A Study to Find the Change in Quality of Sleep, Perception of Physical Activity and Mobile Phone Usage During Covid-19 Pandemic in University Going Students of India - A Cross-Sectional Observational Study

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ABSTRACT

Introduction: India is the world’s second-most populous and the second-worst affected country by COVID-19 to date (in terms of the total number of confirmed COVID-19 cases). Also, the total number of college-going students in India is around 1,135,641. Therefore, it is relevant to review how COVID-19 has affected various parameters like sleep, physical activity and mobile phone usage among students.

Aims: To find the change in the quality of sleep, perception of physical activity and mobile phone usage during COVID-19 in university going students in India.

Methodology: A brief Questionnaire was prepared to understand changes in the quality of sleep, perception of physical activity and mobile phone usage during COVID-19 in university going students in India and circulate through social media.

Result: Data obtained from all colleges was analyzed by SPSS 24.0. The Means were utilized to observe the change in the quality of sleep, perception of physical activity and mobile phone usage during COVID-19 in university going students in India. (p<0.05)

Conclusion: It can be concluded that the COVID-19 pandemic has altered the sleep pattern, decreased physical activity, increased smartphone usage for University or College going students in India.

Key Words: Mental Health, Physical Activity, Sleep pattern, Smartphone use, COVID 19 pandemic, Students

INTRODUCTION

The Corona Virus Disease 2019 (COVID-19) pandemic has posed an unprecedented challenge to the people and governments of every country in a very short period since its emergence in Wuhan, China, in December 2019.¹ The first case of COVID-19 in India was reported on 30 January 2020 in the state of Kerala who was a student and returned from Wuhan and tested positive for COVID-19, following which aggressive contact tracing followed by 14-day home quarantine for suspected cases were enforced.² The state remained on high alert. During March, cases began to be reported across India. Despite the aggressive measures taken by the Indian government to prevent and contain the epidemic, as of 17 May 2021 there were 25,228,996 active cases, 21,596,512 recovered cases and 278,751 deaths due to COVID-19.³ India is the world’s second-most populous and the second-worst affected country by COVID-19 to date (in terms of the total number of confirmed COVID-19 cases). Also, the total number of college-going students in India is around 1,135,641.⁴ Therefore, it is relevant to review how COVID-19 has affected various parameters like sleep, physical activity and mobile phone usage among students.
AIMS AND OBJECTIVES

Aim:
To find the change in the quality of sleep, perception of physical activity and mobile phone usage during COVID-19 in university going students in India- a cross-sectional observational study

Objective:
1. To prepare and circulate survey questionnaire.
2. To obtain data from colleges in India regarding the survey.
3. To analyse the data obtained.

METHODOLOGY

Study Design: A Cross-sectional Observational Survey

Study Population: Students studying in College or University

Sample Size: 279 students all across the Colleges in India participated in the study

Sampling Method: Purposive Sampling

Study Setting: Faculty of Physiotherapy, Marwadi University, Rajkot.

Study Duration: April 2020 to January 2021

Method: A brief Questionnaire was prepared to understand the change in the quality of sleep, perception of physical activity and mobile phone usage during COVID-19 in university going students in India.

A total of 30 Colleges and Universities were approached in India out of which 25 Colleges responded with data.

This Questionnaire intended to know the changes in sleep pattern, perception for physical activity and change in mobile phone usage during COVID 19.

The Questionnaire was prepared in Google Forms.

The Questionnaire was forwarded to all colleges in India through social media, and consent was taken for not disclosing their data.

The data was then obtained through social media and analysed.

RESULT

Data were analysed using SPSS Version 24.0 and the p value was set to 0.05. Means were calculated as a measure of central tendency for all data obtained.

Graph 1: Age distribution of participants.
The age distribution of the data is represented in Graph 1. The Average Age of participants was 20.37 years.

Graph 2: Gender distribution of participants.
The gender distribution of data is shown in Graph 2. The male to female ratio is approximately 1:3.

Graph 3: Self-perception of change in sleep pattern reported by participants.
The self-perception question “Has your sleep pattern changed during Lockdown?” is shown in Graph 3. From the graph, it can be seen that around 80 % of participants perceived a change in their sleep patterns.
Graph 4: Difficulty in falling asleep.

Graph 4 depicts the self-perception question “Is it difficult to sleep within 30 minutes of going to bed during Lock-Down?”. From the graph, it can be observed that around 61% of participants had difficulty in falling asleep.

Graph 5: Perception of decreased physical activity.

Graph 5 depicts self-perception of decreased physical activity by participants “Do you think, less physical activity is the reason for the change (if any), in your sleep quality?”. From the graph, it can be observed that around 71 per cent of participants perceived a decrease in their physical activity.

Graph 6: Perception of increased smartphone usage

Graph 6 depicts self-perception of increase in smartphone usage “Has your average use of smartphone in a day increased?”. From the graph, it can be observed that around 41% of participants perceived an increase in smartphone use by almost double times.

Graph 7: Perception of the relation between smartphone use and sleep pattern.

Graph 7 depicts self-perception of the relation between smartphone use and sleep pattern “According to you, is the change in sleep (if any) because of increasing smartphone use?” From the graph, it can be observed that around 53% of participants perceived a change in sleep patterns due to smartphone over-use.

DISCUSSION

From the analysis of the data obtained it was observed that University or College going students faced changes in their sleep patterns, a decrease in physical activity and an increase in smartphone usage.

On an average participants responded around 7.9 hours of sleep time during covid 19 and before that to be around 7.03 hours sleep time. This depicts the change in sleep pattern alteration.

Also, as seen from Graph 4, it was difficult for the participants to fall asleep within 30 minutes, which again indicates to change in sleep pattern. This was also observed by Nicola et al. in their study which concluded that people used more digital media at their bedtime, but this did not affect their sleep habits. During the lockdown, it was observed that people often went late to bed and even woke up late, that is, spending overall more time in bed. But the quality of sleep was lower.

This is also following the study observation by Chrysi, et al. reporting Quantity of sleep increased but quality worsened.

Additionally, online learning shows a spike in India during the COVID 19 times, which directly lead to an increase in smartphone usage. This is supported by research from S. Agarwal et al. who even concluded on the importance of online teaching for such pandemic times.

An increase in social media usage can lead to addiction, which in the long term will have adverse mental health. This is supported by Dr. Nitesh who concluded in their research that many reasons have contributed to the increase in usage of social media. This can directly create a negative, self-sustaining vicious cycle of excessive unhealthy social media usage.
Physical activity also decreases during a pandemic, which was also observed by Nilima et al. who concluded in their study that physical activity and mental health both are correlated and should be given equal importance.10

Reduced physical activity has an impact on change in sleep pattern, which has been observed previously by Subhro et al. who also added that Oversleeping, stress, less physical activity and anxiety can prolong the sleeping time and postpone it to 1 AM.11

**CONCLUSION**

It can be concluded that the COVID-19 pandemic has decreased physical activity, increased smartphone usage and altered the sleep pattern for University or College going students in India.

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CHHATLANI R:

Data Collection, Methodology, Referencing, Statistical Analysis.

KAKKAD A:

Data Collection, and Discussion, Cross-referencing.

SOLANKI C:

Research Design, and Framework for the research.

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