



# Effect of The Prevalence of COVID-19 on Mental Health and Musculoskeletal Disorders Students of Meybod University

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## Abstract

**Objectives:** COVID-19 virus pandemic and quarantine implementation have different effects on students' psychological aspects and musculoskeletal disorders. This study aims to evaluate the impact of the COVID-19 virus on musculoskeletal disorders and the mental health of Meybod University students.

**Methods:** For this purpose, a random sample of 350 students of Meybod University was selected in 2021. Data were collected based on three questionnaires Nordic Musculoskeletal Disorders, Mental Health, and Corona Disease Anxiety Scale. The Logistic regression and Chi-square test.

**Results:** The results showed that the anxiety caused by the outbreak of the COVID-19 virus has a significant effect on students' mental health. The COVID-19 pandemic has also caused musculoskeletal disorders in most parts of the student body. The grade, exercise, daily sports, and the number of people infected with the virus are the variables that significantly affect organ disorders and the mental health of students in this condition.

**Conclusion:** Due to the importance of students' physical and mental health, it is necessary to plan students' classrooms properly. Also, with virus outbreaks and the need to comply with restrictions, planning for sports and simple stretching exercises can reduce disorders and increase students' vitality.

**Keywords:** Corona Disease Anxiety Scale; COVID-19 virus; Musculoskeletal Disorders; Mental Health; Logit Regression



## Extended Abstract

### Background and Objective

At the end of 2019, a new virus was released in the Chinese city of Wuhan, which was named COVID-19. Countries implemented policies such as quarantine to prevent further spread of this virus. In this situation, it is necessary to maintain people's mental health, because people may experience stressful stimuli during the spread of COVID-19. University is considered as one of the societies that, in addition to educating students, can also prepare them psychologically by creating a warm atmosphere. The continuous spread of the virus, strict quarantine measures and delays in the start of schools and universities deprive students of the existence of the university environment. Despite the closure of higher education institutions, academic activities continue and students use virtual education. Musculoskeletal disorders are defined as any damage in the muscular and nervous system. Students are among the people who are exposed to these disorders due to sitting still for a long time without moving on the chair or the floor. Considering the role of students and the importance of their health, especially in quarantine conditions, in this research, the impact of the spread of the COVID-19 virus on the mental health and musculoskeletal disorders of students is investigated.

### Materials and Methods

The statistical population of the research is the students studying at Meibod University in 1400, which is 2500 people. According to Cochran's formula and Morgan's table, the number of samples is equal to 333 people, and due to possible attrition, the desired sample number was assumed to be 380 people, who were selected by simple random from among the students of Meibod University. A two-part questionnaire was used to collect data. In the first part, demographic variables were used, and in the second part, three general health questionnaires, Nordic questionnaires and the coronavirus anxiety scale were used. The 28-question form of the general health questionnaire includes subscales of physical symptoms, anxiety and sleep disorders, social functioning disorders, and depression symptoms. The Nordic questionnaire is also used to identify 9 body parts that have pain. The Corona Virus Anxiety Scale Questionnaire was used to measure the anxiety caused by the spread of the COVID-19 disease, the final version of which has two subscales of mental and physical symptoms. After collecting information and removing incomplete questionnaires, 350 complete questionnaires were obtained. In data analysis, descriptive statistics, mean and standard deviation indicators, Logistic regression tests and Chi-square test of independence were used.

### Results

According to the results, the mean and standard deviation of the age of the students participating in this research is  $20.74 \pm 2.02$  and 57.1% were women and 42.9% were men. The results of this research showed that the psychological symptoms of virus anxiety do

not affect the musculoskeletal disorders of any of the body parts of the students, but these symptoms significantly affect the symptoms of anxiety and sleep disorder, social functioning disorder and depression in their mental health. The effect of physical symptoms caused by corona anxiety on musculoskeletal disorders of some body organs is significant. In general, the coronavirus anxiety scale has a significant effect on the musculoskeletal disorders of some organs and mental health aspects of students. The results show that the body mass index of students has a significant effect on musculoskeletal disorders of all body organs in the conditions of virus outbreak. The gender of students also has a significant effect on disorders related to some organs. Educational level is also among the variables that affect musculoskeletal disorders in neck, waist, thigh and knee organs and has a significant relationship with them. Also, the results show that the gender of students has a significant relationship with physical symptoms, symptoms of anxiety and sleep disorder, social functioning disorder and depression, which also has a significant impact on mental health.

### Discussion

The findings of this research show the significant impact of the COVID-19 virus on musculoskeletal disorders in the body parts of students. The results of the research show the existence of a significant relationship between the anxiety caused by the spread of the COVID-19 virus and the symptoms of anxiety and sleep disorder, disorder in social functioning and depression in the mental health of students, which is in line with the results of Kaav et al.'s research. The results show that female students experience disorders in their organs significantly more than male students in the conditions of the spread of the COVID-19 virus, which has also been proven in the research of Gergi et al. The educational level of students also has a significant effect on muscle discomfort in some organs, which is consistent with the results of Ansari et al.'s research. The results of the present study show that age does not have a significant effect on the musculoskeletal disorders of students, which is in line with the results of the research of Saifi et al. In this study, the level of education is known as an influencing variable on mental health and symptoms of anxiety, disorder and depression, which was also concluded in the research of Shariati et al. The results of the research show that students who do sports and exercise daily have a significantly better mental health than other students.

### Conclusion

In the present study, the effect of the COVID-19 pandemic and the anxiety caused by it on the musculoskeletal disorders and mental health of the students of Meibod University was investigated. The results show that the anxiety caused by the COVID-19 virus greatly affects the musculoskeletal disorders and mental health of students. Also, the variables of gender, level of education, well-being, exercise and daily exercises and the number of people infected with the virus in the family have a significant effect on the

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disorders of some body organs and the mental health of the studied students. Due to the importance of physical and mental health of students as well as the continuation of the epidemic of the COVID-19 virus, it is necessary to take serious and appropriate decisions in this field. By

dividing the virtual training during the week, the student's class schedules can be adjusted in such a way that, on the one hand, the classes are not focused in a specific time frame, and on the other hand, sufficient rest time is considered for the student between each class.

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