Panic disorder in COVID−19 patients admitted in a tertiary care hospital in South India

Lakshmi KP[1]✉, Subhash Chandra[2], Dipu Thareparambil Sathyapalan[2], Kudrat Jain[1]

[1]Department of Psychiatry, Amrita Institute of Medical sciences and Research Centre, Kochi, Kerala, India
[2]Department of General Medicine, Amrita Institute of Medical sciences and Research Centre, Kochi, Kerala, India

COVID-19 has led to an increase in psychiatric disorders, stress, trauma and suicidal behaviour. Study published in the *Lancet* in 2021 have identified anxiety disorder as the most frequently diagnosed psychiatric disorder in COVID-19 survivors[1]. Fear conditioning and hyper-vigilance towards abnormal breathing patterns attributable to COVID-19 or not, can act as etiological and maintenance factors of panic, and hence we should expect an onset or aggravation of panic disorder in COVID-19[2].

The cross-sectional study was onducted in a medical college in Kerala during May and June 2021. Adult patients infected with COVID-19 were assessed by a psychiatrist and diagnosis was made based on ICD10. Socio-demographic details were collected and Panic Disorder Severity Scale was applied. The minimum sample size was calculated as 25 with 95% confidence and 20% allowable error[3].

Among the 109 COVID-19 patients, 59 (54.1%) were males (Table1), 81 (74.3%) were married, 50 (45.9%) were graduates, 77 (70.6%) were employed. A total of 69 patients (63.3%) had physical illness and among them 44 had multiple physical illnesses. Forty patients (36.7%) were already known to have a psychiatric illness. Thirteen (11.9%) patients had recent alcohol use and 20 (18.3%) were smokers.

Fifty-five patients (50.5%) were diagnosed to have panic disorder, with a cutoff score of eight in Panic Disorder Severity Scale. Panic disorder was diagnosed in 54.3% married patients, 32% unmarried and all widow/widower patients (*P*=0.033). Prevalence of panic disorder was almost equal among males and females (*P*=0.930), and also among employed and unemployed patients (*P*=0.869). Prevalence of panic disorder was higher in patients with known physical illness and psychiatric illness (*P*=0.460 and 0.184, respectively). Prevalence of panic disorder was lower in patients with recent alcohol use, but more in smokers (*P*=0.741 and 0.322, respectively).

The cohort study showed 50.5% prevalence of panic disorder in the COVID-19 patients, lower when compared to a study by Islam *et al.* in Bangladesh which showed a prevalence of 79.6%[3]. But their study was a self-reported measure by COVID-19 patients in home quarantine. The finding of increased panic disorder among married patients may be due to their increased responsibilities and the worries about their family. A Spanish study had showed that COVID-19 patients who previously required psychological help were predisposed to develop anxiety[4], which is similar to the findings of our study. As reported by a study in UK[5], our study showed that prevalence of panic disorder increases with increasing age. The finding of decreased panic disorder in patients with recent alcohol use may be explained by the fact that alcohol is a central nervous system depressant (*P*=0.741). The increased prevalence of panic in smokers may be due to tobacco being central nervous system stimulant (*P*=0.322). The study was conducted in hospitalized patients and the results may not be the same in COVID-19 patients in home treatment. Physical symptoms of the disease itself can be misunderstood as panic symptoms thus leading to over-reporting.

To conclude, panic disorder was prevalent in this cohort of COVID-19 patients. Adequate screening and treatment of panic symptoms will help in the management of COVID-19 patients.

Table 1. Prevalence of panic disorder with various socio-demographic variables.

Variables	Number of patients	Number of panic disorder patients (n, %)	P
Age, years			
18-30	25	8 (32.0)	
30-45	21	12 (57.1)	
45-60	26	17 (65.4)	0.105
>60	37	18 (48.6)	
Gender			
Male	59	30 (50.8)	
Female	50	25 (50.0)	0.930
Marital status			
Married	81	44 (54.3)	
Unmarried	25	8 (32.0)	0.033*
Widow/widower	3	3 (100.0)	
Occupation			
Not employed	32	16 (50.0)	
Office staff	18	8 (44.4)	
Professional	30	15 (50.0)	0.869
Manual laborer	4	3 (75.0)	
Others	25	13 (52.0)	
Physical illness			
No physical illness	40	19 (47.5)	
Multiple physical illness	44	19 (43.2)	
Thyroid illness	4	2 (50.0)	
Coronary artery disease	4	2 (50.0)	
Diabetes mellitus	5	4 (80.0)	0.460
Hypertension	2	2 (100.0)	
Asthma/COPD	1	1 (100.0)	
Others	9	6 (66.7)	
Psychiatric illness			
No psychiatric illness	69	31 (44.9)	
Depression	7	4 (57.1)	
Substance dependence	11	5 (45.4)	
Anxiety disorders	5	4 (80.0)	0.184
Psychosis	2	2 (100.0)	
Bipolar affective disorder	1	1 (100.0)	
Others	14	8 (57.1)	

COPD: chronic obstructive pulmonary disease; *$P<0.05$.

Conflict of interest statement

The authors declare that they have no conflict of interest.

Ethical approval

The study was approved by the Scientific Research and Ethics Committee of the institute with clearance number ECAM-AIMS-2021-291. Informed consent were obtained from all the admitted patients.

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Authors' contributions

LKP, SC and DTS conceptualized the research and prepared draft protocol. Protocol presentation to Scientific Research Committee was done by LKP. Data collection was done by LKP and KJ. Data analysis and statistics was done by SC, KJ and LKP. Preparation of manuscript was done by LKP and proof reading was done by SC, and DTS. Final manuscript was approved by all authors.

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