

MENTAL HEALTH OF PATIENTS WITH COVID 19

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ABSTRACT

The current study examines the mental health of patients diagnosed with Covid 19. Descriptive research design was used in this study. Data of 100 patients was collected from Lahore General Hospital through convenient sampling. Pakistan Anxiety and Depression Scale was used to find out mental health of patients in domains of anxiety and depression. According to the findings, mostly patients reported moderate level of anxiety and depression. Results also showed that females experience more depression and anxiety as compared to males. It was also seen that patients living in nuclear family systems show more anxiety as compared to those who live in joint family system. Furthermore, age was positively while family income negatively related with anxiety and depression. These findings can be helpful to highlight importance of need of mental health services to reduce psychological impact of this outbreak.

Keywords: Mental Health; Depression; Anxiety; Covid 19

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INTRODUCTION

There was an outbreak of the Novel Coronavirus (COVID-19) in December 2019 that has turned into a global pandemic now. It has affected countries across all over the world and the number of human cases has exceeded from two million. As there is no vaccine available yet, its treatment is preventive mostly for the people at risk and symptomatic for the affected ones. Most of the countries have taken action to decrease the spread of COVID-19 by lockdowns, developing quarantine centers, promoting social distancing and

self-isolation¹. These preventive measures along with the disease itself may cause several mental health issues. Researches about earlier pandemic crises have showed an increase in stress levels and different psychiatric issues among people.

These mental health issues may be faced by everyone in the society with different perspectives but primarily by the families and patients having COVID-19, healthcare professionals, and the people with pre-existing mental health issues².

COVID-19 has changed daily life everywhere and affected almost all aspects of life. Physical and mental health of the people is also affected in many ways. There are thousands of people who are either sick or being killed by the disease already. Fear of having the disease and the related issues of the disease are causing severe effects on people's mental health. Social isolation due to COVID-19 pandemic is also resulting in depression, anxiety and self-harm attitude among the people³. There is also a decrease in global economy due to the current pandemic, resulting in financial problems

in societies. It may bring disturbances in mental health also. People in this pandemic have considerably worse mental health outcomes than others who were observed before the pandemic. Patients who have recovered from Covid-19 are also at high risk of developing symptoms of PTSD or Depression. It can be handled by providing social support, and working on individual traits like self-efficacy, wellbeing and resilience of the patients⁴.

Fear, anxiety and worry are usual responses to the uncertainties and the threats whether they are perceived or real. So it is logical that people are experiencing fear in context of this pandemic. Apart from fear of catching the disease, there are significant changes in daily lives which are affecting people's mental health. Restricted movements and low social interaction in order to decrease the spread of the disease are also causing harm to the human minds. To face the new challenges of working from home, home schooling, temporary unemployment, and social isolation, it is essential to look after our physical as well as mental health⁵.

Stress caused during a pandemic outbreak can result in worrying and fear about a person's own health and the health of their loved ones, job and financial situation and loss of support services. These conditions may cause altered eating habits and sleep patterns; fatigue and tiredness; problems in concentrating and sleeping; worsening of chronic health problems and mental health conditions; and increased use of tobacco, alcohol and other substances⁶.

The response of people to the stress during the COVID-19 pandemic is varied and dependent upon their background, their personal traits and financial situation, their health and emotional condition, community they are living in, and various additional factors. The changes due to the outbreak of COVID-19 pandemic and the ways we attempt to control the spread of it can affect anyone⁷. People who are more prone to the stress in current situation include people who are at higher risk for severe illness from COVID-19 (elderly people, and individuals with some underlying medical conditions), family members of the patients, children and teens, frontline workers like healthcare professionals, people with existing mental health problems, people with substance use disorder, people who have lost their jobs due to pandemic or had further changes to their employment, people with developmental delay and disabilities, people in social isolation from others and many more. It is inevitable for almost everyone to have stress in current scenario⁴.

Everyone may feel in a different way about the disease, its consequences, and being stuck at home in isolation according to their own circumstances and individual differences. These emotional reactions

include a range of mixed emotions, including fear, relief and worry about personal health and the health of one's loved ones. The level of stress arises by having experience of COVID-19 and monitoring oneself. The emotions of frustration, sadness and anger arose when people around have fears of receiving the disease from the patients. People with Covid-19 may develop guilt for not being able to carry out normal work routine, office work or parenting duties. Sometimes, they also get worried about getting infection again. Hence, they are developing depressive symptoms for many reasons⁸.

According to health experts, the only option we have is to stay quarantined and in self-isolation but these basic limitations have potentially detrimental effects on people's mental health which may persist for a long term period. Pakistan has a collectivistic culture and is extremely dependent on socialization. People here are socially and emotionally connected and are bound with social support system. It is, therefore, more difficult for them to cope with the current situation. Social distancing is causing emotional and psychological disturbances among the people in Pakistan⁹.

Patients with Covid-19 may experience psychological distress and symptoms of mental illness¹⁰. It has been discussed that uncertainty, unpredictability, severity of the disease; propaganda and social isolation are the contributing factors to mental stress¹¹. Another research highlighted the population who are at higher risk of adverse mental health problems. They included patients with COVID-19 and their families, healthcare workers and people with already having mental health issues¹². Moreover, it is observed that the increase in COVID-19 can lead to a real mental health crisis. The countries with high prevalence require psychosocial intervention plans also. The mental health care should be incorporated in management plans of corona cells in future⁹.

Mental health is one of the major factors for surviving through difficult situations and for demonstrating positive attitudes and performance. There are increased stressors in the time of uncertainties of this pandemic. The objective of the study is to identify mental health of Covid 19 patients and level of anxiety and depression among patients with Covid 19. This can be helpful to highlight importance of need of mental health services to reduce psychological impact of this outbreak.

METHODS:

Descriptive research design was used to find out mental health of patients with Covid 19. One hundred patients diagnosed with Covid 19 were taken for this purpose

from Lahore General Hospital through convenient sampling. Pakistan Anxiety and Depression Scale developed by Mumford, Ayub, Karim, Izhar, Asif, and Bavington in 2005 was used to assess depression and anxiety (mental health) in Covid 19 patients after taking permission from corresponding author. The scale comprised of total 30 statements, 15 each for assessing depression and anxiety with options of yes and no. The reliability of anxiety and depression scale in current study was .84 and .86 respectively. Demographic questionnaire was designed including age, gender, marital status, family system, number of children, education, family income, and financial problem due to Covid 19. Clinical variables like symptoms of Covid 19, duration of those symptoms, and comorbidity were also inquired.

Statistical Analysis: After collecting data from the participants, it was analyzed with the help of SPSS version 21. Initial analysis was done by calculating frequency and percentage of studied variables. Independent sample t test was used to find out differences on the basis of gender, marital status, family system, and financial problem due to Covid 19 in patients' depression and anxiety. Moreover, Pearson Product Moment Correlation was used to find out the relationship of age, family income, duration of symptoms with depression and anxiety.

RESULTS

Following are the demographic characteristics studied in current study.

The above table explains frequency and percentage of demographic variables assessed in the study. According to the table out of 100 sample size, almost equal number of males and females are participated; most of them are married and having children living in joint family system. Most of the participants have bachelor's degree, and low family income. Most of the participants are experiencing financial problems due to Covid 19.

Following table is explaining comorbidities, symptoms and duration of symptoms of patients with Covid19.

According to table No. 2, most of the patients don't experience any comorbidity and only 14 percent patients have any other illness. Comorbidities that are reported by patients are blood pressure, diabetes, and cholesterol. Most of the patients are experiencing their symptoms due to covid 19 from 10 to 20 days. Mostly reported symptoms of covid 19 are cough, fever and fatigue/body pain. Other symptoms reported by the patients are diarrhea, chest pain, loss of taste and smell, and flu.

Table 1: Demographic Characteristics of the Patients with Covid 19 (n=100)

Demographic Variables	Frequency (Percentage)
Gender	
Male	49 (49%)
Female	51 (51%)
Education	
FA	32 (32%)
Bachelors	41 (41%)
Masters	27 (27%)
Marital status	
Married	40 (40%)
Unmarried	60 (60%)
No. of children	
N/A	20
0	6
Less than 3	40
3 or more than 3	34
Family system	
Nuclear	53 (53%)
Joint	47 (47%)
Financial problem due to Covid 19	
No	32 (32%)
Yes	68 (68%)
Age (Years)	Mean (Standard Deviation)
	42.42(17.32)
Family income (Rupees)	Mean (Standard Deviation)
	35910.00(7935.47)

Table 2: Clinical Characteristics of Patients with Covid 19 (n=100)

Variables	Frequency (Percentage)
Comorbidity	
No	76 (76%)
Blood pressure	12 (12%)
Diabetes	12 (12%)
Cholesterol	4 (4%)
Duration of Symptoms	
Less than 10 days	31 (31%)
10 to 20 days	39 (39%)
21 to 30 days	30 (30%)
Symptoms	
Cough	96 (96%)
Fever	99 (99%)
Diarrhea	45 (45%)
Fatigue/body pain	97 (97%)
Chest pain	55 (55%)
Loss of taste and smell	35 (35%)
Flu	20 (20%)

Table 3: Level of Anxiety and Depression in Patients with Covid 19 (n=100)

Variable	Mild	Moderate	High
Anxiety	6 (6%)	54 (54%)	40 (40%)
Depression	5 (5%)	52 (52%)	43 (43%)

Mild= 0 to 5, Moderate= 6 to 10, High= 11 to 15

The above table shows levels of anxiety and depression in patients with Covid 19. It can be seen from the table that most of the patients experiencing moderate level of depression and anxiety.

Independent sample t test was used to assess gender differences in anxiety and depression. According to the findings, there is significant gender difference exist in anxiety and depression. Females show more anxiety and depression than males.

Independent sample t test was used to compare nuclear and joint family system with anxiety and depression. According to the findings, there is

significant family system difference exist in anxiety as patients living in nuclear family systems shows more anxiety as compared to those who lives in joint family system. Moreover, there is no difference in level of depression in patients either they live in nuclear or joint family system.

Independent sample t test was used to compare patients having financial burden due to Covid with those who don't have such burden. According to the findings, patients who experience financial burden due to covid 19 show more depression and anxiety compare to those who don't experience any difficulty.

Furthermore, there is no marital status difference exist while studying anxiety (t=-1.03 p=.30) and depression (t=-1.68, p=.09). It means there is no difference in perception of anxiety and depression whether patients are married or unmarried.

Table 4: Gender Differences in Depression and Anxiety of Patients with Covid 19 (n=100)

Variables	Gender		t	p	Confidence Interval 95%	
	Male (n=51) M(SD)	Female (n=49) M(SD)			LL	UL
Anxiety	9.49(2.44)	10.47(1.67)	-2.36	.02	-1.81	-.15
Depression	9.22(2.61)	10.94(1.85)	-3.81	.00	-2.61	-.82

Table 5: Comparison of Groups in terms of Anxiety and Depression on the basis of their Family Systems (n=100)

Variables	Family System		t	p	Confidence Interval 95%	
	Nuclear (n=53) M(SD)	Joint (n=47) M(SD)			LL	UL
Anxiety	10.41(2.06)	9.51(2.13)	2.16	.03	.07	1.74
Depression	10.17(2.36)	10.02(2.47)	.31	.76	-.81	1.11

Table 6: Comparison of Groups in terms of Anxiety and Depression on the basis of their Financial Burden (n=100)

Variables	Financial Burden		t	p	Confidence Interval 95%	
	Yes (n=68) M(SD)	No (n=32) M(SD)			LL	UL
Anxiety	10.75(2.32)	9.69(1.99)	-2.27	.02	-1.98	-1.34
Depression	11.28(2.20)	9.63(2.32)	-3.22	.002	-2.65	-.64

Table 7: Relationship of Age, Family Income, and Duration of Covid Symptoms with Anxiety and Depression (n=100)

Variables	1	2	3	4	5
1. Age	-	.06	.34***	.28**	-.06
2. Family Income	-	-	.11	-.30**	-.34**
3. Duration of Symptoms	-	-	-	.31**	-.09
4. Anxiety	-	-	-	-	.69***
5. Depression	-	-	-	-	-

Person product moment correlation was used to find out the relationship of different demographic

variables with anxiety. According to results, age shows positive significant relationship with anxiety which

means that older age patients experience more anxiety and depression. Moreover, age is also positively related with duration of symptoms which means that older patients have longer duration of symptoms of Covid 19.

Family income is negatively correlated with both anxiety and depression reflecting that patients having low family income tend to show more depression and anxiety. Furthermore, duration of symptoms is positively related with anxiety showing that patients with longer symptoms duration exhibit more anxiety. Additionally, anxiety and depression shows positive relationship which represents that increase in depression can lead to increase in anxiety level as well.

DISCUSSION

COVID-19 has changed daily life everywhere and affected almost all aspects of life. Physical and mental health of the people is also affected in many ways. Fear of having the disease and the related issues of the disease are causing severe effects on people's mental health. Social isolation due to COVID-19 pandemic is also resulting in depression, anxiety and self-harm attitude among the people³. There is also a decrease in global economy due to the current pandemic, resulting in financial problems in societies. It may bring disturbances in mental health also⁴. So the current study identifies mental health of patients with Covid 19.

Pakistan has a collectivistic culture and is extremely dependent on socialization. People here are socially and emotionally connected and are bound with social support system. It is, therefore, more difficult for them to cope with the current situation. Social distancing is causing emotional and psychological disturbances among the people in Pakistan⁹. It has been discussed that uncertainty, unpredictability, severity of the disease; propaganda and social isolation are the contributing factors to mental stress¹¹. According to the findings of current study, most of the patients experiencing moderate level of depression and anxiety. Due to this pandemic, there is an increase in prevalence of anxiety, depression, loneliness, and substance use^{13,14}.

The response of people to the stress during the COVID-19 pandemic is varied and dependent upon their background, their personal traits and financial situation, their health and emotional condition, community they are living in, and various additional factors⁷. The current study highlighted different socio-demographic factors which can influence level of anxiety and depression, ultimately influences mental health of patients. The results of this study showed that patients living in nuclear family systems are more anxious as compared to those who live in joint family

system. In our culture no doubt joint family system gives support to cope with stressors. Patients who live in joint family system can get enough support from their family members and thus can have less anxiety as compared to those who live in nuclear family system. People live in nuclear family system can be more anxious because of less family involvement and support¹⁵.

Females show more anxiety and depression than males in current study. Gender is considered as main factor for identification of mental health. Depression, anxiety, and somatic problems are more common in females¹⁶. It is seen from another study that females exhibit more emotional responses as compared to males because of which they are more susceptible towards negative mental health causing increase in anxiety and depression symptoms^{17,18}.

According to the findings of this study, patients who experience financial burden due to covid 19 show more depression and anxiety compare to those who don't experience any difficulty. According to Mental Health Foundation, people from underprivileged environment are prone to experience more mental health problems. All the socioeconomic barriers due to Covid 19 can increase mental health issues¹⁹. Most of the people are experiencing factors like isolation and loss of job due to Corona which can increase anxiety and uncertainty among them^{20,21}. Moreover, it has also observed from this study that family income is negatively correlated with both anxiety and depression reflecting that patients having low family income tend to show more depression and anxiety.

Finding of this study also reveals that older age patients experience more anxiety. This can be because their vulnerability towards disease due to weak immunity level and body functioning^{8,22}. Moreover, age is also positively related with duration of symptoms which means that older patients have longer duration of symptoms of Covid 19. According to the research adults are more on risk of developing severe illness from Covid 19. Symptoms severity increases with the age factor⁸.

According to results, patients with longer symptoms duration exhibit more anxiety. Longer duration of symptoms physically and emotionally weaken patients' strength and can ultimately increase anxiety. Additionally, it was observed that anxiety and depression shows positive relationship which represents that increase in depression can lead to increase in anxiety level as well. A study was conducted showing moderate to severe level of anxiety and depression due to Covid 19^{23,24}. Anxiety and depression are main psychiatric problems which can occur with each other.

There are high chances of anxiety symptoms to occur along with depressive symptoms. When talking about current scenario of Covid 19, patients might experience both depression and anxiety at the same time. Patient can be depressed because of his deterioration in mental and physical health and can be anxious simultaneously about apprehensions and concerns about health outcomes and quality of life.

IMPLICATIONS OF THE STUDY

This study can be helpful in identification of different levels of anxiety and depression in Covid 19 patients. This study can highlight significance of mental health and emergence need of psychotherapist and psychological interventions to cope with this pandemic. Awareness programs for providing information about mental health can be based from this study. Moreover, this study provides indigenous data about mental health in Pakistan due to Covid 19.

CONCLUSION:

Covid 19 negatively influences mental health of patients. Negative mental health can affect recovery of the patients. Patient diagnosed with Covid 19 experience moderate to high level of depression and anxiety. Different socio-demographic and clinical factors also influence occurrence of depression and anxiety. Sample size can be increased in further studies and data can be collected from different hospitals and cities to get more detailed information. More researches relevant to mental health and its influence on physical health are needed in Pakistani perspective.

ETHICAL APPROVAL

The study was approved by the Ethical Review Committee of Postgraduate Medical Institute, Ameer ud Din Medical College, Lahore, Pakistan, vide reference No. PGMI/AMC/LGH/Article/Research No./00-124-20 dated July 20, 2020.

REFERENCES:

- Haider II, Tiwana F, Tahir SM. Impact of the COVID-19 Pandemic on Adult Mental Health. *Pakistan Journal of Medical Sciences*. 2020 Apr 29;36(COVID19-S4). doi: <https://doi.org/10.12669/pjms.36.COVID19-S4.2756>
- Varshney M, Parel JT, Raizada N, Sarin SK. Initial psychological impact of COVID-19 and its correlates in Indian Community: An online (FEEL-COVID) survey. *Plos one*. 2020 May 29;15(5):e0233874. doi: <https://doi.org/10.1371/journal.pone.0233874>
- Haleem A, Javaid M, Vaishya R. Effects of COVID 19 pandemic in daily life. *Current Medicine Research and Practice*. 2020 Apr 3. doi: 10.1016/j.cmrp.2020.03.011
- Dymecka J, Gerymski R, Machnik-Czerwik A. How does stress affect our life satisfaction during COVID-19 pandemic? Moderated mediation analysis of sense of coherence and fear of coronavirus. doi:10.31234/osf.io/3zjrx
- World Health Organization. Mental health & COVID-19. 2020. Available from <https://www.who.int/teams/mental-health-and-substance-use/covid-19>
- Gambin M, Sekowski M, Woźniak-Prus M, Wnuk A, Oleksy T, Cudo A, Hansen K, Huflejt-Łukasik M, Kubicka K, Lys AE, Gorgol J. Generalized anxiety and depressive symptoms in various age groups during the COVID-19 lockdown. Specific predictors and differences in symptoms severity. doi: 10.31234/osf.io/42m87
- Armour C, McGlinchey E, Butter S, McAloney-Kocaman K, McPherson KE. Understanding the longitudinal psychosocial impact of the COVID-19 pandemic in the United Kingdom; a methodological overview of The COVID-19 Psychological Wellbeing Study. doi: 10.31234/osf.io/9p4tv
- Centers for Disease Control and Prevention. Coping with Stress. 2020. Available from <https://www.cdc.gov/coronavirus/2019-ncov/daily-life-coping/managing-stress-anxiety.html>
- Mukhtar MS. Mental health and psychosocial aspects of coronavirus outbreak in Pakistan: psychological intervention for public mental health crisis. *Asian Journal of Psychiatry*. 2020 Apr 16. doi: 10.1016/j.ajp.2020.102069
- Rajkumar RP. COVID-19 and mental health: A review of the existing literature. *Asian journal of psychiatry*. 2020 Apr 10;102066. doi: 10.1016/j.ajp.2020.102066
- Zandifar A, Badrfam R. Iranian mental health during the COVID-19 epidemic. *Asian journal of psychiatry*. 2020 Mar;51. doi: <https://doi.org/10.1016/j.ajp.2020.101990>
- Shigemura J, Ursano RJ, Morganstein JC, Kurosawa M, Benedek DM. Public responses to the novel 2019 coronavirus (2019-nCoV) in Japan: Mental health consequences and target populations. *Psychiatry and clinical neurosciences*. 2020 Apr;74(4):281. doi: 10.1111/pcn.12988
- Galea S, Merchant RM, Lurie N. The mental health consequences of COVID-19 and physical distancing: The need for prevention and early intervention. *JAMA internal medicine*. 2020 Jun 1;180(6):817-818. doi:10.1001/jamainternmed.2020.1562
- Dubey S, Biswas P, Ghosh R, Chatterjee S, Dubey MJ, Chatterjee S, Lahiri D, Lavie CJ. Psychosocial impact of COVID-19. *Diabetes & Metabolic Syndrome: Clinical Research & Reviews*. 2020 May 27. doi: 10.1016/j.dsx.2020.05.035
- Hou T, Zhang T, Cai W, Song X, Chen A, Deng G, et al. Social support and mental health among health care workers during Coronavirus Disease 2019 outbreak: A moderated mediation model. *Plos one*. 2020 May 29;15(5):e0233831. doi: <https://doi.org/10.1371/journal.pone.0233831>

16. WHO. Mental health. 2020. Available from https://www.who.int/mental_health/prevention/genderwomen/en/
17. Li M, Lu S, Wang G, Zhong N. The effects of gender differences in patients with depression on their emotional working memory and emotional experience. *Behavioural neurology*. 2015 Jan 1;2015. doi: <https://doi.org/10.1155/2015/807343>
18. Mina S, Jabeen M, Singh S, Verma R. Gender differences in depression and anxiety among atopic dermatitis patients. *Indian journal of dermatology*. 2015 Mar;60(2):211. doi: 10.4103/0019-5154.152564
19. Mental Health Foundation. The COVID-19 pandemic, financial inequality and mental health. 2020. Available from <https://www.mentalhealth.org.uk/our-work/research/coronavirus-mental-health-pandemic/covid-19-inequality-briefing> Accessed on 8th May 2020
20. Panchal N, Kamal R, Orgera K, Cox C, Garfield R, Hamel L, Chidambaram P. The implications of COVID-19 for mental health and substance use. Retrieved May. 2020 Apr 21;5:2020.
21. Keeter S. People financially affected by COVID-19 outbreak are experiencing more psychological distress than others. Pew Research Center.
22. Islam MS, Ferdous MZ, Potenza MN. Panic and generalized anxiety during the COVID-19 pandemic among Bangladeshi people: An online pilot survey early in the outbreak. *Journal of Affective Disorders*. 2020 Jul 15. doi: 10.1016/j.jad.2020.06.049
23. Sandesh R, Shahid W, Dev K, Mandhan N, Shankar P, Shaikh A, Rizwan A. Impact of COVID-19 on the Mental Health of Healthcare Professionals in Pakistan. *Cureus*. 2020 Jul;12(7). doi: 10.7759/cureus.8974
24. Salman M, Asif N, Mustafa ZU, Khan TM, Shehzadi N, Hussain K, Tahir H, Raza MH, Khan MT. Psychological Impact of COVID-19 on Pakistani University Students and How They Are Coping. *medRxiv*. 2020 Jan 1.
25. Kalin NH. The Critical Relationship Between Anxiety and Depression. doi: <https://doi.org/10.1176/appi.ajp.2020.20030305>

AUTHORS' CONTRIBUTION:

- HB:** Study design, manuscript writing
ZR: Methodology, manuscript writing.
SAH: Research process.
KW: Literature review, data analysis.
AK: Data collection, Literature review
AZ: Data analysis, discussion