Research Article

INTERNATIONAL RESEARCH JOURNAL OF PHARMACY

www.irjponline.com

ISSN 2230-8407 [LINKING]

CROSS-SECTIONAL STUDY ON ANXIETY AND DEPRESSION AMONG PATIENTS RECOVERING FROM COVID-19 INFECTION ATTENDING THE PSYCHIATRY OUTPATIENT DEPARTMENT

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How to cite: Ingole G. A Cross-Sectional Study on Anxiety and Depression Among Patients Recovering from COVID-19 Infection Attending a Psychiatry Outpatient Department. International Research Journal of Pharmacy. 2021;12(9):40-44.

Doi:10.7897/2230-8407.1209165

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ABSTRACT

Background: The COVID-19 pandemic has resulted in significant psychological stress and psychiatric morbidity among recovered patients. Anxiety and depressive symptoms have been increasingly reported during the post-COVID recovery period.

Aim: To evaluate the prevalence of anxiety and depression among patients recovering from COVID-19 infection and to identify associated psychosocial and clinical factors.

Methods: A cross-sectional observational study was conducted among 129 patients recovering from COVID-19 infection attending the psychiatry outpatient department between June 2021 and May 2022. Anxiety and depression were assessed using Hamilton Anxiety Rating Scale (HAM-A) and Hamilton Depression Rating Scale (HAM-D). Sociodemographic profile, hospitalization history, duration of illness, sleep disturbances, and psychosocial stressors were evaluated. Statistical analysis was performed using chi-square test and independent t-test. A p-value less than 0.05 was considered statistically significant.

Results: Moderate anxiety and mild depression were the most common psychiatric manifestations observed among post-COVID patients. Sleep disturbances, prolonged hospitalization, social isolation, and financial stress demonstrated significant association with anxiety and depression.

Conclusion: Psychological morbidity is common among patients recovering from COVID-19 infection. Early psychiatric screening and psychosocial support are important components of post-COVID rehabilitation.

Keywords: Anxiety, COVID-19, Depression, Mental Health, Post-COVID Syndrome, Psychiatry.

INTRODUCTION

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) which causes coronavirus disease 2019 (COVID-19) has emerged as one of the biggest global health crises in recent times. The pandemic has put a huge strain on health care systems, and disrupted social, occupational, educational, and family life globally. The clinical focus was initially mainly on respiratory manifestations, disease severity, hospitalization and mortality, but it slowly became evident that the psychological consequences of COVID-19 were also considerable. The fear of getting infected, the uncertainty about recovery, social restrictions, financial difficulties, the loss of family members and the prolonged disruption of routine life were some of the reasons for the increase in mental health concerns during and after the pandemic.[1]

Patients recovering from COVID-19 infection may continue to have a broad spectrum of symptoms even after resolution of the acute phase of illness. Many patients develop psychological symptoms such as anxiety, depression, insomnia, irritability, fear, emotional distress, and difficulty in resuming normal daily activities, and physical complaints such as fatigue, breathlessness, weakness, body ache and reduced exercise tolerance.[2] These symptoms may remain unrecognized because the primary attention during follow-up is often directed towards physical recovery. However, psychological

disturbances can significantly affect treatment compliance, interpersonal relationships, work performance, sleep, social functioning, and overall quality of life.

The psychological impact of COVID-19 may be affected by several factors. Patients with severe disease may experience fear of death, prolonged isolation, separation from family members, invasive procedures, uncertainty regarding clinical outcome and distress related to hospitalization. Even patients with mild or moderate disease who are treated at home may experience ongoing fear of complications, anxiety about infecting family members, social stigma, and worry about future health. Besides reinfection or long-term complications, repeated exposure to distressing news and limited social interaction may play a role in psychiatric morbidity in recovered patients.[3]

Neuropsychiatric manifestations following COVID-19 infection may occur through a combination of biological and psychosocial mechanisms. Viral infections can lead to inflammatory responses, immune dysregulation, altered stress pathways, and prolonged systemic illness, all of which may contribute to changes in mood, sleep, cognition, and emotional well-being.[3] At the same time, social isolation, loss of routine, economic stress, reduced access to supportive care, and the emotional impact of illness can intensify psychological symptoms. Therefore, post-COVID mental health disturbances should be understood as the result of interacting physical, emotional, and social factors rather than as isolated psychiatric complaints.

Several studies conducted during the pandemic have reported an increased occurrence of anxiety and depressive symptoms among individuals who had recovered from COVID-19.[4] Patients may continue to experience excessive worry, low mood, loss of interest, tiredness, disturbed sleep, reduced concentration, and fear regarding their health even after becoming clinically stable or testing negative for infection. These persistent symptoms are particularly important in the context of post-COVID syndrome, in which multiple physical and psychological complaints may continue for weeks or months after the acute illness. Mental health disturbances during this period may interfere with rehabilitation and delay return to normal family, professional, and social responsibilities.

Assessment of psychiatric morbidity requires the use of reliable and structured clinical tools. The Hamilton Anxiety Rating Scale (HAM-A) is widely used for evaluating the severity of anxiety symptoms, including psychological distress and physical manifestations of anxiety.[5] Similarly, the Hamilton Depression Rating Scale (HAM-D) is commonly used to assess depressive symptoms such as low mood, loss of interest, sleep disturbances, guilt, psychomotor changes, and suicidal thoughts.[6] The use of these standardized scales helps in identifying patients with clinically significant symptoms and allows more objective assessment of their mental health status.

Early recognition of anxiety and depression among patients recovering from COVID-19 is essential, as untreated psychological symptoms may prolong suffering, impair functional recovery, and adversely affect quality of life. Timely counselling, psychological support, psychiatric referral, and appropriate treatment can play an important role in comprehensive post-COVID rehabilitation. [7]

Therefore, the present study was conducted to evaluate the prevalence of anxiety and depression among patients recovering from COVID-19 infection and to identify the associated psychosocial and clinical factors contributing to psychiatric morbidity.

Materials and Methods

This cross-sectional observational study was conducted in the Department of Psychiatry at a tertiary care teaching hospital over 1 year in 2020. A total of 129 patients who had recovered from coronavirus disease 2019 (COVID-19) infection were included in the study.

Patients aged 18 years or older with documented evidence of recovery from COVID-19 infection within the preceding 3 months were included. Recovery was confirmed based on available prior diagnostic records and clinical recovery status. Patients with a history of severe psychiatric illness prior to COVID-19 infection, severe cognitive impairment affecting their ability to participate in psychiatric assessment, and patients who were critically ill at the time of evaluation were excluded from the study.

After enrolment, a detailed history was obtained from each participant using a structured clinical format. Demographic details including age and gender were recorded. Clinical information regarding the duration of COVID-19 illness, history of hospitalization, need for intensive care unit admission, and family history of psychiatric illness was documented. Relevant psychosocial factors such as sleep disturbances, financial stress related to illness or loss of work, and social isolation during or after COVID-19 infection were also assessed.

Each participant underwent a detailed mental status examination to evaluate appearance, behaviour, mood, affect, thought content, perception, cognition, insight, and judgement. Anxiety symptoms were assessed using the Hamilton Anxiety

Rating Scale (HAM-A), while depressive symptoms were evaluated by the Hamilton Depression Rating Scale (HAM-D). These standardised scales were used to assess the presence and severity of anxiety and depressive symptoms among patients recovering from COVID-19 infection.

Data collected were entered and analysed using IBM SPSS Statistics for Windows, Version 25.0. Continuous variables are presented as mean ± standard deviation and categorical variables as frequency and percentage. Associations between categorical variables were assessed using the Chi-square test with comparison of continuous variables between relevant groups performed using the independent t-test. A P value of <0.05 was considered statistically significant.

RESULTS

A total of 129 post-COVID patients were evaluated in the present study. The mean age of participants was 41.8 ± 12.4 years.

Table 1: Demographic Characteristics of Study Participants

Variable	Frequency (%)
Male	74 (57.4)
Female	55 (42.6)
Age 21–40 years	52 (40.3)
Age 41–60 years	58 (45.0)
Age >60 years	19 (14.7)

Male predominance was observed with 74 (57.4%) male participants and 55 (42.6%) female participants. The majority belonged to the 41–60 years age group accounting for 58 (45.0%) cases.

Table 2: Clinical Characteristics of Post-COVID Patients

Clinical Characteristic	Frequency (%)
Home isolation	78 (60.5)
Hospital admission	51 (39.5)
ICU admission	16 (12.4)
Duration of illness >14 days	48 (37.2)
Persistent fatigue	62 (48.1)

Persistent fatigue was observed in 62 (48.1%) patients while hospital admission was required in 51 (39.5%) cases.

Table 3: Anxiety Severity According to HAM-A Scale

Anxiety Severity	Frequency (%)
Mild anxiety	42 (32.6)
Moderate anxiety	58 (45.0)
Severe anxiety	29 (22.4)

Moderate anxiety was the most common psychiatric manifestation observed in 58 (45.0%) patients followed by mild anxiety in 42 (32.6%) cases.

Table 4: Depression Severity According to HAM-D Scale

Depression Severity	Frequency (%)
Mild depression	54 (41.9)
Moderate depression	46 (35.7)
Severe depression	18 (14.0)
No depression	11 (8.4)

Mild depression was observed in 54 (41.9%) patients followed by moderate depression in 46 (35.7%) cases.

Table 5: Common Psychological Symptoms Among Study Participants

Symptom	Frequency (%)
Sleep disturbance	76 (58.9)
Excessive worry	72 (55.8)
Fear of reinfection	68 (52.7)
Irritability	48 (37.2)
Reduced concentration	36 (27.9)

Sleep disturbance was the most common psychological symptom observed in 76 (58.9%) patients followed by excessive worry in 72 (55.8%) cases.

Table 6: Psychosocial Factors Associated with Anxiety and Depression

Psychosocial Factor	Moderate-to-Severe Anxiety/Depression n (%)	p-value
Financial stress	38 (73.1)	0.002
Social isolation	42 (77.8)	<0.001
Sleep disturbance	48 (63.1)	0.004
Family member death due to COVID-19	18 (81.8)	0.001

Financial stress, social isolation, sleep disturbances, and death of family member due to COVID-19 demonstrated significant association with anxiety and depression.

Table 7: Correlation Between Hospitalization and Psychiatric Morbidity

Hospitalization Status	Moderate-to-Severe Anxiety/Depression n (%)	p-value
Home isolation	28 (35.9)	0.081
Hospital admission	34 (66.7)	0.003
ICU admission	14 (87.5)	<0.001

Hospitalization and ICU admission demonstrated significant association with moderate-to-severe psychiatric morbidity.

DISCUSSION

This cross-sectional study assessed the prevalence of anxiety and depression in patients recovering from COVID-19 infection. Although patients had recovered from the acute phase of illness, a significant proportion was still experiencing psychological symptoms. These findings suggest that recovery from COVID-19 may not be restricted to just the resolution of physical symptoms, as mental health disturbances may persist during the post-COVID period and may impact overall rehabilitation and quality of life.

Moderate anxiety and mild depression were the predominant psychiatric manifestations observed in the present study. Mazza et al. reported the occurrence of anxiety and depressive symptoms among COVID-19 survivors, highlighting the psychological burden that may persist after recovery from the infection.[8] Our findings are in line with their observations and indicate that patients recovering from COVID-19 remain vulnerable to psychiatric morbidity. In the period of recovery, anxiety and depressive symptoms may be related to fear about health, uncertainty about long-term complications, concern about reinfection and difficulty in returning to routine activities. Sleep disturbance and excessive worry were common psychological symptoms in the participants of the present study. Altena et al. described sleep related problems during the COVID-19 period and highlighted the negative impact of altered routine, anxiety, isolation and stress on sleep quality .[9] In our study, patients with sleep disturbances frequently reported excessive worry and emotional distress. Fear of reinfection, concern regarding family members, persistent physical symptoms, and memories of illness or hospitalization may have contributed to difficulty in falling asleep, interrupted sleep, and non-refreshing sleep. Sleep disturbances can further worsen anxiety, mood symptoms, fatigue, and ability to perform daily activities.

Patients who had required hospitalization and those with a history of intensive care unit admission demonstrated higher psychiatric morbidity in the present study. Pandharipande et al. reported that patients surviving critical illness may experience significant long-term neuropsychological consequences.[10] Their study was more general in its examination of critical illness, but the findings are applicable to patients with severe COVID-19 who required intensive care. In our study, severe illness, prolonged hospitalization, separation from family members, fear of complications, dependence on oxygen or intensive medical support, and uncertainty about prognosis may have exacerbated anxiety and depressive symptoms after recovery. These findings suggest that patients with a history of severe disease should be considered a priority group for psychiatric assessment at follow-up.

Social isolation showed a significant association with anxiety and depression in the present study. During COVID-19 infection, patients were often required to remain isolated from family members and their usual social support systems. Brooks et al. reported that quarantine can have important psychological effects, including anxiety, emotional distress, low mood, and stress-related symptoms.[11] Our study findings are in agreement with these observations. Lack of direct emotional support, reduced interaction with family members, loneliness during illness, and fear of transmitting infection may have contributed to psychological distress among recovered patients.

In the present study, anxiety and depression were also found to be significantly associated with financial stress. Many patients may have lost work, had reduced income, increased medical expenses, or been concerned about financial responsibilities during and after their illness. Such financial difficulties may contribute to the emotional burden of recovery and may prolong anxiety and depressive symptoms. Therefore, in assessing the mental health of patients recovering from COVID-19, it is important to identify social and economic stressors, in addition to physical and psychiatric care.

Another important symptom observed among patients in the present study was persistent fatigue. According to Carfi et al. patients convalescing from acute COVID-19 may continue to have persistent symptoms including fatigue even after the acute illness has resolved.[12] Fatigue may interfere with the patient's ability to return to work, perform household responsibilities, maintain social relationships, and resume normal routine. In our study, continued fatigue may have contributed to emotional distress, reduced confidence, irritability, anxiety, and depressive symptoms. The combination of physical weakness and psychological symptoms may further delay complete recovery.

The results of the present study highlight the importance of psychiatric screening as part of the post-COVID follow-up care. According to Pfefferbaum and North, the COVID-19 pandemic had serious mental health effects, and timely psychological support and intervention is important.[13] Early detection of anxiety and depression in patients recovering from COVID-19 using clinical assessment and standardized scales such as HAM-A and HAM-D may help in initiating counseling, supportive care, psychiatric referral and treatment whenever required. A greater focus on sleep disturbances, financial stress, social isolation and persistent fatigue may improve the effectiveness of post-COVID rehabilitation. There are some limitations in the present study. It was performed in a single centre and had a small number of patients so may not be generalisable to all post COVID populations. The study was cross-sectional, so the long-term course of anxiety and depression could not be evaluated. Future larger multicentric studies with regular follow-up may help to better understand the long-term psychiatric morbidity in survivors of COVID-19.

Conclusion

Patients recovering from COVID-19 infection commonly have anxiety and depression. Sleep disturbances, hospitalization, financial stress, and social isolation are important contributors to psychiatric morbidity. Early mental health assessment and psycho-social support are important to improve the recovery and quality of life of post-COVID patients.

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