

## Research Report

# PREVALENCE OF GENERALIZED ANXIETY DISORDER IN COVID-19 PATIENTS ADMITTED IN A TERTIARY CARE HOSPITAL IN SOUTH INDIA: A CROSS-SECTIONAL STUDY

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### ABSTRACT

**Background:** SARS-CoV-2 virus can affect the lungs and other organs of our body, including the brain. Studies from various parts of the world have started reporting a high prevalence of anxiety disorder in COVID-19 patients. This study aims to estimate the prevalence of generalized anxiety disorder in patients admitted with COVID-19 infection in a tertiary care medical college in South India. **Methods:** All COVID positive patients admitted to a tertiary care medical college during the study period were evaluated by a psychiatrist, and diagnosis was made based on ICD-10. GAD-7 scale was used to assess the severity of anxiety disorder. **Results:** Hundred and eighty-four COVID-19 patients were studied. Generalized anxiety disorder was detected in 34.8% of the patients. **Conclusions:** Generalized anxiety disorder is highly prevalent in COVID-19 patients. Proper screening and treating generalized anxiety disorder in them will help in the care of these patients.

**Keywords:** COVID-19, Generalized anxiety disorder, GAD-7, South India

### INTRODUCTION

The emergence of SARS-CoV-2 infection in Wuhan of China in late 2019 and the subsequent spillover of the infection to all the other countries of the world, along with the restrictions imposed by the various governments for the containment of the infection, had an impact on the physical and psychological wellbeing of people all over the world. Many psychological health issues emerged, including stress, anxiety, depression, frustration, and uncertainty, during the COVID-19 outbreak.<sup>1</sup> Fear of contracting the infection, anxiety related to the mortality associated, and changes in the working environment and/or academic schedule have led to considerable anxiety in the general population.

Some studies document that quarantine has a wide range, substantial and long-lasting psychological impact on patients.<sup>2</sup> Though the current tendency is to focus on the life-threatening pulmonary symptoms, the SARS-CoV-2 virus is capable of affecting other organs of the body, including the brain. Studies from various parts of the world have started reporting a high prevalence of anxiety disorder in COVID-19 patients.<sup>3</sup> Research on the psychological aspects of COVID-19 has mentioned the impact of COVID-19 on healthcare workers and the general population. Very few studies were done on the mental health of hospitalized patients with COVID-19

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in India. This study aimed to estimate the prevalence of generalized anxiety disorder in patients admitted with COVID-19 infection in a tertiary care medical college in South India.

## METHODS

This study was done in a tertiary care medical college in South India from June to August 2021 and was approved by the Scientific Research Committee and Ethics committee (Approval No. ECASM-AIMS-2021-280). After taking informed consent, all adult patients who tested COVID-19 RTPCR positive and admitted in this institution were studied in detail by a psychiatrist and diagnosis was made based on ICD-10. Patients who refused to give consent and those who required ventilator support were excluded from the study. According to a study by Islam et al. in Bangladeshi patients, the prevalence of generalized anxiety disorder in COVID-19 patients was ~37%.<sup>3</sup> With a relative precision of 20%, the sample size was calculated to be a minimum of 170 patients.

Socio-demographic details were collected from the study participants, and generalized anxiety disorder was diagnosed based on ICD-10. GAD-7 scale was used to assess the severity of anxiety symptoms. This study used a cut-off score of ten for generalized anxiety disorder. Using this cut-off, GAD-7 has a sensitivity of 89% and a specificity of 82% for generalized anxiety disorder.<sup>4,5</sup> The scores 5, 10 and 15 were taken as cut-offs for mild, moderate and severe anxiety, respectively. Moderate and severe anxiety groups were identified to have generalized anxiety disorder. The percentage prevalence rate was computed with a 95% confidence limit. The Chi-square test was used to test the statistical significance of association of categorical factors with distress. Analysis was done using SPSS software. After a detailed assessment, help was offered to all those identified with the illness.

## RESULTS

A total of 184 COVID-19 patients were studied. Socio-demographic details of the study participants are described in Table 1. Generalized anxiety disorder was diagnosed in 64 (34.8%±6.9%) patients. The mean score of GAD-7 in these patients was 13.41±2.3 compared to 3.72±2.8 in COVID-19 patients without generalized anxiety disorder. Moreover, 74 (40.2%) patients

Table 1. Socio-demographic details of the study participants

	Number of COVID-19 patients (%)
<b>Age group</b>	
18 to 35years	54(29.3%)
36 to 50years	41(22.3%)
>50years	89(48.4%)
<b>Gender</b>	
Male	96(52.2%)
Female	88(47.8%)
<b>Education</b>	
<10 <sup>th</sup> standard	33(17.9%)
10 <sup>th</sup> -12 <sup>th</sup>	77(41.8%)
Graduate	70(38%)
Postgraduate	4(2.2%)
<b>Marital status</b>	
Married	143(77.7%)
Unmarried	38(20.6%)
Widow/widower	3(1.6%)
<b>Occupation</b>	
Homemaker	34(18.5%)
Not working at present	43(23.4%)
Unskilled	11(6%)
Semiskilled	45(24.5%)
Skilled	51(27.7%)
Alcohol use	17(9.2%)
Smoking	19(10.3%)
Known physical illness	131(71.2%)
Known psychiatric illness	36(19.6%)

reported minimal anxiety, 46 (25%) had mild anxiety, 45 (24.5%) patients had moderate anxiety, and 19 (10.3%) reported severe anxiety. Table 2 shows the distribution of generalized anxiety disorder with various socio-demographic variables. In our study, generalized anxiety disorder was more prevalent in patients with

lower educational status, married patients, and an increasing age group. However, these associations were not statistically significant. Generalized anxiety disorder was more in COVID-19 patients with alcohol

Table 2: Distribution of generalized anxiety disorder with various socio-demographic variables.

	GAD n=64(%)	No GAD n=120(%)	p- value
Age groups			
18 to 35years	17(31.5%)	37(68.5%)	0.134
36 to 50 years	10(24.4%)	31(75.6%)	
>50years	37(41.6%)	52(58.4%)	
Gender			
Male	32(33.3%)	64(66.7%)	0.666
Female	32(36.4%)	56(63.6%)	
Education			
<10 <sup>th</sup> standard	14(42.4%)	19(57.6%)	0.388
10 <sup>th</sup> -12th	26(33.8%)	51(66.2%)	
Graduate	24(34.3%)	46(65.7%)	
Postgraduate	0(0%)	4(100%)	
Marital status			
Married	54(37.8%)	89(62.2%)	0.269
Unmarried	9(23.7%)	29(76.3%)	
Widow/widower	1(33.3%)	2(66.7%)	
Occupation			
Homemaker	16(47.1%)	18(52.9%)	0.973
Not working at present	10(23.3%)	33(76.7%)	
Unskilled	4(36.4%)	7(63.6%)	
Semiskilled	15(33.3%)	30(66.7%)	
Skilled	19(37.3%)	32(62.7%)	
Alcohol use	9(52.9%)	8(47.1%)	0.09
Smoking	5(26.3%)	14(73.7%)	0.413
Known physical illness	49(37.4%)	82(62.6%)	0.240
Known psychiatric illness	14(38.9%)	22(61.1%)	0.564

GAD- Generalised anxiety disorder

use and in patients who were nonsmokers. These associations were also not statistically significant. Though generalized anxiety disorder was more prevalent in patients with known physical illness and those with known psychiatric illness, these associations were not statistically significant.

## DISCUSSION

Research on the prevalence of generalized anxiety disorder in patients hospitalized with COVID-19 in India are less, especially in the Southern part of India. Reports on the mental health impact of SARS in 2003 and MERS in 2015 make it necessary to provide data on the psychological aspects of COVID-19. A total of 184 hospitalized COVID-19 patients were studied, and the prevalence of generalized anxiety disorder in them was 34.8%. This was similar to a study by Islam et al. in Bangladeshi patients that showed the prevalence of generalized anxiety disorder in COVID-19 patients as ~37%.<sup>3</sup> However, their study was on COVID-19 patients in home quarantine. Maxime Taquet and colleagues conducted a study on COVID-19 survivors in USA, which was published in Lancet in 2021. They found that anxiety disorder is the most frequent psychiatric diagnosis in COVID-19 patients.<sup>6</sup> Generalized anxiety disorder was more prevalent in married patients in our study, which may be explained based on the increased responsibilities they have. A study done by Akash Kumar Pandey and colleagues<sup>7</sup> demonstrated that being married, older age group and lesser educational qualifications were independent risk factors associated with experiencing greater severity of anxiety in COVID-19 patients. They had reported 21% prevalence of anxiety disorder in COVID-19 patients. The prevalence of anxiety disorder was almost similar in males and females in our study, which contrasts with the findings of Kumar. P et al. and colleagues demonstrated that anxiety disorder was more common in female patients admitted with COVID-19 in Ludhiana.<sup>8</sup> This may be due to better sharing of responsibilities by males and females in this part of the country. Similar to the findings of a study done in Spain in May 2020,<sup>9</sup> our study showed that COVID-19 patients were predisposed to develop anxiety if they previously required psychological help. The associations of these socio-demographic factors with generalized anxiety disorder were not statistically significant in our study. However, further research in

this area will certainly help in the psychological aspect of care for these patients. The findings of our study will provide valuable input to the policymakers and mental health professionals worldwide to provide prevention-based mental health care to patients admitted with COVID-19. Our study is limited by a modest sample size. The mental status examinations of these patients were done by a psychiatrist wearing personal protection equipment, which may have led to increased reporting of anxiety in these patients. The physical symptoms of the infection itself may also have led to over-reporting. This study was done on hospitalized patients, and the results may not be the same for COVID-19 patients in home quarantine. More research is needed on these patients to see if the anxiety symptoms persist. Further studies are needed to see if factors like quarantine, loss of loved ones, and disruption of social and economic life, along with the stress brought about by the infection, have contributed to the high prevalence of generalized anxiety disorder in COVID-19 patients. Proper screening and management of anxiety symptoms will help care for COVID-19 patients.

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**Conflict of interest:**

None declared.

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