

ORIGINAL ARTICLE

Frustration Intolerance, Self-Efficacy and Sleep Quality in Medical Students During Pandemic of Covid-19SHAFQAT HUMA¹, MUHAMMAD FAHIM QASIM², MUHAMMAD ASIF KAMAL³, FATIMA AAMIR KHAN⁴, NADIA NAVEEN⁵¹Associate Professor & HOD Psychiatry and Behavioral Sciences, University College of Medicine and Dentistry, the University of Lahore²Associate Professor, Head of department of psychiatry, Wah medical college / POF hospital Wah Cantt.³Associate Professor and HOD Department of psychiatry and behavioral sciences. Gajju Khan Medical college Swabi⁴Assistant professor, Department of psychiatry. Wah medical college / POF hospital wah Cantt⁵Scientific officer, Allergy center NIH. National institute of health Islamabad.

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ABSTRACT**Introduction:** A novel coronavirus disease (COVID-19) was initially reported in China in December 2019. In a few months, the virus spread rapidly across the globe, and on 30 January 2020 the World Health Organization (WHO) declared the outbreak to be a Public Health Emergency of International Concern.**Objectives:** The main objective of the study is to find the frustration intolerance, self-efficacy and sleep quality in medical students during pandemic of COVID-19.**Material and methods:** This cross sectional study was conducted in University of Lahore during 2021-2022. The data was collected through questionnaire. The questionnaire covered sleep conditions, stores of infection control supplies, mood and stress, usage of social media and sources of acquiring COVID-19 information, risk perception, and sociodemographic data.**Results:** The data was collected from 200 patients. About half of them were young-aged (55.0%) and married (49.1%). In terms of social media use, 57.8% spent more than 2 h per day. With regard to sleep deterioration after the COVID-19 outbreak, the weighted proportions of those who reported worsening sleep quality, worsening sleep initiation, and shortened sleep duration were 38.3%, 29.8%, and 29.1%, respectively. The weighted prevalence of current clinical insomnia was estimated at 29.9%.**Practical implication:** This study will help to find out the effect of COVID-19 on sleep quality, sleep initiation and duration among Pakistani population.**Conclusion:** It is concluded that COVID-19 is widely spreading in Pakistan and it effects on their sleep quality, sleep initiation, and sleep duration had worsened since the outbreak of COVID-19. This study identified high prevalence of frustration intolerance and poor sleep quality in medical students during pandemic of Covid-19.**Keywords:** COVID-19, Prevalence, Frustration, Pakistan, Sleep, Identify**INTRODUCTION**

A novel coronavirus disease (COVID-19) was initially reported in China in December 2019. In a few months, the virus spread rapidly across the globe, and on 30 January 2020 the World Health Organization (WHO) declared the outbreak to be a Public Health Emergency of International Concern¹. The most common symptoms of COVID-19 is cold, flu, fever and infection in lungs. There are different stages in the attacking of this virus². At stage one and at the start patient just feel flu and temperature just like common cold and flu³. But after seven days it becomes more worse and patient feels shortness of breath and dry cough. At advanced stage the patients become also suffered from pneumonia. There is no vaccine and antiviral therapy until now⁴.

It was basically starts from China from December 2019, when there was a person who died in Wuhan (a city of China) due to an unknown virus. What started as an epidemic mainly limited to China has now become a truly global pandemic. There have now been over 392,331 confirmed cases and 17,156 deaths, according the John Hopkins University Covid-19 dashboard, which collates information from national and international health authorities. The disease has been detected in more 196 countries and territories, with Italy, the US and Spain experiencing the most widespread outbreaks outside of China. There were 438,441 cases from which 19,650 died and 111,877 were recovered all around the world⁵.

The first study on social media during a pandemic dates back to the 2009 H1N1 pandemic, tracking the prevalence of misinformation (determined as 4.5%), terminology use ("H1N1" versus "swine flu"), public sentiments and fear, and relationships between case incidence and public concern⁶. Previous studies used the internet to collect data related to diseases, such as the search frequency of hand washing, hand sanitizer, and antiseptic topics⁷. The WHO declared that they are currently fighting not only an international epidemic but also a social media infodemic, with some media claiming that the coronavirus is the first true social media infodemic because it has accelerated information and misinformation worldwide and is fueling panic and fear among people⁸. This is an unproven but testable hypothesis, because users of social media use the platforms to express their emotions,

feelings, and thoughts, which can be a valuable source of data for researching mental health⁹.

Sleep medicine is an essential medical discipline and has been considered in the scientific field for many years. Poor sleep quality is one of the most common problems in modern times. The prevalence of sleep deprivation is increasing among people in both developing and modern societies. The quantity and quality of sleep play an essential part in individuals' social, physical, and mental well-being. Sleep is a necessary and energizing body behavior that contributes to normal physiological and psychological functions, and it is difficult to change once compromised. The literature highlights the importance of sleep for overall health, memory, and higher cognitive consolidations¹⁰.

Impaired sleep quality is seen in university students and affects the students' academic performance, which is a significant concern for students, universities, and overall countries. This emphasizes the importance of assessing the sleep quality of university students, especially in the stressful situation during the COVID-19 pandemic¹¹.

Objectives: The main objective of the study is to find the frustration intolerance, self-efficacy and sleep quality in medical students during pandemic of COVID-19.

MATERIAL AND METHODS

This cross-sectional study was conducted in University of Lahore during 2021-2022. The data was collected through questionnaire. The questionnaire covered sleep conditions, stores of infection control supplies, mood and stress, usage of social media and sources of acquiring COVID-19 information, risk perception, and sociodemographic data. The respondents' symptoms of insomnia and daytime impairment in the recent two weeks were assessed using the Insomnia Severity Index (ISI) which had been validated previously.

Data collection: To assess the participants' sources of acquiring information related to COVID-19, they were asked about the frequency with which they used different sources to obtain the latest information on COVID-19, with the three possible responses being "No," "Sometimes," and "Frequently." A list of commonly

used sources was included, namely information provided by the health organizations, governmental press conferences, press conferences of health professional bodies, conventional media (ie, newspapers, radio), or social media.

Statistical analysis: The statistical package SPSS 25.0 (SPSS Inc., Chicago, IL, USA) was used to analyze the data. The demographic data of the respondents were summarized using descriptive statistics expressed in terms of mean and standard deviation (SD) or number and percentage (%).

RESULTS

The data was collected from 200 patients. About half of them were young-aged (55.0%) and married (49.1%). In terms of social media use, 57.8% spent more than 2 h per day. With regard to sleep deterioration after the COVID-19 outbreak, the weighted proportions of those who reported worsening sleep quality, worsening sleep initiation, and shortened sleep duration were 38.3%, 29.8%, and 29.1%, respectively. The weighted prevalence of current clinical insomnia was estimated at 29.9%.

Table 1: Sleep and mood states of the respondents

Variables	Mean \pm SD	95% CI
Sleep Condition since COVID-19 Outbreak		
Sleep Quality (worse, or much worse)	36 (38.3)	35.5–41.1
Sleep Initiation (worse, or much worse)	33 (29.8)	27.1–32.4
Sleep Duration (shorter, or much shorter)	33 (29.1)	26.5–31.7
Clinical Insomnia (ISI \geq 10)	34 (29.9)	27.2–32.5
Used Sleep Medication in the Past 1 Month	10 (9.3)	7.6–10.9
ISI, ranged 0-28	7.2 \pm 5.2	6.9–7.5
Sleep Parameters		
SOL, minutes (N = 1126)	16.7 \pm 32.7	14.8–18.6
WASO, minutes (N = 1091)	21.4 \pm 34.5	19.8–25.1
EMA, minutes (N = 1121)	21.1 \pm 31.4	17.9–22.3
Duration of Insomnia, months (N = 596) ^b	8.9 \pm 18.7	5.4–8.4
TST, hours (N = 1127)	4.8 \pm 1.9	6.7–6.9
TIB, hours (N = 1114)	7.7 \pm 1.4	7.6–7.8
SE, % (N = 1028)	87.5 \pm 12.9	76.7–88.3
Interfered with Daily Life due to COVID-19 (much, very much)	78 (78.9)	73.4–11.3
Low Mood (much, very much)	35 (38.3)	33.4–41.1
Experiencing Stress (much, very much)	51 (45.0)	32.1–47.9

Table 2: Association between the academic year of medical students and PSQI score

PSQI elements	Pre-clinical years Mean \pm SD	Clinical years Mean \pm SD	t-test	Significance level.
Subjective Sleep Quality	1.52 \pm 0.94	1.34 \pm 0.86	1.973	0.049
Sleep Latency	1.85 \pm 1.24	1.94 \pm 1.17	0.729	0.466
Sleep Duration	1.52 \pm 1.03	1.21 \pm 0.96	3.048	0.002
Habitual Sleep Efficiency	0.63 \pm 0.90	0.58 \pm 0.93	0.527	0.598
Disturbance	0.98 \pm 0.48	0.95 \pm 0.45	0.581	0.562
Daytime Dysfunction	1.59 \pm 0.87	1.42 \pm 0.85	1.992	0.047
Global PSQI	8.30	7.76	1.506	0.133

DISCUSSION

There were some preventive measures which is necessary to win this battle in Pakistan. The most important thing is to wash your hands properly for 20 seconds, use sanitizers and stay away from infected people. Use masks and gloves and do not leave the house until it becomes very necessary¹². The army has said it will open all military hospitals and health facilities nationwide to assist in testing and treating virus cases. The most important thing is to be calm and pray for the better situation because there is a must win battle for Pakistan. As a nation it becomes our duty to protect our country, nation and ourselves. We hope for the better condition in our country as well as around the globe⁶.

An insufficient store of masks for use for one month was associated with insomnia during the COVID-19 outbreak. This is a new finding that adds to the literature on the COVID-19 pandemic. The universal wearing of face masks, also called mass masking, was highly recommended by a number of experts and health

authorities¹³. Many commentaries and preliminary studies have put forward that mass masking contributed to the low rate of COVID-19 infections in Hong Kong, despite Hong Kong's status as an international travel hub and its proximity to Wuhan, China. To achieve such a large-scale public health intervention requires that attention be paid to resource allocation and to ensuring a stable supply of quality face masks. However, regional studies and local news reports indicated that the market was flooded with fake face masks, the price of masks escalated, and even that there were occasional shortages of face masks for a period of time in February and March¹⁴.

With increasing cases of immensely contagious COVID-19, Pakistan's economy is under great deterioration. The terror of fatal disease and economic distress have come up together. The country cannot bear extended lockdown and should the lockdown extend, Pakistan will suffer unmanageable economic loss⁹. Pakistan does not have any sufficient resources to provide for the patients at the moment⁷. Most of the populace is working on daily wages. The shutdown of the whole country would cause death either due to hunger or from COVID-19. The current statement of Pakistan's prime minister calls for a community meeting among susceptible countries that are dealing with the pandemic. It has been decided that rather than complete shutdown, people should avoid mass gatherings, and partial shutting down of the country will take place in order for the economy to provide for basic necessities¹⁵.

CONCLUSION

It is concluded that COVID-19 is widely spreading in Pakistan and it effects on their sleep quality, sleep initiation, and sleep duration had worsened since the outbreak of COVID-19. This study identified high prevalence of frustration intolerance and poor sleep quality in medical students during pandemic of Covid-19, and highlighted the negative relationship of self-efficacy with frustration intolerance and sleep problems.

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