



Impact of COVID-Pandemic on the Mental Health of Medical Students of Sindh Province, Pakistan

**Dur-re-Shahwar¹, Marvi Metlo², Zuheeb Ahmed², Zaheer Mughal¹,
Bilawal Shaikh¹, Arslan Ahmer¹, Razia Sultana¹, Noor ul Ain¹,
Farkhanda Kobab¹ and Tahseen Ahmed^{1*}**

¹Institute of Pharmaceutical Sciences, Peoples University of Medical and Health Sciences for Women,
(PUMHSW) Shaheed Benazir Abad, Sindh, Pakistan.

²Department of Pharmacy, Shah Abdul Latif University, Khairpur Mirs, Sindh, Pakistan.

Authors' contributions

This work was carried out in collaboration among all authors. Authors DS, MM and ZM designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Authors ZM, BS, AA and RS managed the analyses of the study. Authors NA, FK and TA managed the literature searches. All authors read and approved the final manuscript.

Article Information

DOI: 10.9734/JPRI/2021/v33i1531287

Editor(s):

(1) Dr. Dharmesh Chandra Sharma, G. R. Medical College and J. A. Hospital, India.

(2) Dr. S. Prabhu, Sri Venkateswara College of Engineering, India.

(3) Dr. Rafik Karaman, Al-Quds University, Palestine.

Reviewers:

(1) Seun Nurudeen Akorede, Ahmadu Bello University, Nigeria.

(2) Syed Far Abid Hossain, International University of Business Agriculture and Technology, Bangladesh.

(3) Javier Santabárbara, University of Zaragoza, Spain.

Complete Peer review History: <http://www.sdiarticle4.com/review-history/66117>

Original Research Article

Received 16 February 2021

Accepted 18 March 2021

Published 23 March 2021

ABSTRACT

Introduction: Severe Acute Respiratory Syndrome is group of viral disease associated with respiratory infection and it has similar symptoms of COVID-pandemic. The first case of SARS was reported in ancient remote areas of China in 2003 and spread throughout the world within short period of time. World Health Organization coordinated with numerous health experts around the globe in order to overcome the pandemic condition.

Methodology: The descriptive cross-sectional study was conducted for the period of 06 months from June 2020 to December 2020 at different medical universities of Sindh province. Total 374 study samples were selected and data was collected from the medical students of numerous medical universities of Sindh province and well designated questionnaire was filled by all

participants through proper guidelines provided to them. Data was analyzed by using statistical software SPSS version 24.00.

Results: Impact of Covid Pandemic on the mental health of medical students was evaluated by compiling the data from questionnaire filled by them. Frequency of males were 216(%) and females 158(%), mostly people were resident of rural areas with the frequencies of 226 (%) and only 148(%) belongs to urban areas. 114 participants belongs to MBBS degree, 49 belongs to BDS, 72 Nursing, 83 Pharmacy and 56 students belongs to Public Health department of numerous medical universities.

Conclusion: It was concluded that there was bad impact of Covid-19 pandemic on the mental health of medical students of Universities from Sindh province. Level of anxiety among the students totally depends upon variables were online classis, examination, ward visits and Assignments. Academic activities along with financial matter had direct impact on the mental health of students.

Keywords: Mental health; anxiety; nursing; pandemic.

1. INTRODUCTION

Severe Acute Respiratory Syndrome is group of viral disease associated with respiratory infection and it has similar symptoms of COVID-pandemic [1,2]. The first case of SARS was reported in ancient remote areas of China in 2003 and spread throughout the world within short period of time [3,4]. World Health Organization coordinated with numerous health experts around the globe in order to overcome the pandemic condition. So, different health care provider were selected for making strategies against pandemic condition and different research techniques were conducted in order to develop the diagnostic kits and treatment options with less side effects [5,6]. SARS is type of airborne disorder that can be spread through the minute droplet of spit and affect healthy population with simplest symptoms of cold and flu [7,8]. Spreading of pandemic is serious health issue that arises very fast during 21st century. The type of contagious infection was spread to numerous countries very quickly through the infected people that travel via air ways. SARS also spread through the touching the surfaces that are being touched by infected personal. The majority of infected people were in between 20-70 years and very few cases were found among the patients below the age of 15 years [9,10]. Initially, it was diagnosed with simple fever associated with respiratory issues. On the behalf of initial reports the global spread rate of SARS was only 4%. Poor literature regarding spread of SARS along with very short treatment options and very poor diagnostic kits leads to increase in number of patients ultimately increase the number of SARS-COVID conditions [11,12]. Financial burden of treatment was also considering as major factor as people with low economical values were not able to develop the

quarantine condition after diagnosis. Sometime unauthenticated literatures and messages were also considered as major factor for increasing the number of patients, such type of literature and conflicted statements retard the mental growth among the local population [13,14]. Direct dealing with COVID patients without significant safety measures may also induce the pressure on mental growth and condition of depression and anxiety is being developed among health care provider [15,16]. General health agencies may influence the health, security and prosperity of numerous people. Unstable, less confident and financial low economical people may be affected through pandemic condition. Inappropriate practices and hindrance among health polices as some people initiated quarantine condition and become reserved for longer period of time without any solid reason [17,18]. Broad exploration in catastrophe emotional health has developed that started troubles among the local population of any nation and such type of factors may also affect the population of pandemic [19]. The main objective of this study was to evaluate the impact of covid-pandemic, lockdown, quarantine pressure and social distancing on the mental health of medical students. As these factors had induced stress and anxiety, among the students of Sindh Province.

2. METHODOLOGY

The descriptive cross-sectional study was conducted for the period of 06 months from June 2020 to December 2020 at different medical universities of Sindh province. The sample population of current research comprised from all major cities of Sindh Province including Nawab Shah, Karachi, Hyderabad, Sukkur and Larkana. Psychological health of students was measured

through Depression measuring scale. Total 374 study samples were selected and data was collected from the medical students of numerous medical universities of Sindh province and well designated questionnaire was filled by all participants through proper guidelines provided to them. Data was analyzed by using statistical software SPSS version 24.00.

3. RESULTS

Impact of Covid-pandemic on the mental health of medical students was evaluated by compiling the data from questionnaire filled by them. The results provide the basic data regarding numerous factors that left bad impact on the mental health of Medical Students of Sindh Province. According to research data all participants were divided into different groups as given in the following tables. As per gender wise distribution from all participants 216 (57.75%) were males whereas 158 (42.24%) were females as mentioned in Table 1.

According to locality of population, 226 participants belongs to Urban areas and only 148 belongs to rural areas as mentioned in Table 2.

As per distribution of degree or departments, all participants belongs to various medical degrees as described in Table 3.

Study comprises of numerous factors that induced pressure on the mental health of medical students as mentioned in following table.

Table 1. Gender wise distribution of study subjects

Gender	Number	Frequency
Male	216	57.75%
Female	158	42.24%

Table 2. Locality wise distribution of study subjects

Locality	Number	Frequency
Urban	226	60.42%
Rural	148	39.57%

Table 3. Department wise distribution of study subjects

Department and Degree	Number	Frequency
MBBS	114	30.48%
BDS	49	13.10%
Nursing	72	19.25%
Pharm.D	83	22.19%
Public Health	56	14.97%

Table 4. Factors of developing pressure among the students

Factors of Pressure	Number	Frequency
Online Examination	123	32.37%
Online Classes	113	30.21%
Clinical Examination	15	4.01%
Ward Visits	09	2.40%
Assignments	114	

Table 5. Family income of participants

Family Income	Number	Frequency
Low Income	179	47.86%
High Income	101	27%
ALLETE Class	94	25.13%

Table 6. Level of anxiety and depression among study subjects

Level of Anxiety	Number	Frequency
Normal	149	39.83%
Mild	155	41.44%
Moderate	51	13.63%
Severe	19	5.08%

Table 7. Correlation analysis between the COVID-19 related stressors and college students' anxiety, when facing pandemic

Correlation analysis	Number	Frequency
Students Worries About Economic Influences	97	25.93%
Students Worries About The Delaying Academic Activities Influences On Daily Life	153	40.90%
Social Support	35	9.35%
	89	23.79%

Family income was also evaluated as mentioned in the following table.

Level of anxiety was measured as normal, Mild, Moderate and Severe as described in following table.

Correlation analysis was also evaluated as mentioned in the following table.

4. DISCUSSION

A research was conducted by Meganne Ferral et al. [20] concluded that there was very difficult for medical students to concentrate on their demos and conducting lectures as every single student had their own stories and strategies to deal with covid-19 it resemble with the current story as similar type of issues were observed from the medical students of Sindh province for dealing with current scenario. Simon Burgess et al. [21] concluded in his study that moving towards computerized world was quite difficult to adopt by each student as teacher as number of students were unaware about the daily use of computer and online system and due to their residential areas students felt very complicated to continue their education because of shortage of resources and similar effects were observed from the participants of current study and due to low income and low socio-economical values students faced a lot of problems that produces mental pressure on them. Schleicher et al. conducted study on the financial issue of public sector universities and institutes from the developing countries as after covid-pandemic, the economy of every nation was disturbed badly. So, the students on financial aid were affected due to their academic loss and hindrance in their research activities and current study also had similar impact on the students as very low socio-economical families were not able to pay the said amount of universities and this creates mental pressure on the students because of their academic loss.

5. CONCLUSION

It was concluded that there was bad impact of Covid-19 pandemic on the mental health of medical students of Universities from Sindh province. As many student belongs to remote areas of Sindh and had faced numerous problems regarding their academic activities. Online classes, online examination, clinical and ward visits had developed pressure on the mental health of students. Level of anxiety was assessed as mild, moderate and severe among the participants. Mental pressure was also initiated due to financial issues. Academic activities along with financial matter had direct impact on the mental health of students.

CONSENT

As per international standard or university standard, Participants' written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Velavan TP, Meyer CG. The COVID-19 epidemic. *Tropical medicine & international health*. 2020;25(3):278.
2. Cao X. COVID-19: Immunopathology and its implications for therapy. *Nature reviews immunology*. 2020;20(5):269-70.
3. Le TT, Andreadakis Z, Kumar A, Román RG, Tollefsen S, Saville M, Mayhew S. The COVID-19 vaccine development landscape. *Nat Rev Drug Discov*. 2020;19(5):305-6.

4. Beigel JH, Tomashek KM, Dodd LE, Mehta AK, Zingman BS, Kalil AC, et al. Remdesivir for the treatment of COVID-19. *New England Journal of Medicine*. 2020;383(19):1813-26.
5. Yuki K, Fujioji M, Koutsogiannaki S. COVID-19 pathophysiology: A review. *Clinical immunology*. 2020;108427.
6. Pfefferbaum B, North CS. Mental health and the COVID-19 pandemic. *New England Journal of Medicine*. 2020;383(6):510-2.
7. Yang L, Liu S, Liu J, Zhang Z, Wan X, Huang B, et al. COVID-19: Immunopathogenesis and Immunotherapeutics. *Signal transduction and targeted therapy*. 2020;5(1):1-8.
8. Beigel JH, Tomashek KM, Dodd LE, Mehta AK, Zingman BS, Kalil AC, et al. Remdesivir for the treatment of Covid-19—Preliminary report. *The New England Journal of Medicine*; 2020.
9. Cron RQ, Chatham WW. The rheumatologist's role in COVID-19.
10. South AM, Diz DI, Chappell MC. COVID-19, ACE2 and the cardiovascular consequences. *American Journal of Physiology-Heart and Circulatory Physiology*; 2020.
11. Daniel J. Education and the COVID-19 pandemic. *Prospects*. 2020;49(1):91-6.
12. Solomon IH, Normandin E, Bhattacharyya S, Mukerji SS, Keller K, Ali AS, et al. Neuropathological features of COVID-19. *New England Journal of Medicine*. 2020;383(10):989-92.
13. Watkins J. Preventing a COVID-19 pandemic.
14. Li T, Lu H, Zhang W. Clinical observation and management of COVID-19 patients. *Emerging microbes & infections*. 2020; 9(1):687-90.
15. Weissleder R, Lee H, Ko J, Pittet MJ. COVID-19 diagnostics in context. *Science Translational Medicine*. 2020;12(546).
16. Vaira LA, Salzano G, Deiana G, De Riu G. Anosmia and ageusia: common findings in COVID-19 patients. *The Laryngoscope*; 2020.
17. COVID GA, Post-Acute Care Study Group. Post-COVID-19 global health strategies: The need for an interdisciplinary approach. *Aging Clinical and Experimental Research*. 2020;1.
18. Brennen JS, Simon F, Howard PN, Nielsen RK. Types, sources and claims of COVID-19 misinformation. *Reuters Institute*. 2020;7:3-1.
19. Zhang R, Wang X, Ni L, Di X, Ma B, Niu S, Liu C, Reiter RJ. COVID-19: Melatonin as a potential adjuvant treatment. *Life sciences*. 2020;250:117583.
20. Ferrel MN, Ryan JJ. The impact of COVID-19 on medical education. *Cureus*. 2020; 12(3).
21. Burgess S, Sievertsen HH. Schools, skills and learning: The impact of COVID-19 on education.

© 2021 Ahmed 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/66117>