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Research Article

Assessment of quality of life and general health -Post COVID -19

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Abstract

Coronavirus disease (COVID-19) is an infectious disease caused by a newly discovered coronavirus. Signs and symptoms include respiratory symptoms and include fever, cough and shortness of breath. In more severe cases, infection can cause pneumonia, severe acute respiratory syndrome and sometimes death. Most people infected with the COVID-19 virus will experience mild to moderate respiratory illness and recover without requiring special treatment. The mid- and long-term effect of COVID-19 infections on patients' general health, well-being, physical function, and their ability to return to work, has not been elucidated. A recent communication from Italy evaluating 143 patients with COVID-19 infection, indicates persistence of symptoms and a reduced quality of life recalled at a 60-day visit after symptom onset. A total of 100 participants enrolled and completed the survey. Study examines the early post-acute clinical trajectory of symptoms to 35 ± 5 days after hospital discharge for COVID-19 infection from three COVID hospitals of Kanpur District their association with individual's self-rated quality of life, physical function, general health, mental health, emotional health, social relationships, active roles, and their ability to perform activities of daily living. A survey comprised of 23–43 questions (depending upon responses), was administered by telephone call to participants 35 (± 5) days following their hospital discharge for COVID-19 infection. Our study found the most prevalent and persistent symptoms at 35 days were fatigue (55%) and dyspnea (45%), accompanied by some or much difficulty with walking (15%), lifting and carrying (25%), walking up stairs (29%), and walking fast (45%), and that the persistence of symptoms has an important impact on general, physical and mental health status, social functioning and quality of life within 35 days of discharge, when further evaluation and intervention should be initiated. Our study also revealed that 16% of participants rated their mental health as poor or fair. Post-traumatic stress disorder (40%), depression (30%), and anxiety (30%) has been reported

Introduction

Coronavirus disease (COVID-19) is an infectious disease caused by a newly discovered coronavirus. Signs and symptoms include respiratory symptoms and include fever, cough and shortness of breath. In more severe cases, infection can cause pneumonia, severe acute respiratory syndrome and sometimes death. Most people infected with the COVID-19 virus will experience mild to moderate respiratory illness and recover without requiring special treatment. Older people, and those with underlying

medical problems like cardiovascular disease, diabetes, chronic respiratory disease, and cancer are more likely to develop serious illness. This study seeks to identify persistent COVID-19 symptoms in patients 35 days' post-hospitalization and their impact on quality of life, health, physical, mental, and psychosocial function. In December 2019, a new type of coronavirus, now known as COVID-19 (SARS-CoV-2), was identified in China.[1] Within a few months of this report, COVID-19 has become a world-wide pandemic, posing a significant threat to public health. By mid-June 2020, there were over 10 million cases world-wide with 2 million cases, including nearly 126,000 deaths in the United States.[2,3] Globally, as of 30 July 2021, there have been 19,65,53,009 confirmed cases of COVID-19, including 42,00,412 deaths, reported to WHO.[3] Despite the vast numbers of individuals who have been infected and suffered from COVID-19, the clinical course of the associated respiratory illness, including prevalence, persistence of signs and symptoms, and the impact on general wellbeing and function, has not been fully described. Initial signs and symptoms leading to hospitalization include fever, cough, dyspnea, tachypnea, fatigue and reduced oxygen saturation requiring supplemental oxygen.[4] Many patients recover sufficiently to be discharged from hospital within seven to ten days but may still not be free of symptoms. Others progress to a hyper inflammatory state and to adult respiratory distress syndrome (ARDS) which is associated with a high mortality attributed to either respiratory illness or heart failure.COVID-19 infection has other manifestations beyond the respiratory illness, including cardiac injury (cardiomyopathy, ventricular arrhythmias, hemodynamic instability in the absence of obstructive coronary artery disease) , thrombotic complications (including stroke, myocardial infarction, venous thromboses), and renal, gastrointestinal, neurologic, among others.[5] Signs and symptoms of these conditions may overlap with those of the respiratory illness and contribute to the symptom burden of COVID-19 infection. The course and outcomes of these manifestations are mostly unknown. Areas of uncertainty regarding community-dwelling patients early during the post-acute period include infectivity and the need for quarantine, symptom burden and persistence, evaluation and management of enduring symptoms, the need for surveillance for late manifestations, such as thrombotic complications, and the need for physical and psychological support. One study which informs the discussion of post-acute quarantine evaluated six individuals and found that after resolution of signs and symptoms, SARS-CoV-2 RNA was detectable for a median (range) of 26 days (9 to 48), and viral detection persisted for a median of 34 days (22 to 67) after hospitalization.[6] Without knowledge of infectivity and immunity, these data are relevant to planning for post-acute care and isolation. We use post-COVID conditions as an umbrella term for the wide range of health consequences that are present four or more weeks after infection with SARS-CoV-2.[7] The time frame of four or more weeks provides a rough approximation of effects that occur beyond the acute period, but the timeframe might change as we learn more.

The mid- and long-term effect of COVID-19 infections on patients' general health, well-being, physical function, and their ability to return to work, has not been elucidated. A recent communication from Italy evaluating 143 patients with COVID-19 infection, indicates persistence of symptoms and a reduced quality of life recalled at a 60-day visit after symptom onset.[8,9]

Study Setting and Material

A total of 100 participants enrolled and completed the survey. Study examines the early post-acute clinical trajectory of symptoms to 35 ± 5 days after hospital discharge for COVID-19 infection from three COVID hospitals of Kanpur District their association with individual's self-rated quality of life, physical function, general health, mental health, emotional health, social relationships, active roles, and their ability to perform activities of daily living. A survey comprised of 23–43 questions (depending upon responses), was administered by telephone call to participants 35 (± 5) days following their hospital discharge for COVID-19 infection.

Discussion

The persistence of symptoms in patients with COVID-19 infection, specifically fatigue, shortness of breath (dyspnea), cough, lack of taste (dysgeusia), muscular pain, diarrhoea, production of phlegm, headache, joint pain, eye irritation, fever, and confusion, and their impact on quality of life, general health, physical health, mental health, social relationships, social active roles and daily physical activities from hospital discharge to 35 (± 5) days later. Secondary outcomes included the relationship of participant characteristics, comorbid conditions, and oxygen requirements during and after hospitalization, with the persistence of symptoms and quality of life estimations at 35 (± 5 days) after discharge and their impact on quality of life.[10,11] The survey asked participants to address: Symptoms at the time of discharge from the hospital and after 35(± 5) Days fallowing their discharge from the hospital.

Participants' severity of COVID-19-associated illness was scored using an ordinal scale developed by a special World Health Organization (WHO) committee for use in randomized multi-center adaptive clinical trials and is based upon the site of care (community or hospital) and intensity of oxygen supplementation required. Scores range from zero (no clinical or virologic evidence of infection) to eight (death), with hospitalized patients characterized as having "mild disease" with scores of three (no oxygen therapy) or four (oxygen by mask or nasal prongs), and "severe disease" for patients with scores of five (non-invasive ventilation or high-flow oxygen), six (intubation and mechanical ventilation), or seven (ventilation plus additional organ support). No descriptions of symptoms are

Results

A total of 100 participants enrolled and completed the survey. The participants' median age was 57 years Males represented 61%, with 36% categorized as overweight and 49% as [Table 1] obese, hypertension (47%), diabetes (28%), hyperlipidemia (10%), were highly prevalent, components of the metabolic syndrome. The median length of hospital stay was seven days.

Table 1- Participants comorbid condition

Variable	Male	Female	Total
Gender	*61%*	*39%*	*100%*
Overweight	*14%*	*22%*	*36%*
Obese	*26%*	*23%*	*49%*
Hypertension	*29%*	*18%*	*47%*
Diabetes	*16%*	*12%*	*28%*
Hyperlipidemia	*4%*	*6%*	*10%*

The majority of participants 89% required oxygen support during hospitalization. The most frequent symptoms occurring at discharge recalled by the 100 participants were fatigue (56%), shortness of breath (94%), cough (74%), lack of taste (27%), muscular pain[10,11] (24%), diarrhoea (15%), lack of smell (22%), production of phlegm (12%), and headache (13%) [Table 2]

Table 2- Participants Symptoms at discharge from Hospital

No.	Symptoms at Discharge	%
1	*Fatigue*	*56%*
2	*Shortness of Breadth*	*94%*

3	*Cough*	*74%*
4	*Lack of taste*	*27%*
5	*Muscular Pain*	*24%*
6	*Diarrhoea*	*15%*
7	*Lack of smell*	*22%*
8	*Production of Phlegm*	*12%*
9	*Headache*	*13%*

Our study found the most prevalent and persistent symptoms at 35 days were fatigue (55%) and dyspnea (45%), accompanied by some or much difficulty with walking (15%), lifting and carrying (25%), walking up stairs (29%), and walking fast (45%), and that the persistence of symptoms has an important impact on general, physical and mental health status, social functioning and quality of life within 35 days of discharge, when further evaluation and intervention should be initiated. Our study also revealed that 16% of participants rated their mental health as poor or fair. Post-traumatic stress disorder (40%), depression (30%), and anxiety (30%) has been reported.

Table 3- Participants Symptoms at 35 ± 5 Days Post Discharge from Hospital

No.	**Symptoms at 35 days**	**%**
1	*Fatigue*	*55%*
2	*Dyspnea*	*45%*
3	*Difficulty in walking*	*15%*
4	*Lifting &Carrying*	*25%*
5	*Difficulty in Walking up stairs*	*29%*
6	*Difficulty in walking fast*	*45%*
7	*Mental Health poor or fair*	*16%*
8	*Post-Traumatic Stress Disorder*	*40%*
9	*Depression*	*30%*
10	*Anxiety*	*30%*

Conclusion

Overall, no significant associations were found between pre-existing conditions (comorbidities at admission) and post-COVID evaluations of health and quality of life as captured through mental health and social relationships. [13] This could suggest that any reports of poor health and quality of life post-COVID could be attributed to patients' COVID illness that might have not been completely resolved given the number of persistent symptoms 35 days' post-discharge. Symptoms prevalent at hospital discharge for COVID-19 infection often persist to 35 days, impair individuals' ability to perform daily living activities and quality of life, health, mental, social, and physical function. Identification of symptoms requiring early intervention is critical to planning for and providing post-acute medical, psychological, and physical services to enable recovery from COVID-19 infection, including the ability to return to work. COVID-19 symptoms commonly persist to 35 days, impacting quality of life, health,

physical and mental function. Early post-acute evaluation of symptoms and their impact on function is necessary to plan community-based services.

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