



IMPACT OF COVID-19 PANDEMIC ON PATIENT WITH PRE EXISTING MAJOR DEPRESSIVE AND GENERALIZED ANXIETY DISORDERS.

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ABSTRACT

Introduction: Mental health conditions are chronic health issues often overshadowed by physical illnesses like diabetes or hypertension. The COVID-19 pandemic exacerbated these conditions, leading to increased rates of anxiety and depression. This study evaluates the psychological and social impacts of the COVID-19 pandemic on individuals with preexisting anxiety and depressive disorders. **Method:** Conducted at the Department of Psychiatry, SMIMER, Surat, over 18 months, this study involved 100 patients with preexisting anxiety or depressive disorders. Data were collected through a self-made questionnaire and analyzed using IBM-SPSS Version 25.0. Inclusion criteria were existing anxiety or depressive disorders, while newly diagnosed cases and children under 18 were excluded. Statistical analyses included Mean $\pm$ SD, t-tests, and chi-square tests. **Result:** Among the participants, 68.89% of patients experienced increased symptoms, with significant associations found between symptom changes and factors such as access to medication, travel restrictions, and financial issues. However, there were no significant differences related to age, gender, or COVID-19 infection status. The study found that access to medication and challenges like financial strain significantly impacted symptom severity. **Conclusion:** The COVID-19 pandemic significantly worsened symptoms for individuals with preexisting mental health conditions. Addressing barriers to medication access and financial support is crucial for mitigating mental health impacts during crises.

KEYWORDS : Mental Health; Anxiety Disorders; Depression; COVID-19; Psychological Impact; psychological Symptom Severity; Medication Access

INTRODUCTION

Mental health conditions are chronic health co-morbidities that are often overlooked and considered comparatively unimportant as compared to medical co-morbidities like diabetes, hypertension etc. However, those with mental health issues already deal with societal injustice, persistent medical issues, and poverty. This population will undoubtedly be negatively impacted by COVID-19 more severely than the others. [1]

According to World Health Organization (WHO), the prevalence of anxiety and sadness surged dramatically worldwide by 25% in the first year of the COVID-19 pandemic. [2]

People with generalised anxiety disorder and health anxiety may experience an increase in their symptoms during a pandemic. With a rise in bad mood, less energy, and diminished interest in daily activities, depressive symptoms could get worse. Fear exacerbates symptoms in those with pre-existing mental health conditions during times of crisis. [3]

The COVID-19 pandemic has made an already troubled mental health care system even more vulnerable. Numerous research have suggested that the COVID-19 pandemic has increased rates of anxiety, depression, and other psychopathologies. [4-8] Additionally, psychiatric disorders getting worse have been linked to a higher likelihood of suicide ideation. [9]

In this study, we aimed to evaluate the psychological and social effects of COVID-19, including its related mandated social restrictions, among people diagnosed with anxiety disorders and depression who were receiving mental health services. Our objectives were to determine changes in symptoms of these mental health disorders during the pandemic, identify the emergence of new symptoms during or after the pandemic, and observe the factors affecting mental health care for patients during this period.

Method

This study was conducted in the Department of Psychiatry at SMIMER, Surat, over a duration of 18 months. The sample size was determined based on the proportion of preexisting common mental disorders, such as major depressive disorder and anxiety disorder, found in previous literature. With a 95% level of significance and a 1% margin of error, the formula $N = \frac{Z^2 A}{2} \frac{PQ}{L^2}$ was used. Considering an approximate 1% dropout rate, the final sample size was 100. The study employed a convenient sampling technique. Data collection commenced after obtaining ethical approval from the Institutional Ethics Committee (IEC). Informed consent was taken from both the patients and their caregivers. The primary investigator conducted interviews using a self-made questionnaire, validated by interdepartmental review and external expert opinions. Inclusion criteria encompassed patients with preexisting depressive and anxiety disorders visiting the Psychiatry OPD or admitted to the psychiatry ward. Exclusion criteria included newly diagnosed cases with depressive and anxiety disorders and children below 18 years of age. The data collected was entered into MS Excel and then exported to IBM-SPSS Version 25.0 for analysis. Statistical analysis was performed using IBM-SPSS Version 25.0, with a p-value of <0.05 considered for statistical significance or association between groups. Quantitative data was analyzed using Mean $\pm$ SD, and the unpaired t-test was applied to find mean differences between two groups. For qualitative data, frequency and percentage tables were created, and the chi-square test was applied to check for significant associations between groups.

RESULT

This study included 100 patients with psychiatric disorders who met the inclusion and exclusion criteria. Of the total participants, 56% were female and 44% were male. Most patients were over 44 years old, with only 2 patients being under 20 years of age. None of the patients under 20 had a history of COVID-19, while 4.5% of those aged 20-40 and 13% of those over 40 had been diagnosed with COVID-19. However, the association between age and COVID-19 susceptibility in psychiatric patients was statistically

insignificant. No significant association was found between the age of onset of psychiatric disorders and the impact on symptoms during the COVID-19 pandemic.

Among the female patients, 5.4% had a history of COVID-19 compared to 13.6% of the male patients. Although more males were diagnosed with COVID-19, this difference was also statistically insignificant. Regarding symptomatology, 68.89% of patients who experienced changes in symptoms were diagnosed between the ages of 20 and 40, and 5% of those with no change in symptoms were diagnosed between 20 and 40 years. Among females, 60.7% reported an increase in symptoms, with 7.1% also experiencing new symptoms. In males, 52.3% had an increase in symptoms, and 6.8% reported new symptoms. The difference in symptomatology between genders was statistically insignificant.

The impact of symptoms was higher among patients newly diagnosed with anxiety or depression, with 66.67% of those affected having had their disorder for less than 5 months. However, there was no significant statistical association between the duration of illness and symptom impact.

Among the study participants, 71% had depressive disorders and 29% had anxiety disorders according to DSM-5 criteria. For depressive disorders, common symptoms included low mood and lack of interest (49%), fatigue and somatic pain (28%), sleep disturbances (14%), and decreased appetite (8%). For anxiety disorders, restlessness and apprehension (41%) were most common, followed by palpitations and shortness of breath (28%), difficulty concentrating (21%), and fatigue (1%).

Of the 29 patients with anxiety disorder, only 3.4% had a history of COVID-19, compared to 11.3% of patients with

depressive disorder. Despite a higher susceptibility to COVID-19 among those with depressive disorders, this difference was statistically insignificant.

Table 1: Distribution Of Patients According To Their Symptomatology And Type Of Disorder Diagnosed

Symptomatology for psychological illness	Dsm-5 diagnosis and criteria		Total
	Anxiety disorder	Depressive disorder	
Decrease	n 0 % 0.0%	2 2.8%	2 2.0%
Emergence of New Symptom	n 1 % 3.4%	2 2.8%	3 3.0%
Increase	n 16 % 55.2%	41 57.7%	57 57.0%
Increase + Emergence of new symptoms	n 0 % 0.0%	7 9.9%	7 7.0%
No Change	n 12 % 41.4%	19 26.8%	31 31.0%
Total	n 29 % 100.0%	71 100.0%	100 100.0%
Pearson Chi-Square : 5.147 P value: 0.273			

As seen in Table-1, Majority of patients with anxiety disorder had increase symptoms (55.2%) whereas none of them reported decrease in symptoms and 3.4% of patients had emergence of new symptoms. 41.4% had no change in their symptom presentation. Majority of patients with depressive disorder had increase symptoms (57.7%) whereas 2.8% of them reported decrease in symptoms and 2.8% of patients had emergence of new symptoms. 26.8% had no change in their symptom presentation. There were no significant association found between change in symptoms and type of psychiatric disorder they had.

Table 2: Symptomatology and Medication Factors

Symptomatology for psychological illness	Medicine Available at Drug Store	Medicine Not Available at Drug Store	Medicine Taken Regularly	Medicine Not Taken Regularly	Patient Got Medicine Easily	Patient Did Not Get Medicine Easily
Decrease	2 (2.7%)	0 (0.0%)	1 (2.0%)	1 (2.0%)	2 (3.51%)	0 (0.0%)
Emergence of New Symptom	2 (2.7%)	1 (3.8%)	1 (2.0%)	2 (4.1%)	2 (3.51%)	1 (2.33%)
Increase	33 (44.6%)	24 (92.3%)	16 (31.4%)	41 (83.7%)	18 (31.58%)	39 (90.7%)
Increase + Emergence of New Symptoms	6 (8.1%)	1 (3.8%)	4 (7.8%)	3 (6.1%)	6 (10.53%)	1 (2.33%)
No Change	31 (41.9%)	0 (0.0%)	29 (56.9%)	2 (4.1%)	29 (50.88%)	2 (4.65%)
Total	74 (100.0%)	26 (100.0%)	51 (100.0%)	49 (100.0%)	57 (100.0%)	43 (100.0%)
P value:	0.001*		<0.001*		<0.001*	

The table-2 presents the distribution of symptomatology based on three factors: availability of medicine at the drug store, regularity of medicine intake, and ease of obtaining medicine.

Among patients who had access to medicine at the drug store, 44.6% experienced an increase in symptoms, 41.9% reported no change, 8.1% experienced both an increase and the emergence of new symptoms, 2.7% reported a decrease, and 2.7% experienced the emergence of new symptoms. Among those without access, 92.3% experienced an increase in symptoms, 0.0% reported no change, 3.8% experienced both an increase and new symptoms, and 0.0% reported a decrease or emergence of new symptoms. The chi-square value was 19.86 with a p-value of 0.001, indicating a significant difference between the two groups.

Among patients who took their medicine regularly, 56.9% reported no change in symptoms, 31.4% experienced an increase, 7.8% experienced both an increase and the

emergence of new symptoms, and 2.0% reported a decrease or emergence of new symptoms. Among those who did not take medicine regularly, 83.7% experienced an increase, 4.1% reported no change, 6.1% experienced both an increase and new symptoms, and 2.0% reported a decrease or the emergence of new symptoms. The chi-square value for this group was 34.90 with a p-value of <0.001, showing a significant relationship.

Among patients who found it easy to get medicine, 50.88% reported no change in symptoms, 31.58% experienced an increase, 10.53% experienced both an increase and the emergence of new symptoms, and 3.51% reported a decrease or the emergence of new symptoms. Among those who did not get medicine easily, 90.7% experienced an increase, 4.65% reported no change, 2.33% experienced both an increase and new symptoms, and 0.0% reported a decrease. The chi-square value for this group was 35.90 with a p-value of <0.001, indicating a significant association between ease of obtaining medicine and changes in symptoms.

Table 3: Symptomatology and External Stressors

Symptomatology for psychological illness	Problem due to Travel Restriction	No Problem due to Travel Restriction	Financial Issue Present	No Financial Issue	Difficulty Consulting Psychiatrist	No Difficulty Consulting Psychiatrist
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Decrease	0 (0.0%)	2 (2.53%)	0 (0.0%)	2 (2.9%)	1 (1.37%)	1 (3.7%)
Emergence of New Symptom	0 (0.0%)	3 (3.8%)	0 (0.0%)	3 (4.3%)	3 (4.11%)	0 (0.0%)
Increase	19 (90.48%)	38 (48.1%)	29 (96.7%)	28 (40.0%)	46 (63.01%)	11 (40.74%)
Increase + Emergence of new symptoms	0 (0.0%)	7 (8.86%)	1 (3.3%)	6 (8.6%)	7 (9.59%)	0 (0.0%)
No Change	2 (9.52%)	29 (36.71%)	0 (0.0%)	31 (44.3%)	16 (21.92%)	15 (55.56%)
Total	21 (100.0%)	79 (100.0%)	30 (100.0%)	70 (100.0%)	73 (100.0%)	27 (100.0%)
P value:	<0.015*	<0.001*	<0.001*			

The table-3 presents the distribution of symptomatology among patients experiencing various challenges such as travel restrictions, financial issues, and difficulties consulting psychiatrists.

Among patients who faced travel restrictions, 90.48% experienced an increase in symptoms, 9.52% reported no change, and none reported a decrease or emergence of new symptoms. Among those without travel restrictions, 48.1% experienced an increase, 36.71% reported no change, 8.86% experienced both an increase and the emergence of new symptoms, 3.8% reported the emergence of new symptoms, and 2.53% reported a decrease. The chi-square value for this group was 12.37 with a p-value of <0.015, indicating a statistically significant difference.

Among patients with financial issues, 96.7% experienced an increase in symptoms, 3.3% experienced both an increase and the emergence of new symptoms, and none reported a

decrease or emergence of new symptoms alone or no change. Among those without financial issues, 44.3% reported no change, 40.0% experienced an increase, 8.6% experienced both an increase and the emergence of new symptoms, 4.3% reported the emergence of new symptoms, and 2.9% reported a decrease. The chi-square value for this group was 28.08 with a p-value of <0.001, indicating a highly significant difference.

Among patients who had difficulty consulting a psychiatrist, 63.01% experienced an increase in symptoms, 21.92% reported no change, 9.59% experienced both an increase and the emergence of new symptoms, 4.11% reported the emergence of new symptoms, and 1.37% reported a decrease. Among those without such difficulties, 55.56% reported no change, 40.74% experienced an increase, and 3.7% reported a decrease, with no patients experiencing the emergence of new symptoms or both an increase and new symptoms. The chi-square value for this group was 13.14 with a p-value of <0.011, also indicating a statistically significant difference.

Table 4: Symptomatology and COVID-19 Infection Impact

Symptomatology for psychological illness	Patients with COVID-19	Patients without COVID-19	Relatives with COVID-19	Relatives without COVID-19
Decrease	0 (0.0%)	2 (2.2%)	0 (0.0%)	2 (2.4%)
Emergence of New Symptom	0 (0.0%)	3 (3.3%)	0 (0.0%)	3 (3.6%)
Increase	8 (88.9%)	49 (53.8%)	11 (64.7%)	46 (55.4%)
Increase + Emergence of new symptoms	0 (0.0%)	7 (7.7%)	0 (0.0%)	7 (8.43%)
No Change	1 (11.1%)	30 (32.9%)	6 (35.29%)	25 (30.1%)
Total	9 (100.0%)	91 (100.0%)	17 (100.0%)	83 (100.0%)
P value:	0.37	0.59		

The table-4 illustrates the distribution of symptomatology among patients and their relatives with and without COVID-19 infection. Among patients with COVID-19, 88.89% experienced an increase in symptoms, 11.11% reported no change, and none reported a decrease or the emergence of new symptoms. Among patients without COVID-19, 53.85% experienced an increase, 32.97% reported no change, 7.69% experienced both an increase and the emergence of new symptoms, 3.3% reported the emergence of new symptoms, and 2.2% reported a decrease. The chi-square value for this group was 4.21 with a p-value of 0.37.

Among relatives of patients with COVID-19, 64.71% experienced an increase in symptoms, 35.29% reported no

change, and none reported a decrease or the emergence of new symptoms. Among relatives of patients without COVID-19, 55.42% experienced an increase, 30.12% reported no change, 8.43% experienced both an increase and the emergence of new symptoms, 3.61% reported the emergence of new symptoms, and 2.41% reported a decrease. The chi-square value for this group was 2.79 with a p-value of 0.59.

The data indicates that an increase in symptoms was the most common experience among both patients and relatives with COVID-19, although the differences between groups were not statistically significant, as indicated by the p-values greater than 0.05.

Table 5: COVID-19 Infection and Preventive Practices

Hygiene Practice	Rating	Patients without COVID-19	Patients with COVID-19	p Value
Keeping Proper Hygiene	Fairly well	49 (92.5%)	4 (7.5%)	0.85
	Good	25 (89.3%)	3 (10.7%)	
	Poor	3 (100.0%)	0 (0.0%)	
	Satisfactory	14 (87.5%)	2 (12.5%)	
Follow Lockdown Guidelines	Fairly well	51 (96.2%)	2 (3.8%)	0.16
	Good	25 (86.2%)	4 (13.8%)	
	Poor	2 (66.7%)	1 (33.3%)	
	Satisfactory	13 (86.7%)	2 (13.3%)	
Sanitizing Hands	Fairly well	49 (94.2%)	3 (5.8%)	0.32
	Good	29 (90.6%)	3 (9.4%)	
	Poor	2 (66.7%)	1 (33.3%)	
	Satisfactory	11 (84.6%)	2 (15.4%)	
Wearing Mask	Fairly well	50 (96.2%)	2 (3.8%)	0.1
	Good	27 (90.0%)	3 (10.0%)	
	Poor	2 (66.7%)	1 (33.3%)	

	Satisfactory	12 (80.0%)	3 (20.0%)	
Maintaining Social Distancing	Fairly well	50 (96.2%)	2 (3.8%)	0.16
	Good	23 (85.2%)	4 (14.8%)	
	Poor	2 (66.7%)	1 (33.3%)	
	Satisfactory	16 (88.9%)	2 (11.1%)	

The consolidated table-5 presents the distribution of hygiene practices among patients with and without COVID-19 infection.

For keeping proper hygiene, 92.5% of patients without COVID-19 and 7.5% of patients with COVID-19 were rated as "Fairly well," while those rated as "Good" included 89.3% without COVID-19 and 10.7% with COVID-19. The chi-square value was 7.73 with a p-value of 0.85.

In following lockdown guidelines, 96.2% of patients without COVID-19 and 3.8% of patients with COVID-19 were rated as "Fairly well." Those rated "Good" included 86.2% without COVID-19 and 13.8% with COVID-19, with a chi-square value of 5.09 and a p-value of 0.16.

For sanitizing hands, 94.2% of patients without COVID-19 and 5.8% of patients with COVID-19 were rated "Fairly well." Those rated "Good" included 90.6% without COVID-19 and 9.4% with COVID-19, yielding a chi-square value of 3.48 and a p-value of 0.32.

Regarding wearing masks, 96.2% of patients without COVID-19 and 3.8% of patients with COVID-19 were rated "Fairly well." Those rated "Good" included 90.0% without COVID-19 and 10.0% with COVID-19, with a chi-square value of 6.10 and a p-value of 0.10.

Finally, for maintaining social distancing, 96.2% of patients without COVID-19 and 3.8% of patients with COVID-19 were rated "Fairly well." Those rated "Good" included 85.2% without COVID-19 and 14.8% with COVID-19, with a chi-square value of 5.06 and a p-value of 0.16.

Overall, the data suggests that adherence to hygiene practices was generally high among both groups, but the differences between patients with and without COVID-19 were not statistically significant, as indicated by the p-values greater than 0.05 for all practices.

DISCUSSION

In our study, 71% of participants were diagnosed with depressive disorder, while 29% had anxiety disorder according to DSM-5 criteria. This contrasts with findings from Porter et al. [10], where Peru had the highest rates of mild anxiety (41%) and moderate depression (32%), whereas Ethiopia had the highest rates of anxiety disorder (18%) and the second-highest rates of depression (15%). This suggests that while depressive disorders are predominant in our study population, the distribution of anxiety and depression varies significantly across different regions.

In our study, 56% of patients with depressive disorder and 48.28% of those with anxiety disorder were over 40 years of age. This is somewhat consistent with Hajek et al. [11], which found that major depressive disorder was most prevalent among individuals over 40 years of age. Similarly, the gender distribution in our study (56% female and 44% male) is similar to Hajek et al.'s 51.1% female representation.

Our study found that the majority of patients with anxiety (58.62%) and depressive disorders (57.7%) experienced an increase in symptoms during the COVID-19 pandemic. Xiong et al. [12] also reported a significant increase in depressive symptoms due to the pandemic.

In our study, 51% of patients took medication regularly, with

31.4% reporting increased symptoms. Conversely, 49% who did not take medication regularly reported a significantly higher rate of symptom increase (83.7%).

Our study supports Hao et al.'s findings that medication adherence is crucial for managing psychiatric symptoms, highlighting that those who adhered to medication experienced fewer increases in symptoms. [13]

Financial issues were found to be significantly associated with an increase in psychiatric symptoms. Fung et al. also reported that financial difficulties due to the pandemic exacerbated anxiety and depression. [14]

We observed that 41.9% of patients who found medicine at a drug store during the lockdown reported no change in symptoms, whereas 44.6% reported an increase in symptoms. Those who did not find medication had almost double the rate of symptom increases. Our study confirms the importance of medication accessibility in managing psychiatric conditions during the pandemic, similar to Maguire et al.'s observations. [15]

A significant majority (73%) of patients had difficulty consulting with psychiatrists due to COVID-19 restrictions. Our study aligns with Knickerbocker et al.'s findings that difficulties in accessing mental health services exacerbated symptoms. [16]

We found no significant association between the personal history of COVID-19 infection and changes in psychiatric symptoms. Our study's results support Seibert et al.'s findings that personal COVID-19 infection history does not significantly impact psychiatric symptoms. [17]

We found that satisfactory hygiene, lockdown adherence, and social distancing practices were more common among patients without a COVID-19 history, though these differences were statistically insignificant. While our study did not find significant differences, Fung et al. demonstrated that such public health measures can impact mental health, which might be reflected in the broader population. [14]

Our study showed that patients without a history of COVID-19 followed prevention guidelines better, though the differences in practices such as mask-wearing, social distancing, and hand sanitization were statistically insignificant. Our findings are consistent with Maguire et al.'s observations that public health measures were variably followed, reflecting broader trends in pandemic responses. [15]

CONCLUSION

Our study reveals that depressive disorders were more prevalent than anxiety disorders among psychiatric patients, with significant impacts due to the pandemic. The findings align with some studies but diverge in terms of regional prevalence and specific impacts of COVID-19 on mental health. Regular medication adherence, financial issues, and access to psychiatric care were critical factors influencing symptom changes during the pandemic.

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