

PERSISTENT COVID 19 SYMPTOMS AFTER RECOVERY : 6 MONTHS FOLLOW UP STUDY

Pulmonary Medicine

Dr. B. Bhanu Rekha	M.D, Professor and HOD, Department of Respiratory Medicine, Dr.Pinnamaneni Siddhartha Institute Of Medical Sciences and Research foundation, Gannavaram.
Dr. M.L.S.K. Geethika	M.B.B.S, Post Graduate, Department of Respiratory Medicine, Dr.Pinnamaneni Siddhartha Institute Of Medical Sciences and Research foundation, Gannavaram.
Dr. G. Sujatha*	M.D, Professor, Department of Respiratory Medicine, Dr.Pinnamaneni Siddhartha Institute Of Medical Sciences and Research foundation, Gannavaram. *Corresponding Author

ABSTRACT

Background COVID-19 pandemic has been a major health challenge around the world, with an unprecedented impact on health systems, society and modern medicine. Acute phase of COVID-19 varies widely, from asymptomatic disease to pneumonia, acute respiratory distress syndrome (ARDS) and multisystem organ failure. Multiple symptoms like cough, fatigue, dyspnoea, headache, diarrhoea, nausea and vomiting have been reported during hospital stay. Several comorbidities have been identified as risk factors for severe disease, such as arterial hypertension, chronic heart disease and diabetes mellitus(1). In the past few months, many patients reported persisting symptoms after the acute phase of coronavirus disease. These symptoms are heterogeneous in nature, affecting multiple organ systems, including respiratory tract (dyspnoea, chest pain, cough), muscle and joints (arthralgia, myalgia), nervous system (taste or smell alterations, headache, concentration difficulty). There are also many general or unspecified symptoms such as fatigue. This group of symptoms has been named “long COVID” or “persisting COVID”. The origin of these symptoms remains unknown. However, it is likely to be a combination of a direct damage caused by virus, previous comorbidities, immunological activation, psychological and emotional factors(2,3,4). **Aim** To compare the persistence of COVID 19 symptoms in hospitalised and non hospitalised patients in 2nd month and 6th month follow up. **Materials And Methods** A total of 200 cases that reported to our institute from May 2021 to September 2021 were contacted through phone and during follow up visit to hospital.

Results And Conclusion At the end of 2 months breathlessness was the most common persistent symptom in hospitalised 21(21.9%) and non hospitalised patients 12(11.5%). Second most common was weakness in 11(11.5%) hospitalised and non hospitalised patients 9(8.7%). About 6(6.3%) hospitalised and 3(2.9%) non hospitalised patients had multiple symptoms. At the end of 6th month breathlessness was most common symptom seen in 12(12.5%) hospitalised and 4(3.8%) non hospitalised patients, with gastritis being second common seen in 3(3.1%) hospitalised and 4(3.8%) non hospitalised patients. This study tells us the need for further evaluation of these persistent COVID symptoms to rule out any definite pathology that needs further management.

KEYWORDS

COVID, Dyspnoea, persistent symptoms.

INTRODUCTION

COVID-19 pandemic has been a major health challenge around the world, with an unprecedented impact on health systems, society and modern medicine.

Acute phase of COVID-19 varies widely, from asymptomatic disease to pneumonia, acute respiratory distress syndrome (ARDS) and multisystem organ failure.

Multiple symptoms like cough, fatigue, dyspnoea, headache, diarrhoea, nausea and vomiting have been reported during hospital stay.

Several comorbidities have been identified as risk factors for severe disease, such as arterial hypertension, chronic heart disease or diabetes mellitus⁽¹⁾.

In the past few months, many patients reported persisting symptoms after the acute phase of coronavirus disease.

These signs are heterogeneous, affecting multiple organ systems, including respiratory tract (dyspnoea, chest pain, cough), muscle and joints (arthralgia, myalgia), nervous system (taste or smell alterations, headache, concentration difficulty).

There are also many general or unspecified symptoms such as fatigue. This group of signs has been named “long COVID” or “persisting COVID”.

The origin of these symptoms remains unknown. However, it is likely to be a combination of a direct damage caused by virus, previous comorbidities, immunological activation, psychological and emotional factors^(2,3,4).

AIMS AND OBJECTIVES

To compare the persistence of COVID 19 symptoms.

Comparison of persistent COVID 19 symptoms in hospitalised and non hospitalised patients in 2nd month and 6th month follow up.

MATERIALS AND METHODS

A total of 200 patients that reported to our institute and were tested positive for COVID-19 from May 2021 to September 2021 were contacted through phone and during follow up visit to hospital.

Inclusion Criteria

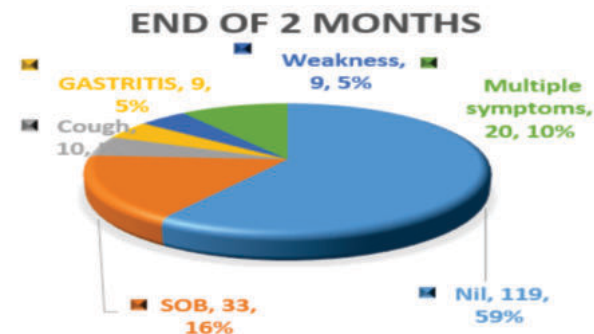
- Age > 18 yrs
- Subjects who were previously tested COVID-19 positive.
- Subjects who were willing for followup.

Exclusion Criteria

- Subjects who are tested positive RTPCR for COVID-19.

RESULTS

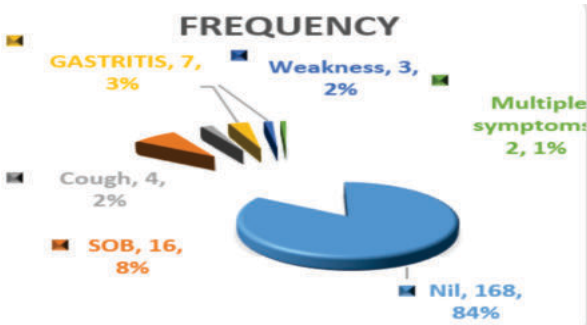
Most common persistent COVID symptom at the end of 2 months is Dyspnoea



Most common persistent COVID symptom at the end of 6 months is Dyspnoea

Persistent COVID symptoms at 2 months	Frequency	Percentage
Nil	119	59.5
SOB	33	16.5
Cough	10	5.0
GASTRITIS	9	4.5
Weakness	9	4.5
Multiple symptoms	20	10.0
Total	200	100.0

Persistent COVID symptoms at 6 months	Frequency	Percentage
Nil	168	84.0
SOB	16	8.0
Cough	4	2.0
GASTRITIS	7	3.5
Weakness	3	1.5
Multiple symptoms	2	1.5
Total	200	100.0



The most common underlying lung disease was COPD in our study and Persistent COVID symptoms were more common in patients with underlying COPD after both 2 month and 6 month period.

Persistent COVID symptoms were more common in admitted patients, most common symptom being Dyspnoea.

Persistent COVID symptoms at 2 months	Hospitalised/Non Hospitalised		Total
	Hospitalised	Non Hospitalised	
Nil	50(52.1)	69(66.3)	119
SOB	21(21.9)	12(11.5)	33
Cough	5(5.2)	5(4.8)	10
GASTRITIS	3(3.1)	6(5.8)	9
Weakness	11(11.5)	9(8.7)	20
Multiple symptoms	6(6.3)	3(2.9)	9
Total	96	104	200

Persistent COVID symptoms at 6 months	Hospitalised/Non Hospitalised		Total
	Hospitalised	Non Hospitalised	
Nil	77(80.2)	91(87.5)	168
SOB	12(12.5)	4(3.8)	16
Cough	2(2.1)	2(1.9)	4
GASTRITIS	3(3.1)	4(3.8)	7
Weakness	1(1)	1(1)	2
Multiple symptoms	1(1)	2(1.9)	3
Total	96	104	200

Among hospitalised patients NIV patients had more persistent symptoms the most common being Dyspnoea.

Persistent COVID symptoms at 2 months	Hospitalised/Non Hospitalised				Total
	NIV	On O2	RA	Home Isolation	
Nil	9(32.1)	24(53.3)	17(73.9)	69(66.3)	119
SOB	10(35.7)	9(20.0)	2(8.7)	12(11.5)	33
Cough	2(7.1)	3(6.7)	0	5(4.8)	10
GASTRITIS	1(3.6)	0	2(8.7)	6(5.8)	9
Weakness	5(17.9)	5(11.1)	1(4.3)	9(8.7)	20
Multiple symptoms	1(3.6)	4(8.9)	1(4.3)	3(2.9)	9
Total	28	45	23	104	200

Persistent COVID symptoms at 6 months	Hospitalised/Non Hospitalised				Total
	NIV	On O2	RA	Home Isolation	
Nil	18(64.3)	37(82.2)	22(95.7)	91(87.5)	119
SOB	7(25)	5(11.1)	0	4(3.8)	33
Cough	1(3.6)	1(2.2)	0	2(1.9)	10
GASTRITIS	1(3.6)	2(4.4)	0	4(3.8)	9
Weakness	1(3.6)	0	0	1(1)	20
Multiple symptoms	0	0	1(4.3)	2(1.9)	9
Total	28	45	23	104	200

DISCUSSION

Persistent symptoms were more common in thepatients admitted to hospital, both at the end of 2 month and 6 month period with dyspnoea being the most common in hospital admitted group.

Among the admitted subjects the patients under NIV had more persistent COVID symptoms compared to those on oxygen support or room air.

Patients with underlying lung conditions prior to COVID had more persistent symptoms compared to patients with no underlying lung conditions at the end of 2 months.

Among prior lung conditions, patients with underlying COPD had more persistent symptoms at the end of 2 months, with dyspnoea being the most common symptom.

A prior study performed by Huang et al. described a high prevalence of long COVID symptoms in a large cohort of hospitalized patients⁽⁵⁾.

The most commonly reported symptoms were fatigue, chronic pain, and anxiety or depression. The prevalence of persisting symptoms was closely related to COVID-19 severity.

Our study have included both outpatient and inpatients population, while Huang et al., only included hospitalized patients. This could explain the higher prevalence observed in our series for some symptoms (i.e. dyspnea).

Interestingly, they also observed a higher prevalence of long COVID among women compared with men⁽⁵⁾.

A recent study by Blomberg et al. also reported a higher frequency of persisting symptoms in hospitalized patients. Similarly to our results, COPD was associated with higher number of persisting symptoms⁽⁶⁾.

CONCLUSION

In summary, a high prevalence of long COVID was observed in patients after 2 months of acute SARS-CoV-2 infection.

Overall, persistent symptoms were more common in hospitalized patients compared to outpatients. COPD was identified as long COVID predictor.

These findings suggest that in those patients that required hospitalization after SARS-CoV-2 infection, a close clinical follow-up might be recommended.

Special attention should be provided for patients with previous lung diseases and for patients on NIV.

REFERENCES

1. Berenguer, J. et al. Characteristics and predictors of death among 4035 consecutively hospitalized patients with COVID-19 in Spain. Clin. Microbiol. Infect. 26(11), 1525–1536.(2020).
2. Pezzini, A. &Padovani, A. Lifting the mask on neurological manifestations of COVID-19. Nat. Rev. Neurol. 16(11), 636–644. (2020).
3. Ferrandi, P. J., Alway, S. E. & Mohamed, J. S. The interaction between SARS-CoV-2 and ACE2 may have consequences for skeletal muscle viral susceptibility and myopathies. J. Appl. Physiol. 129(4), 864–867.(2020).
4. Morgul, E. et al. COVID-19 pandemic and psychological fatigue in Turkey. Int. J. Soc. Psychiatr. 67(2), 128–135.(2021).
5. Huang, C. et al. 6-month consequences of COVID-19 in patients discharged from hospital: A cohort study. Lancet 397(10270), 220–232. (2021).
6. Blomberg, B. et al. Long COVID in a prospective cohort of home-isolated patients. Nat. Med.(2021).