Original Article

Post-Discharge Symptoms following COVID-19: A Single Center Retrospective Study

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Abstract

Background: Post-discharge symptoms after COVID-19 are an emerging problem as many people are recovering from the disease, and data on them are not very structured. There is a need to identify the various post-discharge symptoms and their frequency. This study is primarily aimed at determining the prevalence of post-discharge symptoms following acute COVID-19 infection in a tertiary care hospital in Andhra Pradesh, India. **Material and Methods:** This is a retrospective study to find the prevalence of post-discharge symptoms following acute COVID-19 infection. A total of 305 patients with confirmed COVID-19 infection, who were discharged between February and July 2021, were included. Telephonic follow-up was conducted 90 days after discharge. A standardised questionnaire was used to assess the presence of post-discharge symptoms. The data about admission and post-discharge follow-up were retrieved from the hospital records. **Results & Conclusion:** In this study, we found that 27.8% of patients who followed up had post-discharge symptoms. The unique aspect of this study was that a substantial proportion of our patients had moderate to severe disease at admission. It was observed that the frequency of post-discharge symptoms corresponded to the severity of the disease at admission. Among patients with post-discharge symptoms, unvaccinated patients accounted for 74.6%, those who received 1st dose for 19%, and those who received two doses for 6.3%.

Keywords: COVID-19, COVID-19 Vaccine, Fatigue, Pandemic, Post Discharge Symptoms.

Received: 01 November 2025 **Revised: 18 November 2025** **Accepted: 01 December 2025** **Published: 24 December 2025**

Introduction

With the COVID-19 pandemic ravaging the world, global research was focused on treatment modalities to manage acute COVID-19 and vaccinations to prevent the disease. As we began to understand the disease a little better, more patients recovered from the virus, offering a beacon of hope to the healthcare community worldwide. However, the recovery was not scot-free as the patients reported multiple symptoms after their recovery from COVID-19.[1] Data on such symptoms were very limited and not structured. Hence, we conducted this survey to identify the prevalence of various post-discharge symptoms among patients who recovered from COVID-19. This study aimed primarily to determine the prevalence of post-discharge symptoms following acute COVID-19 infection at a tertiary care hospital in Andhra Pradesh, India.

Materials and Methods

This is a retrospective study to find the prevalence of post-discharge symptoms following acute COVID-19 infection. Since we collected the data retrospectively from patients' records, Institutional Ethics Committee approval was not required. A total of 305 patients with confirmed COVID-19 infection who met our hospital's COVID discharge criteria (absence of fever for three consecutive days without antipyretics, resolution of breathlessness, and no supplemental oxygen requirement) between February and July 2021 were interviewed telephonically 90 days after discharge.

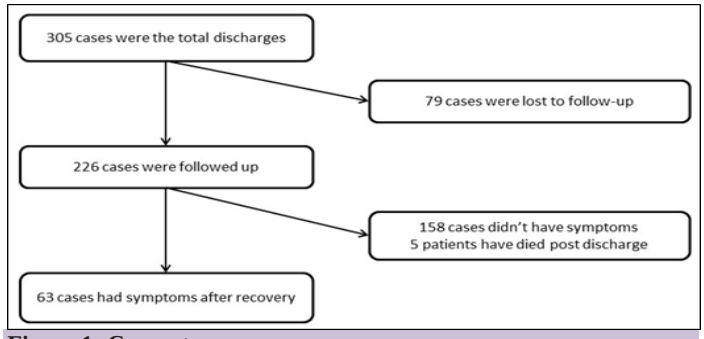

Figure 1: Consort

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DOI:
10.21276/amit.2025.v12.i3.264

How to cite this article: Gupta SK, Bansal S, Rajasekhar M, Chamala V, Aggarwal N, Eeshwar MV, Dey S. Post-Discharge Symptoms following COVID-19: A Single Center Retrospective Study. Acta Med Int. 2025;12(3):1241-1243.

A standardised list of questions was used to collect information on the presence of any post-discharge symptoms. Room air oxygen saturation at admission was used as a parameter to classify patients into mild, moderate, and severe categories. A saturation of >94% was considered mild, 90-93% moderate, and <90% severe.[2] The data about admission and post-discharge follow-up were retrieved from hospital records for this study.

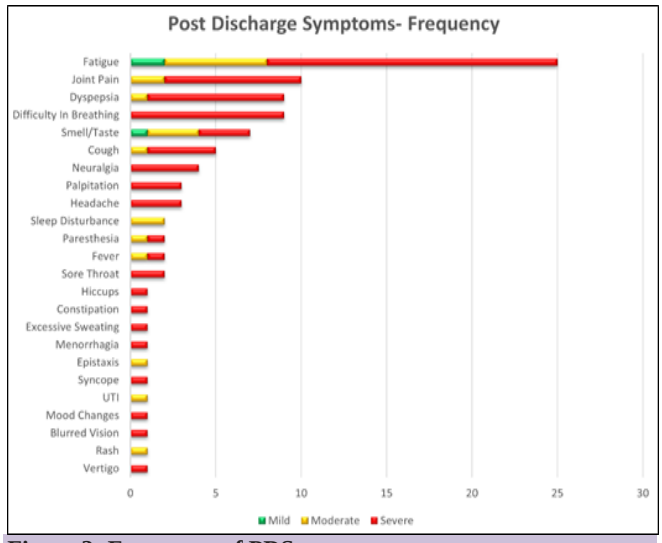

Figure 2: Frequency of PDS

Results

Based on available hospital records, a total of 305 patients were discharged following recovery from an acute COVID-19 infection, and 79 of those patients were lost to follow-up. The remaining 226 patients were followed up for post-discharge symptoms 90 days after discharge. Among these, 49 (21.6%) patients had mild disease, 95 (42%) had moderate disease, and 82 (36.2%) had severe disease at admission. The mean age was 46.6 years (range 17 to 95 years). A total of 152(67.2%) were males and 74 (32.7%) were females. [Figure 1] Out of the 226 followed-up patients, five patients (2.2%) died, 158 (69.9%) had no post-discharge symptoms, and 63 patients (27.8%) had one or more post-discharge symptoms. Among symptomatic patients, 41 (65%) were male, and 22 (34.9%) were female. [Table 1]

Among the symptomatic patients, 2 (3.1%) had mild disease, 16 (25.3%) had moderate disease, and 45 (71.4%) had severe disease at admission. A total of 24 different symptoms were reported. The most common symptoms were fatigue, joint pain, difficulty breathing, dyspepsia, and smell and taste changes, which accounted for more than 60% of the symptoms [Figure 2]. A total of 27 patients had more than one symptom [Figure 3]. Five patients had new-onset co-morbidities like hypertension, diabetes, and hypothyroidism.

Four patients who had post-discharge symptoms received two doses of the COVID-19 vaccine; 12 patients received only one dose. Forty-seven patients who developed symptoms did not receive any vaccination. [Table 2]

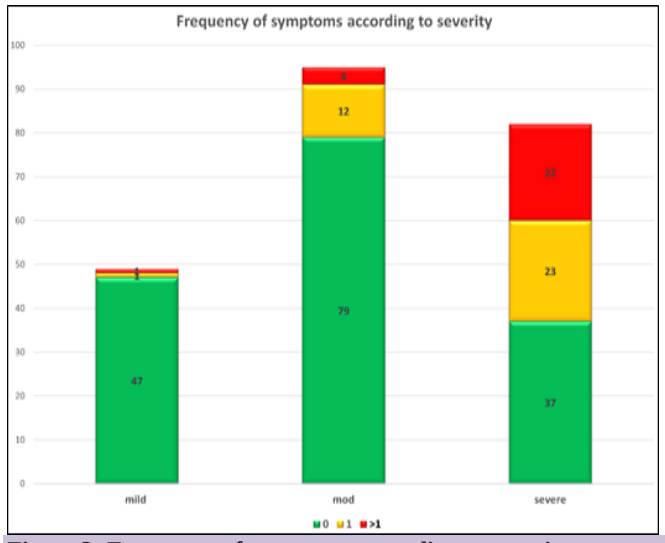

Figure 3: Frequency of symptoms according to severity

Table 1: Severity of COVID 19 disease at admission

Severity of COVID 19 disease at admission	Cases which are followed up (Cases with post COVID symptoms)	
	Male	Female
Mild	28 (00)	21 (02)
Moderate	69 (11)	26 (05)
Severe	55 (30)	27 (15)
Total	152 (41)	74 (22)

Table 2: Post covid symptoms

Number of post covid symptoms	Unvaccinated	1st dose	2nd dose
0	125	28	10
1	27	7	2
>1	20	5	2

Discussion

This retrospective study found that 27.8% of patients followed up had post-discharge symptoms. The unique aspect of this study is that a substantial proportion of our patients are in the moderate-to-severe category at admission. Consistent with other studies, we also observed that fatigue, joint pain, and difficulty breathing were the most common symptoms.[3-5] A single-centre study by Ogoina D et al obtained similar results.[4] Neuralgia, vertigo, and sore throat were found to be lesser in incidence compared to other studies.[6] Mood changes & sleep disturbances are found to be less in our group when compared to other studies.[5] Proper counselling during

hospitalisation, adequate instructions at the time of discharge, may have played a role in reducing the mood changes and sleep disturbances after discharge. We observed a direct relationship between the severity of the disease at admission and the likelihood of having post-discharge symptoms. Our findings are similar to those reported by Ogoina D et al.[4] Among patients with post-discharge symptoms, 74.6% were unvaccinated. In contrast, patients who received 1st dose were 19%, and those who received two doses were 6.3%. Our study showed that vaccinated people were less prone to getting post-discharge symptoms. We couldn't find much literature related to vaccination and post-discharge symptoms.

The limitation of this study was the lack of information on the status of pre-existing co-morbidities and health conditions. Also, ours was a single-centre retrospective study with a relatively small sample size.

These findings suggest that long-term follow-up and rehabilitation for patients who recovered from COVID-19 are necessary.

Conclusion

Ours was a single-centre retrospective study that showed various post-discharge symptoms according to the severity of COVID-19 infection at the time of admission. Our analysis also revealed that the frequency of post-discharge symptoms was higher in unvaccinated patients. More prospective multicenter studies are needed to confirm these findings.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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