position for a great time. The results were found in research carried out in 2020 which concluded that during lockdown even physically active students were mainly 'high sitting. The sitting time of students was on average ten hours per day.¹³

Betrtrand et al 2019 carried out research that concluded that time spent in moderate to vigorous physical activity during the pandemic was attenuated. The time spent in sedentary activities increased.¹⁴ Sanaudo et al carried out research in 2020 that concluded that participants engaged low time in physical activity, spending more time sitting, engaging more time using the smartphone, and sleeping more hours.¹⁵ Similar results are seen in the current study that there is a significant reduction in physical activity of students as their metabolic equivalent tasks values showed their physical activity level very low during the lockdown and great sitting time.

Research should be done on a larger sample size. Longitudinal designs should be used. Taking into thought the significance of physical activity home containment these outcomes can be of significance to sort out and strategies when dealing with issues like a pandemic and lockdown.

CONCLUSION

The findings of this study concluded that there is a significant reduction of physical activity in undergraduate students of Lahore during the lockdown related to the pandemic. Moreover, students spent, on average, 10.04 hours per day in sitting sedentary behavior.

DECLARATIONS

Consent to Participate:

Written consent had been taken from participants. All methods were performed following the relevant guidelines and regulations.

Availability of data and materials: Data will be available on request. The corresponding author will submit all dataset files.

Competing interests: None Funding: No funding source is involved.

Authors' contributions: All authors read and approved the final manuscript.

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