

Prevalence of Psychological Disorder in COVID-19 Patients

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Abstract

Background: COVID-19 has been infecting a sizable amount of individuals worldwide. The pandemic has had negative effects on society's psychological state. Both the pandemic and therefore the measures taken to combat it can affect each individual's psychological state.

Aims and Objectives: Our study aims to assess the prevalence of psychological disorders among admitted COVID-19 patients. Further, we might correlate the association of those symptoms, and therefore, the likely risk factors which may trigger the psychological state problems in this population. This may help in addressing and improving the psychological well-being of the patient alongside the physical aspect. The knowledge regarding psychosocial issues among the infected patients would also guide the implementation of healthcare services and socioeconomic reintegration of society.

Methods: These data were collected on sociodemographic parameters and assessment was done using Hamilton depression rating scale and Hamilton anxiety rating scale at the time of discharge from the hospital.

Conclusion: COVID-19 patients score higher in comorbid anxiety and depression. Moderate-to-severe levels of anxiety and depression are more commonly seen among male patients than female patients.

Key words: COVID-19, Depression, Anxiety, Distress, Insomnia

INTRODUCTION

At present, we are experiencing emotions, thoughts, and situations that we have never experienced before. It is not that there were no pandemics earlier. Pandemics, like "Plague" outbreaks, have been known since times immemorial. The Cholera pandemic and the flu pandemic were highlights of the 19th century. Another "Cholera" Epidemic and the "Spanish-Flu," have ravaged the world in the early part of the 20th century. Subsequently, there have been outbreaks of Asian-Flu, SARS, MERS, EBOLA, etc.,^[1-3] The pandemic of COVID-19 is on a completely different scale that it has shaken the whole world and created global panic.^[2]

As COVID-19 initially creeps in and subsequently spreads at a galloping pace, it is been ravaging country after country. The pandemic has significant and variable psychological impacts in each country, counting on the stage of the pandemic. In India, the primary and foremost responses to the pandemic have been fear and a way of clear and imminent danger. Fears have ranged from those supported facts to unfounded fears-supported information and misinformation circulating within the media, particularly social media.^[4] At a time when change is the only constant (concerning advisories and precautions, as we move through different stages), what to do? What to not do? questions are near-universal and provide rise to stress and fear. Each folk responds differently to the barrage of data from global and native sources. This will cause those that are "worried well," those that develop distressful psychological symptoms and maladaptive dealing with stress, and people who develop a mental disturbance.^[6] The fears of contracting the illness also are frequent and range from misinterpreting every fever or cough as a COVID-19 infection, wanting a test finished reassurance,

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although there are strict guidelines for testing, to hoarding medications despite there not being indications for his or her generalized use. Aside from the advisories regarding hand washing, doubts about whether or to not use a mask, what sort of mask, what distances to take care of, what surfaces need disinfection with what? There also are real worries about job losses and economic slowdown during and following the pandemic.

The list is endless and results in a cycle of concern, worry, and distress. COVID-19 infection intrinsically not only has physical impacts on the well-being of the patients but also has a considerable effect on their psychological state. The various psychological symptoms observed in patients include emotional distress, depression, mood swings, fear of being left alone or being far away from family (isolation), fear of dying, feeling helpless, insomnia, and anxious foreboding. Nervousness and anxiety are most frequently seen in isolation and quarantine wards.^[3,4] Studies conducted during this pandemic have recorded a high prevalence of moderate-to-severe depressive and anxiety symptoms among the overall population; particularly among the infected and suspected patients. The common symptoms of COVID-19, such as fever and shortness of breath, can induce anxiety symptoms.^[5]

The danger factors that make the patient vulnerable to psychological distress are poor sleep quality, physical symptoms of COVID-19, and therefore the severity of infection. Patients with more symptoms are usually more serious, and therefore, the anxiety symptoms among them increase as they are excessively worried and concerned about the infection and progression of the disease. The sooner research studies have focused on COVID-19-related psychological state issues within the general population, healthcare workers, children, pregnant women, and in people already having a known mental disease. The research data are still limited on the psychological state effects of COVID-19 in infected patients probably because within the infection units, the patient’s physical well-being has always been the priority over his psychological assessment; more so in India, where there is a dearth of infrastructure and psychological screening protocols. The patient’s mental well-being is usually neglected and compromised during treatment.^[5,6]

Hence, our study was planned to assess the prevalence of psychological distress in COVID-19 patients within the sort of anxiety and depression which might further raise the understanding and awareness of the importance of addressing mental health issues in these patients. It will aid in guiding the treatment protocols to focus not only on the physical and medical aspects but also on the psychological state aspect of the infected patients.

Early identification of people in the initial stages of psychological distress makes the intervention programs more efficient.^[7]

METHODS

This cross-sectional study was done on 100 diagnosed patients of COVID-19 admitted to Sree Balaji Medical College and Hospital COVID Ward. After taking consent, the assessment was done by Hamilton depression rating scale (HDRS) and Hamilton anxiety rating scale (HARS). They were assessed on sociodemographic profile, and therefore, the data were analyzed on different domains of HDRS and HARS.^[8,9]

The HDRS (also referred to as Ham-D) is the widely used scale containing 21 items concerning symptoms of depression. The score is calculated from the first 17 items. It has a sensitivity of 86.4% and specificity of 92.2% and has good internal, inter-rater, and retest reliability. The score interpretation is as follows:

Range	Interpretation
0–7	Normal
8–13	Mild depression
14–18	Moderate depression
19–22	Severe depression
>22	Very severe depression

HARS consists of 14 items that measure both psychic anxiety (mental agitation and psychological distress) and somatic anxiety (physical complaints associated with anxiety). Each item is scored on a scale of 0 (not present) to 4 (severe), with an entire score range of 0–56. It has a sensitivity of 85.7% and specificity of 63.5% and has good reliability and validity. The score interpretation is as follows:^[8,9]

- <17-mild
- 18–24-moderate
- 25-severe.

Inclusion Criteria

Diagnosed cases of COVID-19 admitted to Sree Balaji medical college and hospital COVID ward who consent to participation in the study at the time of discharge from the hospital were included in the study.

Exclusion Criteria

The following criteria were excluded from the study:

1. Patient suffering from depression/anxiety disorder/ substance abuse before the diagnosis of COVID-19
2. Patient already receiving any psychotropic drugs
3. Patient with a history of any serious organic illness
4. Patient who does not consent to participation.

RESULTS

Table 1 shows the sociodemographic profile of the 100 COVID-infected patients with 80% males and 20% females. The majority of patients were in the age range of 31–50 years and were educated.

Table 2 shows that 48% of patients had comorbid depression and the majority were in the mild depression category (score range of 8-13 on HDRS) and moderate-to-severe levels of depression were seen more in males than females.

Table 3 shows that 47% of the patients had moderate anxiety (score range 18–24) on HARS. Comorbid mild anxiety was seen more commonly in females (60%) than the male patient (28.75), whereas moderate-to-severe level of anxiety was more in males (71.25%) as compared to females (40%), on the symptom checklist of HDRS [Table 4].

Table 5 demonstrate that the patient had a high score on insomnia (75%), psychic anxiety (40–50), somatic symptoms gastrointestinal (50), muscular (56), respiratory (81), and loss of weight (40).

DISCUSSION

Sociodemographically, in our study, 80% of patients were male and 20% were female [Table 1], these findings are often attributed to the very fact that males are usually the breadwinners of the family in India who leave to supply the family with income and are usually less likely to be stringent in following the security precaution of wearing masks properly and maintaining social distancing. The feminine in

our Indian setup, on the opposite hand, is mostly those who occupy homes and look out for youngsters and the elderly. Hence, the risk of getting infected is increased in males.

In our study, out of males, 56.25% were within the age bracket of 31–50 years while among 20% of females, 70% were within the same age group, the rationale behind this age group being the most typical to present with infection is that this age group is that the major productive population within the society who is more concerned about the longer term, economic challenges, and long-term consequences caused by the pandemic. However, the study conducted by Ahmed *et al.* reported that younger age group aged 21–40 reported a higher prevalence of psychological disturbances during the COVID-19 epidemic which was similar to our study.^[10]

Table 1: Baseline characteristics of patients

Patients characteristics	Male (n=80), n (%)	Female (n=20), n (%)
Age (years)		
<30	15 (18.75)	2 (10)
31–50	45 (56.25)	14 (70)
>50	20 (25)	3 (20)
Educational level		
Up to matric	20 (25)	3 (15)
Matric-graduation	35 (43.75)	10 (50)
>Graduation	25 (31.25)	7 (35)

Table 2: Depression scoring assessment among patients

Scoring	Male (n=80), n (%)	Female (n=20), n (%)
No depression	40 (50)	12 (60)
Mild depression	20 (25)	5 (25)
Moderate depression	13 (16.25)	2 (10)
Severe depression	5 (6.25)	1 (5)
Very severe depression	2 (2.5)	0

Table 3: HARS scoring

HARS scoring	Males (n=80) n (%)	Females (n=20) n (%)	Total (%)
<17 (mild)	23 (28.75)	12 (60)	35
18–24 (Moderate)	42 (52.5)	5 (25)	47
25 (severe)	15 (18.72)	3 (15)	18

HARS: Hamilton anxiety rating scale

Table 4: HDRS assessment of patients

Symptoms	Male (n=80), n (%)	Female (n=20), n (%)
Depressed mood	40 (50)	8 (40)
Insomnia	60 (75)	15 (75)
Work and activity	42 (52.5)	15 (75)
Retardation	15 (18.75)	5 (25)
Agitation	13 (16.25)	5 (25)
Psychic anxiety	35 (43.75)	10 (50)
Somatic symptoms (GI)	40 (50)	10 (50)
Somatic symptoms (general)	18 (22.5)	8 (40)
Hypochondriasis	2 (2.5)	3 (15)
Loss of weight	35 (43.75)	7 (35)
Genital symptoms	2 (2.5)	1 (5)

HDRS: Hamilton depression rating scale

Table 5: HAR assessment of patients

Symptoms	Males (n=80), n (%)	Females (n=20), n (%)
Anxious mood	55 (68.75)	15 (75)
Tension	60 (75)	10 (50)
Fear	20 (25)	4 (20)
Insomnia	60 (75)	15 (75)
Depressed mood	40 (50)	8 (40)
Somatic symptoms (muscular)	45 (56.25)	12 (60)
Somatic symptoms (sensory)	15 (18.75)	5 (25)
Respiratory symptoms	65 (81.25)	13 (65)
GI symptoms	40 (50)	10 (50)
Genitourinary symptoms	20 (25)	3 (15)
Autonomic symptoms	25 (31.25)	7 (35)

HAR: Hamilton anxiety rating

As far as psychiatric disorders are concerned, our study shows that 48% of the entire patient had comorbid depression [Table 2]. Out of 80% of males, 50% show depression, and out of 20% of females, 40% have depression. Moderate-to-severe levels of depression were found more in males (25% of 80%) as compared to females (15% of 20%). Self-isolation, travel restrictions, decreased demand for essential commodities, and job interruption, and therefore, the consequent social stigma is the factors that make the patient vulnerable to the event of depressive symptoms. Once they are infected, the economic process involves a halt, workers receive fewer salaries, and a few even lose their jobs. Similar findings were seen in other studies. The study conducted by Huan and Zhao reported a higher prevalence of general anxiety disorder, depressive symptoms, and sleep quality which were 35.1%, 20.1%, and 18.2%, respectively, with a significant difference in the prevalence of anxiety disorder, depression, and sleep quality ($P > 0.05$). Nearly 1/5 of participants with depressive symptoms reported higher psychological pressure, mainly due to hypochondriac concerns (worry about being infected) and a hard-to-control epidemic.^[1]

Female patients showed more anxiety symptoms (60% of 20%) as compared to male patients (28.75% of 80%), though the moderate-to-severe level of hysteria was found more in males (71.25% of 80%) as compared to females (40% of 20%) [Table 3], because the females are the key household caretaker of the family, who once infected, are isolated and physically distanced from their children and family. In the Indian context, it is usually seen that a female is more concerned and apprehensive as she has fear of passing the infection to her kids or other vulnerable relations. Many researchers have supported the statement that the severity level of hysteria and depressive symptoms is more in admitted patients.^[10,11] Further to this, the study by Zhang *et al.* reported a higher incidence of depression (29.2%) among patients infected with COVID-19; an increasing trend of depression was reported by patients with COVID-19 (21.1%) and the general public (22.4%) compared with the quarantine population. Patients presented with depression and COVID-19 infection were more prone to depressed mood and somatic symptoms when compared with the individuals under quarantine.^[12] A higher prevalence of anxiety levels was also reported by the study conducted in the general Iranian population mostly among the females during the COVID-19 outbreak, which was similar to our study.^[14]

Similarly, the concerns regarding future sequelae of infection, social stigma, and fear of re-infection may additionally contribute to the event of hysteria and depression in patients. The explanations might be plenty including uncertainty about the treatment, perceived

neglect by healthcare workers in fear of getting infected, cost-effectiveness, to be within the isolation wards or quarantine centers, shortage of private protective equipment, intensification of physical symptoms, and uncertainty about the progression of a pandemic. Similar study findings were demonstrated in the Iranian population, where a higher level of anxiety levels among populations with one or more relatives infected families.^[14]

On the symptom checklist of HDRS [Table 4] and HAR [Table 5], the majority of the patients showed higher scoring on depressed mood (50% males and 40% females), anxious mood (75% females and 68.75% males), insomnia (75%), and psychic anxiety (males 43.75% vs. females 50%), and physical symptoms (gastrointestinal [50%], general [22.5% in males and 40% in females], muscular [56.25% in males and 60% in females], and respiratory [81.25% in males and 65% in females]). A similar finding was also reported in the Ireland region, where general anxiety (20.0%), depression (22.8%), and general anxiety or depression (27.7%) were the most common psychological distress among patients during the COVID-19 outbreak.^[15] Insomnia is one of the most triggering factors in the development of depression and anxiety symptoms among patients. The literature has also supported that poor sleep quality and having more current physical symptoms of COVID-19 have a risk for anxiety and depression among admitted patients.^[5,6,12,13,15]

In Indian tradition and culture, family features a role to play altogether sorts of illnesses. However, COVID is peculiar, because it compromises the very social nature of the existence of a private. This social isolation, physical distancing, decreased family connections, and loneliness put the patient in danger of developing anxiety and depressive symptoms. These could also be further aggravated by the infodemic, that is, spreading panic and fear through social media and fragmented information within the print and electronic media.

CONCLUSION

COVID-19 infection has taken a toll on the psychological state of the patients. Anxiety and depression are seen frequently among the infected. These aspects got to be taken into consideration as they affect the general outcome of the patient in physical, psychological, social, and occupational domains of life. The distressing symptoms of hysteria and depression make the individual unproductive and cause social and familial dysfunction within the sort of isolation, loneliness, loss of income, and fear of re-infection or spread of infection to society. The understanding and realization of the association of hysteria and depressive symptoms in COVID-19-infected

patients is important for the early screening and timely psychiatric intervention for a far better functional outcome for the patient. Psychiatric medications and psychological interventions are often planned in terms of short-term also as long-term management. Medication, supportive psychotherapy, and crisis management are required for short-term management behavioral management focusing on individuals. Cognitive behavior modification and group therapy are often planned for the end of the day. The social crisis created by the COVID-19 pandemic might increase inequality, social exclusion, discrimination, and unemployment among patients. Hence, social rehabilitation also becomes as important due to the timely diagnosis and adequate medical aid.

AUTHORS' CONTRIBUTIONS

Dr. P. Kanmani and Dr. A. Sankar are the co-first authors. They are responsible for the integrity of the data and had full access to all data in the study. *Study concept and Designing*: Dr. Umashankar; *Acquisition, analysis and interpretation of data*: Dr. P. Kanmani; *Critical revision of manuscript*: Dr. Umashankar; and *Supervision*: Dr. A. Sankar.

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