



## A STUDY TO FIND OUT PSYCHIATRIC MORBIDITY IN COVID INTENSIVE CARE UNIT PATIENTS POST DISCHARGE

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**ABSTRACT** The COVID-19 was first observed in patients in Wuhan, China, in 2019 and it widely infected people across the world thereafter. In March 2020, World Health Organization declared it as a global pandemic. Patients admitted to intensive care units are prone to developing mental illnesses; in addition, patients in the COVID Intensive care unit were at a disadvantage as they had to be kept separated from family members due to the contagious nature of their illness. Moreover, communication with medical staff was difficult due to protective equipment worn by the health care workers as well as oxygen masks and tubes assisting the patients. In this study done in year 2020 to 2022, we tried to find out the impact that intensive care unit admission in the COVID intensive care unit had on the mental health of the patients. In our study, we found that a significant number of patients developed psychiatric morbidity after discharge from the COVID intensive care unit.

**KEYWORDS :** Covid 19, Pandemic, Intensive care unit, Covid ICU, Psychiatric morbidity, mental health

### INTRODUCTION

Coronaviruses are a family of related RNA viruses that infect both mammals and birds and cause sickness. They can cause mild to fatal respiratory tract infections in both people and birds. Some cases of the common cold in humans (which is also brought on by other viruses, primarily rhinoviruses), while more deadly types can bring about SARS, MERS, and COVID-19, which is driving the ongoing pandemic. Coronaviruses are members of the family Coronaviridae, and in the order Nidovirales, Riboviria is the realm. These viruses have a positive-sense single-stranded RNA genome and a helical symmetry nucleocapsid. (Schoch et al., 2020)

The pandemic's effects on the social, economic, and mental fabric of the world have had a significant negative impact on the population's mental health. The prevalence of post-traumatic stress disorder, sleeplessness, anxiety, and depressive disorders, as well as the risk of suicide, has increased.

The importance of handwashing in preventing COVID-19 infections was highly publicized and advertised on television, radio, social media, hospital leaflets, and other sources of mass media, but some people took it to the next level owing to the extreme worry and panic associated with the pandemic. Because of their obsessive concentration on frequently washing their hands, a large section of the population developed obsessive-compulsive disorder. However, they were unsure of when or how often washing their hands was sufficient. (Kumar & Nayar, 2020)

COVID intensive care unit patients are prone to developing mental illnesses as a result of their intensive care unit stay and the illness itself. Many past studies have shown viruses to be neurotropic along with their abilities to cross the blood-brain barrier and directly participate in the causation of several psychiatric illnesses. (Okusaga et al., 2011) (Tonelli & Postolache, 2010)

Patients were kept apart from their relatives inside Covid intensive care units. Indian families have always been seen as close-knit, be it for social or cultural reasons, so keeping patients apart from their families took a toll on their mental health. In a situation where one is unable to perform their daily routines due to being bedridden, feelings of helplessness and hopelessness can easily take over. In our study, several patients had to witness other patients die in the intensive care unit beside them, which can count as a traumatic event.

Interacting with medical personnel was difficult owing to personal protection equipment, and there was a glaring disparity between the number of patients and staff as hospitals were overburdened and understaffed. (Schmidt et al., 2021)

Sources: [www.googleimages.com/covid-19 ICU](https://www.googleimages.com/covid-19 ICU)

**AIMS AND OBJECTIVES:** To find out the psychiatric morbidity in patients admitted to the COVID intensive care unit post discharge



### INCLUSION CRITERIA:

- Patients who have received at least 24 hours of intensive care unit treatment in the Covid intensive care unit.
- Those were in the age range of 18 to 60 years of either sex.
- Patients must give written informed consent before assessment.
- Patients who are cooperative for the interview
- Patients who can understand in Hindi or English

### EXCLUSION CRITERIA:

- Patient below 18 years of age and above 60 years of age of either sex.
- Patients who already have an active psychiatric illness when they were admitted to covid intensive care unit.
- Patients staying less than 24 hours in the intensive care unit.
- Patients not giving consent

### METHODOLOGY:

A protocol was made after approval from the ethics committee of the institute.

- Subjects were included from COVID intensive care unit when they came for follow-up after discharge to the Department of Medicine and then were sent to the Outpatient department of the Department of Psychiatry, Netaji Subhash Chandra Bose Medical College and Hospital, Jabalpur, MP, after meeting the inclusion criteria. Subjects not meeting inclusion criteria or meeting exclusion criteria were excluded from the study.
- After explaining the procedure in detail, the subjects were asked to provide a written consent form for their participation in the study without any underhanded force and willingly.
- The interview was done on the basis of a semi-structured questionnaire to assess socio-demographic factors.
- GHQ-12 Hindi Version (permission to use the scale was taken through phone call from the authors) and Kessler psychological distress scales were applied.
- ICD-10 was used for further assessment and diagnosis.

### RESULTS

- Out of 125 Covid intensive care unit patients, after assessment as per GHQ-12 Hindi Version and ICD-10, 60 (48%) had no psychiatric morbidity, 23 (18.4%) patients had clinical depression,

16 (12.8%) complained of insomnia, 10 (8%) had anxiety, 6 (4.8%) were delirious, 3 (2.4%) had obsessive-compulsive disorder, and 7 patients had post-traumatic stress disorder, out of which 2 (1.6%) just had post-traumatic stress disorder while the maximum, i.e., 5 (4%), out of 7 patients had features of both post-traumatic stress disorder and anxiety combined (TABLE 1).

Another thing we noticed was those 35 patients (28%) of the 125 patients in the Covid intensive care unit complained of brain fog, while the other 90 (72% of them) did not. (TABLE-2)

**TABLE 1: DISTRIBUTION OF COVID INTENSIVE CARE UNIT PATIENTS ON BASIS OF ICD-10 & GHQ-H12 FINDINGS (SHOWN ABOVE)**

ICD10 & GH-12-Hindi Version Findings Suggestive Of?	Frequency	Percentage
No psychiatric morbidity	60	48.0
Anxiety	10	8.0
Depression	23	18.4
Delirium	6	4.8
Obsessive Compulsive Disorder	3	2.4
Insomnia	16	12.8
Post Traumatic Stress Disorder	2	1.6
Post Traumatic Stress Disorder Comorbid with Anxiety	5	4.0
Total	125	100

**TABLE 2: DISTRIBUTION OF COVID INTENSIVE CARE UNIT PATIENTS ON BASIS OF PRESENCE OF BRAIN FOG (SHOWN ABOVE).**

Brain Fog	Frequency	Percentage
Absent	90	72.0
Present	35	28.0
Total Patients	125	100

## DISCUSSION AND CONCLUSIONS

Critical illness survivors face the risk of acquiring serious physical, cognitive, and psychosocial problems after being discharged (Desai et al., 2011).

In our study, 18.4% of COVID intensive care unit patients were found to have depression in the period of 1–9 months after discharge. Similar findings were seen in a study done in London, United Kingdom. In that study, depressive and anxious symptoms were the least prevalently reported in their cohort, representing 18.8% and 27.1% of COVID-19 survivors 1–2 months after discharge, respectively. Out of a total of 18.8% of participants who reported depression, all had mild depressive symptoms, except for only 3.8% of this group who had moderate to severe depression. Out of total participants, 27.1% had anxiety, and out of these, 16.5% complained of moderate to severe symptoms of anxiety. (Pappa et al., 2022)

In comparison to the above study, our study had 12% of COVID intensive care unit patients with anxiety, out of which 8% had pure anxiety and 4% had anxiety co-existent with post-traumatic stress disorder. But the disparity between the above study and our study could be because the results in the above study were seen within one to two months post-discharge while our patient sample was taken whenever the patients presented to the outpatient department for their first follow up over a period of 9 months. The pool of anxiety patients tends to decrease over time because anxiety could appear for several reasons; it could be a part of an adjustment disorder to the overall new illness while the patient is still adapting to the illness and the situation. The fear and intensity with which the media reported the illness also settled down with time. Over time, the number of patients diagnosed with post-traumatic stress disorder increases, and so anxiety is seen as comorbid with post-traumatic stress disorder. Several other studies in the past have shown that post-traumatic stress disorder and anxiety are seen together in patients, just like in a study done in the United Kingdom trying to find out anxiety, depression, and post-traumatic stress disorder after critical illness, and they found that post-traumatic stress disorder was rare in patients, with numbers as few as less than 1 in 20 individuals. It also stated that post-traumatic stress disorder rarely occurs in isolation, instead it is seen as strongly co-occurring with anxiety. (Hatch et al. 2018) It's interesting to note that in our

sample size of 125, we found only seven cases of post-traumatic stress disorder. Two were cases of pure post-traumatic stress disorder, while five were cases of post-traumatic stress disorder with a co-existing anxiety disorder.

The fact that treatment for COVID-19 can involve extremely stressful situations for patients, such as fear of dying from a life-threatening illness and pain from medical procedures, may help explain why there are more cases of post-traumatic stress disorder in the COVID intensive care unit group. Interventions such as endotracheal intubation, communication difficulties, and feelings of helplessness also account for traumatic experiences.

A systemic literature review showed that people in COVID intensive care units have a greater risk of acute respiratory distress syndrome (ARDS) than people in other types of intensive care units because COVID mostly affects the respiratory system. It has also been noted that more ARDS survivors develop post-traumatic stress disorder compared to survivors of other intensive care units, such as medical or surgical intensive care units (Griffiths et al., 2007).

According to the definition from Kaplan & Sadock's synopsis of psychiatry in the year 2021, delirium is an acute decline in both the level of consciousness and cognition with particular impairment in attention. This may be a symptom of direct viral invasion of the central nervous system (CNS), subsequent production of inflammatory mediators in the CNS, or both in patients with COVID-19. Failure of other organ systems, negative reactions to sedatives, surroundings, or prolonged artificial respiration, dysglycemia, blood pressure imbalance, and transfusion of blood and blood components are some of the factors that contribute to delirium in intensive care unit patients. (Dharsandiya et al., 2020; Xu et al., 2005). In our study, 4.8% of patients were still delirious at the time of their first follow-up after discharge.

In our study, a significant number of patients were found to suffer from insomnia after discharge. Out of the total 125 patients in our study, 16 (12.8%) had sleep problems. Follow-up case series were conducted on patients admitted to the University of Virginia (UVA) Medical Center intensive care unit with COVID-19 six weeks after discharge. Five of the 23 patients who completed the Insomnia Severity Index had moderate-to-severe insomnia (post- intensive care unit COVID-19 Outcomes: A Case Series, n.d.)

In a cohort follow-up study conducted in Belgium, sleep disturbances and cognitive impairment were the two most common outcomes reported by survivors four months after discharge (Rousseau et al., 2021).

Thirty-five (28%) out of 125 patients in our study complained of brain fog. We weren't expecting this complain it was merely a chance finding in our study. Most patients who had brain fog in our study complained feeling confused and were often unable to focus on the task at hand. For example, one patient said "I went to the supermarket to buy milk but by the time I reached there, I forgot for few minutes why exactly I left home in the first place". This complain however was self-limiting and lasted less than a week that's why only saw it in patients who came for follow up within two weeks of discharge. A study reviewed in the Wiley Journal of Medical Virology found that 62.3% of participants reported chronic symptoms or complaints of Long-Covid Syndrome, and 7.2% of these young adults (18-55 years of age) with COVID-19 (requiring hospitalization) had long-standing problems with brain fog (inability to think and concentrate). (Asadi-Pooya et al., 2022)

During the COVID 19 pandemic, people obsessively focused on frequent hand washing without being aware of how long or how often hand washing is sufficient. (Kumar & Nayar, 2020)

We found three cases of obsessive-compulsive disorder in our study.

Contamination obsessions and cleaning/washing compulsions were observed to be clearly increased during the pandemic period in a similar study to ours conducted in Istanbul. (Tanir et al., 2020)

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