

## Study related to Post COVID Symptomology in Recovered Doctors in Netaji Subhash Chandra Bose, Medical College Jabalpur (M.P)

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### Abstract:

**Introduction:** Patients with confirmed or suspected COVID-19, may complain about multiple persistent symptoms, even weeks after the infection thus leads to the presence of a 'post-COVID-19 syndrome. The objective of the present study was to assess whether there are multiple relevant symptoms in recovered patients following the onset of symptoms in previously positive COVID-19 patients.

**Materials and Methods:** We evaluated a total of 50 COVID 19 positive doctors from Netaji Subhash Chandra Bose, Medical College, Jabalpur who met the inclusion criteria. All the study subjects were asked to complete a google form questionnaire screen and data regarding their symptoms were collected.

**Results:** Our study showed that after recovery, illness- related fatigue was the most common reported symptom which was followed by myalgia and body ache followed by loss of taste. About 80 - 85% of patients reported three or more symptoms post recovery from COVID 19.

**Conclusion:** In our study we were able to demonstrate that even the mildest presentation of disease was associated with medium-term symptoms requiring follow-up. This highlights the unmet healthcare needs in a subgroup of patients with 'mild' to 'severe' COVID-19. Thus, the COVID-19 pandemic will involve a care burden long after its end.

**Keywords:** Post COVID-19 symptoms

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### I. Introduction

In the last twenty years, several viral epidemics have been recorded. Most recently, at the end of 2019, an epidemic of cases with unexplained low respiratory infections were detected in Wuhan, China's Hubei province. These first cases were classified as "pneumonia of unknown etiology" as the etiology of illness was not identified. The illness was later attributed to a novel virus belonging to the coronavirus (CoV) family. In February 2020, the World Health Organization designated the disease COVID-19, which stands for coronavirus disease 2019. Initially, the new virus was called 2019-nCoV, later it was designated SARS-CoV-2, severe acute respiratory syndrome coronavirus 2. It rapidly spread throughout China, followed by a global pandemic. On March 11, WHO declared the COVID-19 as a pandemic disease.<sup>1</sup>

India has been one of the worst affected country with over 95,00,000 confirmed cases and around 1,39,000 confirmed deaths as on December 2020 at the time of writing.

Multiple symptoms at presentation like fever, cough, fatigue, shortness of breath, headache, diarrhoea, nausea and vomiting, have been reported.<sup>2,3</sup> But the medium and long term problems after discharge from hospital experienced by survivors of COVID 19 are currently unknown. About 60 days after onset of the first COVID-19 symptom, only 13% of the previously hospitalized COVID-19 patients were completely free of any COVID-19-related symptom, while 32% had 1 or 2 symptoms and 55% had 3 or more. To date, however, only anecdotal evidence is available.<sup>4</sup>

In many studies, previously hospitalized and non-hospitalized patients with confirmed or suspected COVID-19, may complain about multiple persistent symptoms, even weeks after the infection suggesting that symptoms during the infection may not resolve spontaneously and thus leads to the presence of a 'post-COVID-19 syndrome' and highlights the unmet healthcare needs in a subgroup of patients with 'mild' to 'severe' COVID-19.

Thus, the objective of the present study was to assess whether there are multiple relevant symptoms in recovered patients following the onset of symptoms in previously positive COVID-19 patients

## II. Materials and Methods

### **Study design and population:**

This epidemiologic study was carried out in Netaji Subhash Chandra Bose, Medical College and hospital, Jabalpur. Our study was a cross sectional study and was carried out on selected doctors who were diagnosed with COVID 19- mild disease between from 1<sup>st</sup> August to 30<sup>th</sup> September 2020. Inclusion criteria were: every adult patient (>18 years old) with a confirmed diagnosis of COVID-19 (positive real-time reverse transcriptase PCR (RT-PCR) for mild acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and medical care in our hospital, either in hospitalized patients or in patient who were home isolated. We designed a short Google form questionnaire to collect data regarding post-recovery clinical symptoms. Patients were assessed 4 to 8 weeks after their recovery from COVID 19. All eligible patients were first contacted by phone by trained physicians and were asked to answer to the questionnaire which was send to them through a link.

([http://docs.google.com/forms/d/e/1FAIpQLSceal7KUP7UNBXDkXFoCHf\\_j4PAaP8OOFW3TLJbD1jzAZmqTQ/viewform?usp=sf\\_link](http://docs.google.com/forms/d/e/1FAIpQLSceal7KUP7UNBXDkXFoCHf_j4PAaP8OOFW3TLJbD1jzAZmqTQ/viewform?usp=sf_link)).

A total of 64 participants completed the google form questionnaire screen over a period of 2-3 weeks. Out of 64, only 50 participants were included according to the inclusion criteria.

### **Data collection:**

Demographic and initial clinical and laboratory data were collected from patients' electronic medical records (consultation or hospitalization). The relevant comorbidities were those considered to confer high risk for severe COVID-19 (i.e. obesity (body mass index > 30 kg/m<sup>2</sup>), chronic respiratory disease, dialysis, heart failure or previous cardiovascular event, liver cirrhosis, insulin dependent diabetes, immune-suppression, pregnancy).<sup>5</sup>

### **Ethics:**

All patients were informed of the potential reuse of their data for research purposes and could refuse to participate.

### **Data analysis:**

Data analysis was carried out using Microsoft Excel with descriptive statistics. Prevalence is reported as number of and percentage of patients reporting the symptom within the group.

## III. Observation and Results

Demographic and pre COVID-19 comorbidities of participated patients in the study are given in the table 1,2,3. Table 4 shows the distribution of cases on basis of number of Post COVID-19 symptoms. Table 4 and graph 1 shows the symptoms faced by patients post COVID-19. This study among the hospital staff on the post-discharge impact of COVID- 19 infection showed that most common symptom at the time of presentation was fever while after COVID illness- related fatigue was the most common reported symptom by 56% participants in the both hospitalized and non-hospitalized group. The next common symptoms were body ache and myalgia (50%) and loss of taste (32%). Only two patients complained of fever after their recovery. About 80-85 % of patients reported three or more symptoms even after their recovery from COVID 19. These results highlight the need for a long-term follow-up of those patients and rehabilitation programs.

**Table 1:** Age distribution of participated

patients

Age (years)	Number of Patients	%
20-30	27	54
30-40	9	18
40-50	9	18
50-60	1	02
≥60	4	08

**Table 2:** Gender distribution of participated

patients

Gender	Number of Patients	%
Male	30	60
Female	20	40

**Table 3:** Pre-COVID-19 comorbidities of participated patients

Comorbidity	Number of Patients	%
Diabetes Mellitus	05	10
Hypertension	10	20
Hypothyroidism	07	14
IHD	02	04
COPD	00	00

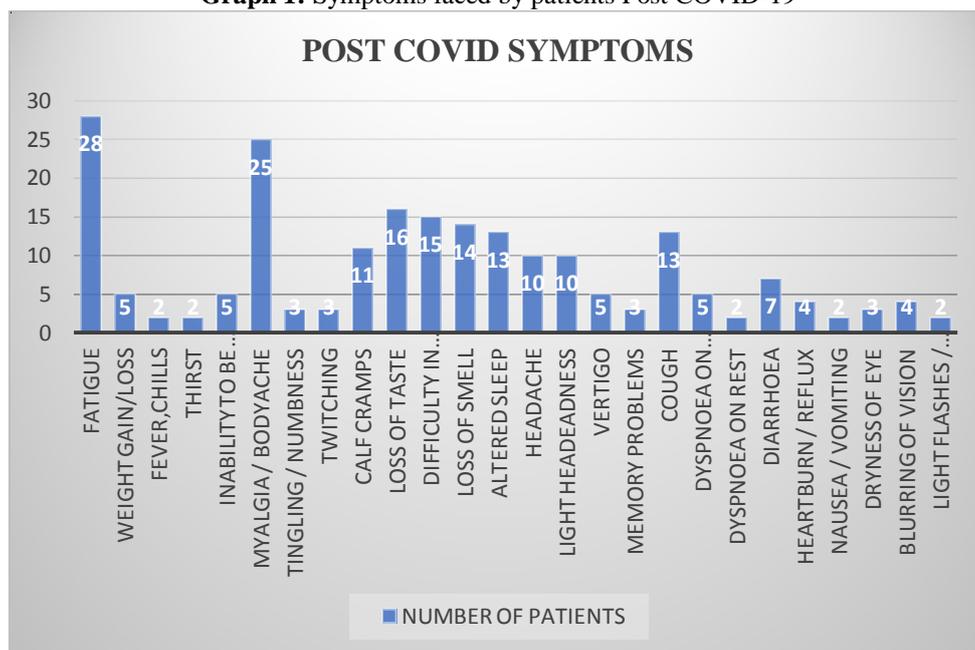
**Table 4:** Distribution of cases on basis of number of Post COVID-19 symptoms

	Number of Post COVID Symptoms	
	< 3	≥ 3
Non-Hospitalized(n=20)	4	16
Hospitalized Patients(n=30)	6	24
With Comorbidity(n=17)	3	14
Without Comorbidity(n=33)	6	27

**Table 5:** Symptoms faced by patients Post COVID-19

	Symptoms	Number of Patients	Percentage
Constitutional Symptoms	Fatigue	28	56
	Weight Gain/Loss	05	10
	Fever, Chills	02	04
	Thirst	02	04
	Inability to be Active	05	10
	Myalgia/ Body ache	25	50
	Tingling/ Numbness	03	06
	Twitching	03	06
	Calf Cramps	11	22
CNS Symptoms	Loss of taste	16	32
	Difficulty in concentrating	15	30
	Loss of smell	14	28
	Altered sleep	13	26
	Headache	10	20
	Light headedness	10	20
	Vertigo	5	10
Respiratory Symptoms	Memory problems	3	06
	Cough	13	26
	Dyspnea on Exertion	05	10
GIT Symptoms	Dyspnea on Rest	02	04
	Diarrhea	07	14
	Heartburn/ Reflux	04	08
Eye Related Symptoms	Nausea/ Vomiting	02	04
	Dryness of Eye	03	06
	Blurring of Vision	04	08
	Light Flashes / Floaters	02	04

**Graph 1:** Symptoms faced by patients Post COVID-19



#### IV. Discussion

The present study was carried out in staffs/ health care professionals as these populations have been the maximum amongst the cases diagnosed with COVID 19.<sup>6</sup>

The male/female ratio was 1.5 (male, 60%, 30/50); the mean age was 25±10 yrs. Nearly half of the patients (48%, 24/50) had at least one comorbid condition. Patients with or without clinical signs of pneumonia but without a need for oxygen therapy were defined as having mild COVID-19.<sup>5</sup> Our study was a well-documented cross-sectional study of patients with a noncritical COVID-19 presentation. The median time from illness onset to recovery is about 2 weeks for mild cases and 3 to 6 weeks with severe or critical disease stated by WHO.<sup>07</sup> Small-scale studies in Wuhan, China, showed that survivors continued to have poor lung and heart function.<sup>08</sup>

Current literature on previous coronavirus outbreaks also suggests similar post discharge symptoms. Our study was not in accordance with a prospective cohort study of 131 COVID- 19 patients who had been discharged from hospital in Wuhan found that by 3 to 4 weeks post discharge 86% of patients were symptom- free, only 1.5% had shortness of breath and 0% had fatigue.<sup>09</sup> In our study maximum patients have presented with post COVID-19 symptoms mostly fatigue followed by body ache/ myalgia which was followed by loss of taste.

The prevalence of fatigue is in keeping with previous epidemics of SARS, H1N1, and Ebola, in which a large proportion of fatigued patients have been found to qualify for a diagnosis of Myalgia Encephalomyelitis/Chronic Fatigue Syndrome (ME/CFS). More than half of a sample of patients recovering from SARS experienced fatigue throughout their recovery 64% reported fatigue at 3 months, 54% at 6 months, and 60% at 12 months.<sup>10</sup>

The initial clinical presentation for patients with mild COVID-19 in our study (frequent respiratory and flulike symptoms) was like that of previous studies<sup>11,12</sup>. The patients included in our study were younger (mean age 20-30).

Our study was in accordance with the recent study by Lechien et al.<sup>11</sup> who reported persistent olfactory dysfunction in 37.5% of patients at least 7 days after the end of mild to moderate COVID-19. It is due to direct damage to the olfactory epithelium. Anosmia due to viral rhinitis usually resolves within 3 days but due to COVID 19 it may take 9 days. The precise mechanism of this symptoms is unknown. Patients should be informed of this anomaly and referred to a specialist.

Marked inflammatory response in symptomatic COVID-19 patients could promote such prolonged convalescence and persisting symptoms. There is possibility of posttraumatic stress disorder after COVID-19, which could contribute to a more prolonged experience of symptoms such as lack of energy or poor well-being.<sup>13,14</sup> These complex tardive psychological disorders have already been shown after acute respiratory distress syndrome.<sup>15,16</sup> The similar hypothesis could not be detailed in our study because of a lack of a reproducible psychological assessment but should probably be explored.

## V. Conclusion

To conclude, COVID- 19 is a new illness, with Post-discharge symptoms yet to be researched. This study is first of its kind to capture these symptoms in a cohort of positive doctors from a large tertiary teaching hospital.<sup>10</sup> With this cross sectional study of 50 patients with mild COVID-19, we were able to demonstrate that even the mildest presentation was associated with medium-term symptoms requiring follow-up. Thus, the COVID-19 pandemic will involve a care burden long after its end.

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