Anxiety level among government employees admitted to dedicated COVID-19 hospital

Arun Kumar Yadav, Gaurav Yadav¹, D. Ravi, Ram Sagar², Kalpana Srivastava³, Jyoti Yadav⁴, Reema Mukherjee⁴

Departments of Community Medicine and Psychiatry, AFMC, Independent Researcher, Pune, Maharashatra, Department of Anaesthesia, IHBAS, Delhi, India, Post Doc Fellow, John Hopkins University, Baltimore, Maryland, USA

Address for correspondence: Dr. Arun Kumar Yadav, Department of Community Medicine, Armed Forces Medical College, Pune - 411 040, Maharashatra, India.
E-mail: arunyadavpsm@gmail.com

Received: 18 December 2020
Revised: 21 January 2021
Accepted: 25 January 2021
Published: 15 March 2021

ABSTRACT

Introduction: Patients of COVID-19 patients while in a hospital may have stigma, fear, and guilt among them. However, the data on anxiety among the admitted COVID-19 patients are lacking in India and elsewhere. Hence, the study was conducted among the admitted patient of COVID-19 to describe their anxiety status. Methods: The study was conducted as a cross-sectional study in a designated COVID-19 hospital in Delhi. The data were collected from October 22, 2020, to November 21, 2020. All patients who were admitted to the hospital for more than 72 h were eligible for participation. The data collection was done using a questionnaire. The questionnaire consists of two parts. One part was sociodemographic variables, and the other part was the Anxiety Scale. The anxiety score was collected on the Zung Self-Rating Anxiety Scale. Results: A total of 132 eligible patients were admitted during the period. The questionnaire was answered by 122 (92.4%) patients. All patients were male. The patients’ mean age was 33.5 years (standard deviation = 8.9 years), with a range of 21 years–65 years. The mean score of the Zung Self-Rating Scale was 29.5 (7.2), with an interquartile range of 24–33. There were only five patients (4.4%; 95% confidence interval: 1.3%–9.3%) whose scores were 45 or more, indicating mild-to-moderate anxiety. There was no statistically significant association between any sociodemographic variable and Anxiety Rating Scale. Conclusion: The anxiety level in the specialized population was low due to social security. The level of anxiety among health-care workers may be further explored.

Keywords: Anxiety, COVID-19, hospital

Cases of atypical pneumonia were reported to the WHO in the late part of December 2019.¹ The disease was named COVID-19 and was declared a Public Health Emergency of International Concern on January 30, 2020, and declared a pandemic on March 13, 2020.² The disease has a severe socioeconomic impact at the international and national levels. Indian has one of the most extended lockdowns of 65 days.³ It has had its effect on the mental health of the people.⁴ The Government of India has taken out an advisory for the mental health of the people.

Anxiety is fear or apprehension about what’s to come,⁵ It is a natural’s response to stress. Every pandemic affects mental health, as is evident from SARS and Ebola.⁶,⁷ Even in the current pandemic, anxiety has been reported in the general population.⁸,⁹

As of December 17, 2020, the total number of cases has reached 72,851,747 worldwide and 9,956,557 in India.¹⁰,¹¹ There is a widespread infodemic about COVID-19 disease even among health-care workers.¹² Patients admitted...
due to COVID-19 hospital have reported as high as 42% anxiety 1 month after discharge.[13] Another study has reported 20% anxiety among COVID-19 cases 90 days after hospital discharge.[14] Patients of COVID-19 patients while in a hospital may have stigma, fear, and guilt among them. However, the data on anxiety among the admitted COVID-19 patients are lacking in India and elsewhere. Hence, the study was conducted among the admitted patient of COVID-19 to describe their anxiety status.

**METHODS**

The study was conducted as a cross-sectional study in a designated COVID-19 hospital in Delhi. Mild-moderate-to-severe cases of COVID-19 as per the Indian Council of Medical Research management guidelines are admitted to the hospital.[18] The data were collected from October 22, 2020, to November 21, 2020. All patients who were admitted to the hospital for more than 72 h were eligible for participation in the study. Anyone without mobile and not able to read was excluded from the study.

The data collection was done using a questionnaire. The questionnaire consists of two parts: one part was sociodemographic variables and the other part was the Anxiety Scale. The questionnaire was sent to the patient as a Google Forms, and they were asked to fill it. In case of any doubt in the question, they can call the researchers. The study was given institutional ethical clearance. The privacy and confidentiality of the data were main maintained.

The hospital’s health-care services are maintained round the clock by a dedicated team of doctors, nurses, and paramedics.

The anxiety score was collected on the Zung Self-Rating Anxiety Scale.[16] It is a 20-item self-administered scale to evaluate the patients for anxiety-associated symptoms. It has good reliability and validity. The response to the scale is measured on a Likert scale of four responses. Each answer is marked one to four depending on the severity. Hence, the score varies from 20 to 80. A score of >75 indicates extreme levels of anxiety, a score of 60–74 indicates marked-to-severe anxiety levels, scores of 45–59 indicate mild-to-moderate levels of anxiety, and a score of <44 indicates the normal level of anxiety.

The patient informed consent was recorded through Google Forms. The study was given institutional ethics clearance. The data were exported to an Excel sheet from Google Forms. The continuous variables were defined as mean and standard deviation if they follow a normal distribution or as median and interquartile range (IQR) if they do not follow a normal distribution. A Shapiro–Wilk test was used for normality. The categorical variables were defined as numbers and percentages. Chi-square test was used for contingency tables.

**RESULTS**

A total of 132 eligible patients were admitted during the period. The questionnaire was answered by 122 (92.4%) patients. All patients were male. The patients’ mean age was 33.5 years (standard deviation = 8.9 years), with a range of 21 years–65 years. The other sociodemographic characteristic is shown in Table 1. All the participants were serving in government job.

The mean score of the Zung Self-Rating Scale was 29.5 (7.2), with an IQR of 24–33. There were only five patients (4.4%; 95% confidence interval [CI]: 1.3%–9.3%) whose scores were 45 or more, indicating mild-to-moderate anxiety. No participants in the study have score 65 or more. The distribution of the score is shown in Figure 1. The scoring of individual items is shown in Figure 2. The patients were further divided into two groups based on their scoring anxiety scores. Those with more than 75% percentile were taken as having higher chances of anxiety, and others have low anxiety levels. However, there was no statistically significant association between any sociodemographic variable and Anxiety Rating Scale [Table 2].

| Characteristics (n=122) | Description, n (%) |
|------------------------|--------------------|
| Sex                    |                    |
| Male                   | 122 (100)          |
| Age (years)            | 33.5 (8.9)         |
| Education              |                    |
| Up to 12 class         | 81 (66.4)          |
| Graduation             | 30 (24.6)          |
| Postgraduation         | 11 (9)             |
| Health-care worker     |                    |
| Yes                    | 17 (13.9)          |
| No                     | 105 (86.2)         |
| Length of stay in the hospital (days) | 11.6 (3.3) |
| Oxygen therapy         |                    |
| Yes                    | 5 (4.1)            |
| No                     | 117 (95.9)         |
| Symptomatic on testing |                    |
| Yes                    | 66 (54.1)          |
| No                     | 56 (45.9)          |
DISCUSSION

The study was conducted to find the anxiety level among the patient admitted to a specialized COVID-19 care center in India. In the study, we found that only five (4.4%; 95% CI: 1.3%–9.3%) of the admitted patient of COVID-19 have a score indicating moderate-to-severe anxiety level. Hospitalization is itself a stressful event. The patient admitted to the hospital is stressed, which can manifest as anxiety. A study conducted in Brazil among 282 non-COVID-19 patients reported the prevalence of anxiety using the Hospital Anxiety and Depression Scale as 33.7% (95% CI: 28.2–39.3).[17] A similar study conducted in India reported anxiety levels at 40% among ward patients.[18]

Our study shows a lower level of the Anxiety Scale. There may be a few reasons for it. All our patients were government employees and have access to comprehensive health-care facilities and world-class medical treatment without any financial burden. Second, they have been comforted by doctors and paramedics, and assurances were provided regarding management. Third, the level of education was higher than the average level of education among Indians. Fourth, they have undergone training to improve physical and mental fitness. The patients’ age in our study was younger than the mean age of admitted patients of COVID-19.

Interestingly, the admitted patient who was a health-care worker had a similar anxiety score as a nonhealth care. This may be due to the small number of health-care workers in the study. This may be further explored in a larger sample of health-care workers.

There are certain limitations of the study. First, as all respondents were male and government employees, the generalizability of the study is restricted. Second, we have used a scale, Zung Self-Rating Scale, and hence, the study can be compared with the study that has used the same scale. Third, there may be a responder bias in the study. Although the responders were assured privacy and...
Table 2: Association between Zung Rating Scale and sociodemographic variables

| Characteristics       | Low score | High score | P  |
|-----------------------|-----------|------------|----|
| Education             |           |            |    |
| Up to 12 class        | 59        | 22         | 0.8|
| Graduation            | 20        | 10         |    |
| Postgraduation        | 8         | 3          |    |
| Health-care worker    |           |            |    |
| Yes                   | 12        | 5          | 0.9|
| No                    | 75        | 30         |    |
| Symptomatic on testing|           |            |    |
| Yes                   | 42        | 14         | 0.4|
| No                    | 45        | 21         |    |

confidentiality yet, there may be some social desirability bias. Anxiety scales are indicative only, and the diagnosis of the anxiety presence or absence will depend on detailed psychological tests.

CONCLUSION

Despite these limitations, the study showed that with social security in the form of access to comprehensive health care, education, and caring health services, the patient’s anxiety level admitted for COVID-19 might be low.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. Li Q, Guan X, Wu P, Wang X, Zhou L, Tong Y, et al. Early transmission dynamics in Wuhan, China, of novel coronavirus-infected pneumonia. N Engl J Med 2020;382:1199-207.
2. Timeline: WHO’s COVID-19 Response. Available from: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/interactive-timeline. [Last accessed on 2020 Dec 18].
3. Extension of Lockdown Up to May 31, 2020. Available from: Pib.gov.in/PressReleaseshare.aspx?PRID=162476. [Last accessed on 2020 Dec 18].
4. Rehman U, Shahnawaz MG, Khan NH, Kharshiing KD, Khursheed M, Gupta K, et al. Depression, anxiety and stress among indians in times of covid-19 lockdown. Community Ment Health J 2021;57:42-8.
5. Anxiety: Causes, Symptoms, Treatment, and More. Healthline; 2018. Available from: http://www.healthline.com/health/anxiety. [Last accessed on 2020 Dec 18].
6. Person B, Sy F, Holton K, Grover B, Liang A; National Center for Infectious Diseases/Sars Community Outreach Team. Fear and stigma: The epidemic within the SARS outbreak. Emerg Infect Dis 2004;10:358-63.
7. Bali S, Stewart KA, Pate MA. Long shadow of fear in an epidemic: Fearonomic effects of Ebola on the private sector in Nigeria. BMJ Glob Health 2016;1:e000111.
8. Taq J, Shen B, Zhao M, Wang Z, Xie B, Xu Y. A nationwide survey of psychological distress among Chinese people in the COVID-19 epidemic: Implications and policy recommendations. Gen Psychiatry 2020;33:e100213.
9. Wang C, Pan R, Wan X, Tan Y, Xu L, Ho CS, et al. Immediate psychological responses and associated factors during the initial stage of the 2019 coronavirus disease (covid-19) epidemic among the general population in China. Int J Environ Res Public Health 2020;17:1729.
10. WHO Coronavirus Disease (COVID-19) Dashboard. Available from: https://covid19.who.int. [Last accessed on 2020 Dec 18].
11. MoHFW | Home. Available from: https://www.mohfw.gov.in/. [Last accessed on 2020 Apr 01].
12. Datta R, Yadav AK, Singh A, Datta K, Bansal A. The infodemics of COVID-19 amongst healthcare professionals in India. Med J Armed Forces India 2020;76:276-83.
13. Mazz MG, De Lorenzo R, Conte C, Polletti S, Vai B, Bollettini I, et al. Anxiety and depression in COVID-19 survivors: Role of inflammatory and clinical predictors. Brain Behav Immun 2020;89:594-600.
14. Taquet M, Luciano S, Geddes JR, Harrison PJ. Bidirectional associations between COVID-19 and psychiatric disorder: Retrospective cohort studies of 62354 COVID-19 cases in the USA. Lancet Psychiatry 2020;8:130-40. Available from: https://www.thelancet.com/journals/lanspy/article/PIIS2215-0366(20)30462-4/abstract. [Last accessed on 2020 Dec 18].
15. Available from: https://www.mohfw.gov.in/pdf/UpdatedClinicalManagement ProtocolforCOVID19dated03072020.pdf. [Last accessed on 2020 Dec 18].
16. Zung WW. A rating instrument for anxiety disorders. Psychosomatics 1971;12:371-9.
17. Gullich I, Ramos AB, Tan TR, Scherer C, Mendoza-Sassi RA. Prevalence of anxiety in patients admitted to a university hospital in southern Brazil and associated factors. Rev Bras Epidemiol 2013;16:644-57.
18. Sharma BG, Evs M, Ms K, B G. Psychological evaluation of patients in critical care/intensive care unit and patients admitted in wards. J Clin Diag Res 2014;8:WC01-3. doi: 10.7860/JCDR/2014/10293.5297. Epub 2014 Dec 5. PMID: 25654014; PMCID: PMC4316320. Available from: http://jcdr.net/article_fulltext.asp?issn=0973-709x&year=2014&volume=8&issue=12&page=WC01&issn=0973-709x&did=5297. [Last accessed on 2020 Dec 18].