



Mental Distress after 1st Wave of COVID-19 among Medical Students

**Rabia Khurram^{1*}, Daniyal Abdul Razzak², Waqas Ahmad³, Ambreen Qamar⁴,
Tayyaba Mumtaz⁵ and Qurat Ul Ain Sameed⁶**

¹Department of Medical Education, Shahida Islam Medical & Dental College, Pakistan.

²Murshid Hospital Karachi, Pakistan.

³Institute of Biochemistry and Biotechnology, University of Gujrat, Pakistan.

⁴Department of Physiology, Dr. Ishrat-ul Ebad Khan Institute of Oral Health Sciences, Pakistan.

⁵Department of Pharmacognosy, Faculty of Pharmacy, Ziauddin University, Pakistan.

⁶Department of Pharmacology, Hamdard University, Pakistan.

Authors' contributions

This work was carried out in collaboration among all authors. Author RK designed the study. Authors DAR and WA performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Authors AQ and TM managed the analyses of the study. Author QUAS managed the literature searches. All authors read and approved the final manuscript.

Article Information

DOI: 10.9734/JPRI/2020/v32i4431075

Editor(s):

(1) Dr. Rahul S. Khupse, University of Findlay, USA.

(2) Dr. Sawadogo Wamtinga Richard, Ministry of higher education, scientific research and innovation, Burkina Faso.

(3) Dr. Mohamed Fathy, Assiut University, Egypt.

Reviewers:

(1) Asmaa Mohamed Ahmed Soliman, Assiut University, Egypt.

(2) Lina Okar, University of Damascus, Syria.

(3) David Nwoba Nweke, Ebonyi State University, Nigeria.

Complete Peer review History: <http://www.sdiarticle4.com/review-history/64495>

Original Research Article

Received 02 December 2020

Accepted 08 January 2021

Published 27 January 2021

ABSTRACT

Aim: The aim of the current study is to evaluate the mental distress facing by the MBBSs students during the first wave of COVID-19.

Study Design: Cross-sectional.

Place and Duration of Study: Study was conducted at Quaid-e Azam medical college Bahawalpur during the period of May 2020 to July 2020.

Methodology: MBBS undergraduate students were included in the study. For assessing mental

stress, the questionnaire used was the modified form of Impact of Event Scale Revised (IES-R). The proforma was prepared by using Google Docs and disseminated through the student's WhatsApp groups. Data was analyzed by using Special Package for Social Science version-20. Frequency and percentages were calculated for the qualitative variables while association was analyzed by using Chi-square test. p-value ≤ 0.05 was considered as significant.

Results: About half of the participants were female students i.e. 55.2%. The frequency distribution of stress level among students showed that the majority of participants were facing mild level of stress i.e. 130 participants out of total 310 participants (41.9%), 112 participants were having moderate stress level (36.2%), followed by 53 participants with severe level of stress (17.1%) while 15 participants (4.8%) were having extremely severe intensity of stress. It was also found out that the gender and socioeconomic status have a significant association with the mental stress but the year of study has no any association with the mental stress as reported statistically non-significant p-value.

Conclusion: The current study concluded that the mental distress experienced by medical undergraduate during COVID-19 is more severe than that of the general population and the female students are more prone to develop depressive symptoms. So there is a need of counselling session to improve the mental health of our medical under graduates as they are the future handlers of medical profession.

Keywords: COVID-19; impact of event scale-revised; mental distress; medical undergraduates.

1. INTRODUCTION

Unfortunately, the pandemic situation of Corona virus disease- 2019 (COVID-19) made the year 2020, a very stressful year with the fear of disease, uncertainty of living and the grief of losing the beloved ones [1]. This pandemic disease started from Wuhan, a city of China in 2019 and within no time spread out globally, causing an unrepairable damage. The COVID-19 enveloped the Pakistan also with its disastrous effects [2]. Till date the cases in Pakistan reaching up to 477,240 positive cases out of total 6,656,373 cases which were tested for COVID-19 [3]. These are the cases which were affected by the disease physically but there are number of people who are mentally stressed as well leading to anxiety and depression. People belonging to different socioeconomic status or occupation are facing different level of mental stress depending upon how the COVID-19 influencing their daily routine like most of the people lose their job or business due to the lockdown [4].

Mental health is one of the most important concern during the current pandemic situation as WHO alarmed the increase burden of depression globally [5]. Looking over the younger generation, the students are also affected physically as well as mentally, specifically the MBBS medical students. Due to increased rate of infectivity the medical colleges suspended all of their educational activities as a preventive measure and started online classes which created mental distress and uncertainty about

their future and fear of being at high risk of infection [6].

Medical students are usually at higher risk of developing mental distress because of few reasons including studies burden, risk of infection, exposure to infected people [7]. MBBS students are actually the cream among the students, the most brilliant mind so their mental health is of main concern as they are the future doctors to hold the disease burden on their shoulders [8]. The aim of the current study is to evaluate the mental distress facing by the MBBSs students during the first wave of COVID-19.

2. METHODOLOGY

A cross-sectional study was conducted at Quaid-e Azam medical college Bahawalpur during the period of May 2020 to July 2020. Convenient sampling technique was used. Only MBBS undergraduate students were included in the study. Those who either refused to give consent or not completely filled the form or started house job or graduated or post-graduated or previously diagnosed cases of Psychiatric disorders were excluded. For assessing mental distress, the questionnaire used was the modified form of Impact of Event Scale Revised (IES-R) [9]. IES-R scale is the most reliable method to assess the mental distress after any traumatic event. The proforma was prepared by using Google Docs and disseminated through the student's WhatsApp groups.

Data was analyzed by using Special Package for Social Science (SPSS) version-20. Frequency and percentages were calculated for the qualitative variables while association of mental stress with the gender, socioeconomic status and year of study was calculated by using Chi-square test. p-value ≤ 0.05 was considered as significant.

3. RESULTS

About 400 students were enrolled in the study out of which 310 students fill the proforma completely. Among them, majority were female students i.e. about 55.2% while the males were 44.8%. MBBS students from all years were included in the study, the majority were from 3rd year (31.6%) followed by 2nd year (25.5%), then 4th year (18.1%) followed by final year (13.5%) and the minimum participants were from 1st year (11.3%) as mentioned in Table 1. Looking over the association between demographic variables and the mental stress, it was found out that the gender has a significant association with the mental stress with p-value 0.013, in the same way socioeconomic status also showed a strong association with mental stress as p-value was 0.002 but the year of study has no any association with the mental stress as reported statistically non-significant p-value.

The mental stress experienced by medical students after 1st wave of COVID-19 was categorized on the basis of severity level as mild, moderate, severe and extremely severe stress. The frequency distribution of stress level among students showed that the majority of participants were facing mild level of stress i.e. 130

participants out of total 310 participants (41.9%), 112 participants were having moderate stress level (36.2%), followed by 53 participants with severe level of stress (17.1%) while 15 participants (4.8%) were having extremely severe intensity of stress as mentioned in Fig. 1.

Finally, the severity of mental stress among different years of MBBS students were calculated. The results showed that the majority of 1st year students have mild level of stress (37.1%) followed by moderate intensity (29.4%) then severe intensity (22.3%) and the minimum number (11.2%) of cases with extremely severe level of stress. Looking over the 2nd year students, the intensity of stress among cases were followed the same sequence as that of 1st year students with frequency of mild, moderate, severe and extremely severe level of stress (33.1%, 31.4%, 22.3% and 13.2% respectively). Among 3rd year students, majority of students were facing moderate level of stress (30.4%) followed by mild level (27.1%) then severe level (25.3%) and minimum number with extremely severe level (17.2%). Focusing 4th year students, the cases of moderate and severe stress level were almost equal (29.4% and 27.3% respectively), followed by mild level (24.1%) then extremely severe level of stress (19.2%). The final year students were having more cases of severe intensity of stress (29.3%) followed by moderate (26.4%) and extremely severe stress (25.2%) and then mild stress level (19.1%). The results showed that severity of mental stress were increasing with the graduating year as presented in Fig. 2.

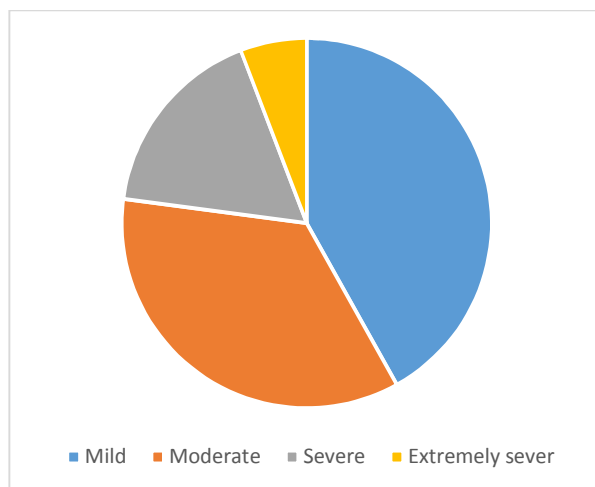


Fig. 1. Level of mental stress among MBBS students after COVID-19

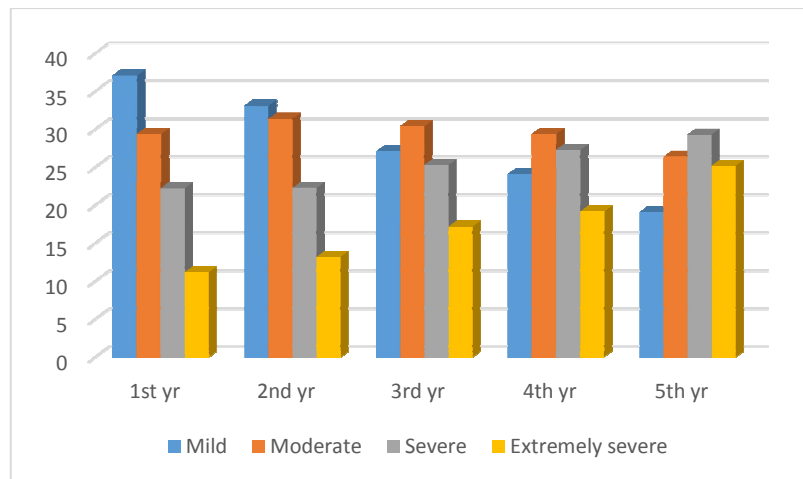


Fig. 2. Severity of mental stress among different years of MBBS after COVID-19

Table 1. Demographic characteristics of study participants and their association with mental stress

	n =310 (%)	p-value
Gender		0.013
Male	139 (44.8%)	
Female	171 (55.2%)	
Socioeconomic status		0.002
Upper	28 (9.0%)	
Middle	160 (51.6%)	
Lower	122 (39.4%)	
Year of study		0.762
1 st yr	35 (11.3%)	
2 nd yr	79 (25.5%)	
3 rd yr	98 (31.6%)	
4 th yr	56 (18.1%)	
5 th yr	42 (13.5%)	

4. DISCUSSION

Current study reported that majority of study participants were female because in all over Pakistan there are more female MBBS students in the medical colleges as compare to the male students. This finding is supported by many other studies done among medical students of different medical colleges in different cities of Pakistan [10,11]. In current study majority of the participants were from 3rd year and 2nd year, the most possible explanation for this might be due to the interest of these students in research study while the remaining years are overburdened because of the tough schedule of lectures and clinical rotations. One of the study done in Sahiwal reported more students were from 4th year while another study from Karachi reported majority students were from final year, because of their participation in data collection [10,12].

Literature review revealed great level of stress among medical undergraduate students because of their somehow medical knowledge about COVID, increasing death rate, closure of universities and spread of fear [13]. A study done on MBBS students of Sahiwal medical college reported stress rate of about 54.10% (10), in the same way Rajkumar et.al reviewed the overall literature to find out the mental health level during COVID-19 and he calculated the stress rate of about 53.20% [14]. Current study also reported that majority of the participants were having mild to moderate level of mental stress i.e. 41.9%. All the studies manifested the poor mental health of undergraduate students, studying in different medical colleges of Pakistan. Such level of mental distress causing COVID-19 pathogenicity to be more lethal, resulting in more outspread of fear [15].

Studies revealed that the female medical students are facing high level of stress as compare to male [16] and the current study favored this finding by reporting 55.2% of the female students with significant association. Looking over the stress level among different years of MBBS, the current study manifested that 3rd year and 2nd year students were having moderate to severe level of mental stress during COVID-19 because of sudden closure of medical colleges, lockdown situation and uncertainty for professional exam [17,18].

5. CONCLUSION

The current study concluded that the mental distress experienced by medical undergraduate during COVID-19 is more severe than that of the general population and the female students are more prone to develop depressive symptoms. So there is a need of counselling session to improve the mental health of our medical under graduates as they are the future handlers of medical profession.

CONSENT AND ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s). An informed consent was taken prior to starting the study.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Ahmed MZ, Ahmed O, Aibao Z, Hanbin S, Siyu L, Ahmad A. Epidemic of COVID-19 in China and associated Psychological Problems. *Asian journal of psychiatry*. 2020;102092.
2. Blake H, Bermingham F, Johnson G, Tabner A. Mitigating the psychological impact of COVID-19 on healthcare workers: a digital learning package. *International Journal of Environmental Research and Public Health*. 2020;17(9): 2997.
3. Cao W, Fang Z, Hou G, Han M, Xu X, Dong J, et al. The psychological impact of the COVID-19 epidemic on college students in China. *Psychiatry research*. 2020;112934.
4. Ferrel MN, Ryan JJ. The impact of COVID-19 on medical education. *Cureus*. 2020;12(3).
5. Ho CS, Chee CY, Ho RC. Mental health strategies to combat the psychological impact of COVID-19 beyond paranoia and panic. *Ann Acad Med Singapore*. 2020;49(1):1-3.
6. Dhahri AA, Arain SY, Memon AM, Rao A, Khan MM, Hafeez G, et al. The psychological impact of COVID-19 on medical education of final year students in Pakistan: A cross-sectional study. *Annals of Medicine and Surgery*. 2020;60: 445-50.
7. Holmes EA, O'Connor RC, Perry VH, Tracey I, Wessely S, Arseneault L, et al. Multidisciplinary research priorities for the COVID-19 pandemic: a call for action for mental health science. *The Lancet Psychiatry*; 2020.
8. Moccia L, Janiri D, Pepe M, Dattoli L, Molinaro M, De Martin V, et al. Affective temperament, attachment style, and the psychological impact of the COVID-19 outbreak: an early report on the Italian general population. *Brain, behavior, and immunity*; 2020.
9. Li S, Wang Y, Xue J, Zhao N, Zhu T. The impact of COVID-19 epidemic declaration on psychological consequences: a study on active Weibo users. *International journal of environmental research and public health*. 2020;17(6):2032.
10. Waseem M, Aziz N, Arif MU, Noor A, Mustafa M, Khalid Z. Impact of post-traumatic stress of covid-19 on mental wellbeing of undergraduate medical students in pakistan. *Pakistan Armed Forces Medical Journal*. 2020;70(1):S220-24.
11. Sadiq S, Majeed I, Khawar F. Medical Student Syndrome; the Affliction in Medical Students. *Pakistan Armed Forces Medical Journal*. 2018;68(2):389-93.
12. Meo SA, Abukhalaf AA, Alomar AA, Sattar K, Klonoff DC. COVID-19 Pandemic: Impact of Quarantine on Medical Students' Mental Wellbeing and Learning Behaviors. *Pakistan Journal of Medical Sciences*. 2020;36(COVID19-S4).
13. Sahu P. Closure of universities due to Coronavirus Disease 2019 (COVID-19): impact on education and mental health of students and academic staff. *Cureus*. 2020;12(4).

14. Rajkumar RP. COVID-19 and mental health: A review of the existing literature. Asian journal of psychiatry. 2020;102066.
15. Zhou X, Snoswell CL, Harding LE, Bambling M, Edirippulige S, Bai X, et al. The role of telehealth in reducing the mental health burden from COVID-19. Telemedicine and e-Health. 2020;26(4):377-9.
16. Wang JHS, Tan S, Raubenheimer K. Rethinking the role of senior medical students in the COVID-19 response. The Medical Journal of Australia. 2020;212(10): 490-e1.
17. Xiao H, Zhang Y, Kong D, Li S, Yang N. The effects of social support on sleep quality of medical staff treating patients with coronavirus disease 2019 (COVID-19) in January and February 2020 in China. Medical science monitor: international medical journal of experimental and clinical research. 2020;26:e923549-1.
18. Yusoff MSB, Esa AR. The medical student wellbeing workshop. MedEdPORTAL. 2012;8.

© 2020 Khurram et al.; This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Peer-review history:

*The peer review history for this paper can be accessed here:
<http://www.sdiarticle4.com/review-history/64495>*