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ORIGINAL ARTICLE

Effect of COVID-19 Lockdown on the Physical Activity and Lifestyle of Medical Students of University of Lahore

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ABSTRACT

Background: COVID-19 pandemic has become a foremost health concern, many countries have ordered lockdown to stop the spread of COVID-19 due to which many Universities are closed and students are taking lectures online, Pakistan is also one of the countries in which lockdown was imposed, the aim of this study is to examine the level of physical activity and lifestyle of medical students from University of Lahore (UoL) during COVID-19.
Aim: To determine the effect of COVID-19 lockdown on the physical activity and lifestyle of medical students of University of Lahore.
Materials: Sample size included 151 medical students from the University of Lahore, study was pure cross-sectional and convenient sampling technique was used, data was collected through online questionnaire which contained question from IPAQ-SF to estimate the physical activity and lifestyle of observed University students. Data was analyzed using SPSS version 25.
Results: The results showed that from the population of 151 medical students of University of Lahore 75 students (49.7%) reported Low level of physical activity, while 44 students (29.1%) students reported Moderate level of physical activity, and 32 students (21.2%) reported high level of physical activity.
Conclusion: Majority of the medical students showed Low level of physical activity, 49.7% in the last 7 days during COVID-19 pandemic. Medical students of University of Lahore showed a decrease in their overall physical activity level.
Keywords: COVID-19, lockdown, Medical students, Physical activity

INTRODUCTION

On 11*th* March 2020, Corona virus Disease 2019 (COVID-19), which is caused by severe acute respiratory syndrome (SARS)-CoV-2, was affirmed a pandemic by the World Health Organization (WHO). COVID-19 is an acute respiratory illness which includes fever, cough, loss of taste and smell, fatigue, and a sore throat; moderate to severe cases of the disease advances to breathing problems, respiratory distress, loss of speech and movement, and also other symptoms which includes heart and kidney damage and, can sometimes cause death[1].

The pandemic of coronavirus disease 2019 (COVID-19), has become a health threat for all of the world[2,3]. It was first discovered in Wuhan city, in the Hubei Province of China, in December 2019[1]. The virus has spread globally, and is resulting in lots of COVID-19 cases and related deaths which are being recorded internationally[4].

On 13 March 2020 like all countries of the world, Pakistan also decided to close the schools and Universities throughout the country, Shafqat Mahmood decided in the National Security Council meeting with PM Imran Khan, to close all school and Universities until 5 April 2020[5]. After which several Lockdown were ordered in order to contain the virus.

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Physical activity is crucial to living a healthy lifestyle and to help in prevention of disease[6]. Physical inactivity can result in development of chronic diseases, such as hypertension, coronary heart disease, stroke, diabetes and depression[7]. Regular physical activity maintains a healthy body, reduces weight, and toughens immunity system[8,9]. Physical activity have also shown to improve Depression and mental wellbeing[10]. Sedentary behavior have shown to have various negative effects on the health of human being at all levels, and it also has a negative impact on a persons´ mental health[11,12]

WHO have recommended that persons aged between 18−64 years should participate in greater than 150 minutes of moderate intensity physical activity or should participate in 75 min of vigorous-intensity physical activity or greater per week or an equal combination of moderate and vigorous intensity physical activity[13]. Due to the lockdown which was imposed on 24 March 2020 in Punjab province[5] , The criteria which is recommended by WHO for physical activity was difficult to meet by the students of university of Lahore because all the places where the students could have gone to for physical activity were closed.

So this study is aimed to determine how much the students are physically active during the ongoing pandemic of COVID-19 by finding out the physical activity levels of students different measures can be taken to prevent unhealthy lifestyle of the University students and to promote healthy lifestyle among the University students during COVID-19 pandemic.

METHODS

After approval from institutional IRB data was collected from the sample size of 151 medical students of University of Lahore through online questionnaire which contained questions from IPAQ-SF questionnaire, study was purely cross-sectional and non-probability convenient sampling technique was used to collect the data. Data was collected from the departments of Physiotherapy (37.7%), MBBS (7.3%), BDS (6%), DDNS (17.2%), Radiology (6%), Medicine (9.9%), Optometry (9.9%), and Pharmacy (6%) from the University of Lahore. All medical students from 1−5 year both Male and Female were included in the study and those students who have disability, chronic disease or COVID-19 patients were excluded.

Data was analyzed according to IPAQ-SF scoring guidelines[14], according to guidelines concept of metabolic equivalent (MET) was used to express the total weekly physical activity level (MET-min/week). MET minutes signify the amount of energy consumed carrying out physical activity. A MET is a multiple of predictable resting energy expenditure. One MET is what is expended when a person is at rest. Therefore 2 METS is twice what a person expends at rest. The total weekly Physical activity level was evaluated according to the MET value of each category of Physical Activity (8= for vigorous intensity, 4= for moderate intensity and 3.3= for walking)[15].

To calculate the MET-min/week, MET value for each category was multiplied by the no of days the activity was carried out and again multiplied by no of minutes/day the activity was carried out. Total Physical Activity per week is calculated by adding the MET value achieved in each category. A person is considered highly active if he scores a MET-min/week of 3000 or greater, and is considered moderate if he scores a MET-min/week of 600 or greater but less than 3000, and is considered LOW if he scores a MET-min/week of less than 600.

Descriptive summaries and frequency analysis of the data was obtained by using SPSS version 25.0 for qualitative variables frequency and percentage was calculated and pie charts and bar charts was used, and for quantitative variables mean and standard deviation was calculated and Histograms was used.

RESULTS

From the sample size of 151 medical students of University of Lahore 30 (19.9%) were male and 121 (80.1%) were female with an average age of 22 years. 19 (12.6%) were underweight students, 100 (66.2%) were normal weight, 28 (18.5%) were overweight, and 4(2.6%) were obese students.

Table 1: Mean and st. deviation of no of days and duration of vigorous PA, moderate PA, and walking in last 7 days.

Questions		Days	Duration	MET Score
Vigorous PA	Mean	0.96	21.99	603.97
	St. Deviation	1.685	40.829	1489.66
Moderate PA	Mean	1.62	34.17	462.25
	St. Deviation	1.907	43.537	874.667
Walking	Mean	2.99	52.65	757.47
	St. Deviation	2.632	49.261	1026.345

Mean MET min/week obtained from 151 students is 1823.70 in the last 7 days. About 53.6% medical students reported sitting for more than 3 hours per day, 7.3% reported sitting for 23 hours, 9.9% reported sitting for 1-2 hours, 17.2% reported sitting for 30-60 min, 9.9% reported sitting for 10-30 min and 2.0% reported no sitting, this shows the sedentary behavior of medical students of University of Lahore.

Table 2: Physical activity levels of Medical students of UoL

Physical Activity Level	Frequency	%age
Low Physical Activity	75	49.7
Moderate Physical Activity	44	29.1
High Physical Activity	32	21.2

Out of 151 medical students of University of Lahore 75 students (49.7%) showed low level of physical activity, 44 students (29.1%) showed moderate level of physical activity, 32 students (21.2%) showed high level of physical activity according to scoring guidelines for IPAQ-SF.

DISCUSSION

The main purpose of this study is to determine the level of physical activity and lifestyle of medical students of University of Lahore During COVID-19 pandemic. Most of the medical students that participated in this study were from fifth year 55.0%. Students paid more time doing Moderate physical activity than Vigorous physical activity during COVID-19 pandemic, although majority of medical students reported walking in the last 7 days but the time spent on walking was less with 29.8% students walking for only 10-30 minutes.

In a study conducted by F. Luciano et al, 2020, there was an increase in Vigorous and Moderate physical activity throughout lockdown but there was significant decrease in walking time so the overall physical activity of students was reduced and they also showed high sedentary behavior by sitting for more than ten hours per day. 52% of the students were high sitting and high active meaning even students who have reported high level of activity spent more than 6 hours in sitting[16]. Similar results were found in this study regarding sedentary behavior, 53.6% students reported to have been sitting more than 3 hours even those students who have reported high level of physical activity.

Out of 151 medical students, most of the medical students reported No vigorous physical activity in the last seven days (64.9%), while other students (37.1%) reported No moderate physical activity in the last seven days so most students paid more time doing moderate physical activity than vigorous physical activity. Only 15.2% of the medical students reported No walking in the last 7 days, and those who have reported walking in the last 7 days spent less time in walking as 45 of the reported students (29.8%) walked for only 10-30 minutes, and 38 of the students (25.2%) reported walking for 30-60 minutes per day. Students spent less time in walking so the overall time students spent on walking is reduced.

Hence the result of the study was similar with most of the previous studies on the effect of COVID-19 lockdown on the physical activity of University Students who reported similar results, with physical activity decreasing in the

students and sedentary behavior increasing[16-22]. Only one study conducted by C. Romero-Blanco et al, 2020 stated an increase in physical activity, but that study also showed an increase in sitting time[23]. Medical students are already a population with high level of sedentary behavior[13], so COVID-19 preventive measures have a negative effect on the physical activity of the students.

Conflict of interest: nil

CONCLUSION

Hence, it was concluded from the results of 151 students that majority of the medical students showed Low level of physical activity 49.7%, in the last 7 days during COVID-19 pandemic. COVID-19 pandemic is causing the University students to stay at home which is reducing their daily physical activity. Medical students of University of Lahore showed a decrease in their physical activity levels, so it is recommended that the students should reduce their sitting time and engage in physical activities that require standing and walking during COVID-19 pandemic.

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