



## A STUDY ON SEQUELA AFTER COVID-19 INFECTION AT FOURTH MONTH - A DESCRIPTIVE STUDY

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### ABSTRACT

**Background:** Many individuals experience persistent symptoms and a decline in health-related quality of life (HRQoL) after COVID-19 illness. Existing studies have focused on hospitalized individuals during the time period April to June 2021 after onset of illness and have reported symptoms up to 120 days after illness. Longer-term sequelae in outpatients have not been well portrayed.

**Aims and Objective:** To study the sequelae in adults 4 months post COVID-19 infection.

**Materials and Methods:** A longitudinal prospective cohort of 50 adults with laboratory-confirmed severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) who reported to GMC Kotawere contacted between April to June 2021. A single follow-up questionnaire was filled telephonically between 3 and 4 months after illness onset.

**Results:** In the cohort, 6.2% were asymptomatic, 84.7% were outpatients with mild illness, and 16 (9.0%) had moderate or severe disease requiring hospitalization. Hypertension was the most common comorbidity. 36 % patients reported persistent symptoms of which most common were dry cough and fatigue.

**Conclusions:** This study focused on assessing the health-related quality of life in COVID-19 individuals. This study showed that there was a significant reduction in utility scores than the general population. A significant percentage of COVID-19 recovered individuals reported dry cough, breathlessness and fatigue; hence, effective awareness programs and interventions are needed to increase their quality of life.

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### INTRODUCTION

Coronaviruses (CoV) are a large family of viruses that cause illness ranging from the common cold to more severe diseases. The first known infections from SARS-CoV-2 were discovered in Wuhan, China. The original source of viral transmission to humans remains unclear, as does whether the virus became pathogenic before or after the spillover event. Many individuals experienced persistent symptoms and a decline in health-related quality of life (HRQoL) after coronavirus disease 2019 (COVID-19) illness. Health-related quality of life (HRQoL) is an important measure that is used for assessing the impact of diseases, disorders, or disabilities on the physical, mental, and social domains of patient health.<sup>(1)</sup> The assessment of HRQoL helps healthcare providers identify the factors affecting quality of life and recognize the aspects of COVID-19 management that needs to be enhanced for improving the QoL of patients<sup>(1,2)</sup>

### MATERIALS AND METHODS

**Study Design and Data Collection:** This longitudinal prospective study was conducted among adults with laboratory-confirmed severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection who reported to government medical college Kota during the period of December 2020 - January 2021. A total of 50 participants were randomly selected and contacted between April to June 2021. A single follow-up questionnaire was completed through telephone interview at the completion of 4 months post illness.

**Data Analysis:** EQ-5D-5L questionnaire was used to determine the health related quality of life. Patients are asked to rate their health state from 1 to 5 in five purviews (mobility, self-care, usual activities, pain/discomfort, and anxiety/depression) and on a scale ranging from 0 to 100 on a visual analogue scale (EQ-VAS). Based on the answers, an EQ-5D index was calculated. all data collected were documented in Microsoft excel, frequencies and percentages were used to depict categorical data. Oral consent was

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obtained from all patients before participating in the study and ethical clearance was obtained as per institutional policy.

## OBSERVATIONS AND RESULTS

**Patient Characteristics:** Among the patients chosen, 6% had asymptomatic disease and among the symptomatic subjects 85% were outpatients with mild illness, 9% had moderate or severe disease requiring hospitalization as shown in figure 1. Hypertension and diabetes mellitus were the most common comorbidities followed by congestive cardiac failure(1%) and myocardial infarction (2%) as shown in figure 2.

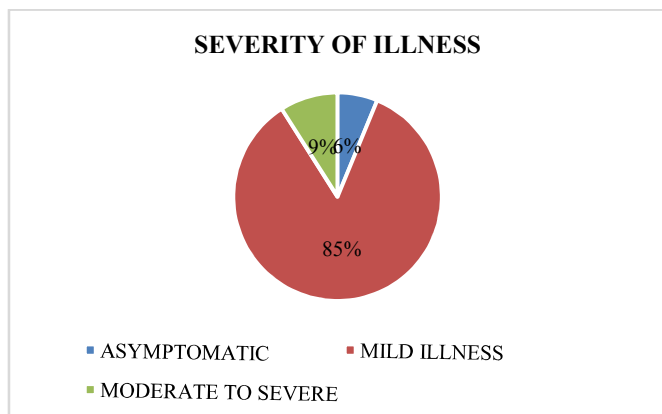


Figure 1 Clinical profile of sample population

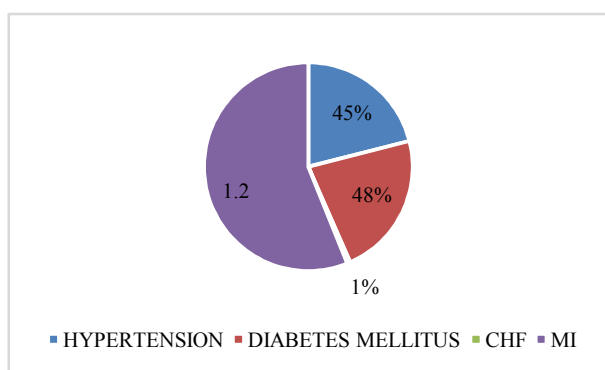


Figure 2 comorbidities in study sample

**Clinical Status At 4 Months:** Persistent physical symptoms were reported by almost one third of patients out of which most common were dry cough [33.5%] and fatigue [33.5%]. 14.0% of patients experienced dyspnea on exertion, 5.0% had sleep disturbance and 4.0% had difficulty in concentrating. (figure3)Overall, 15.0% of the patients were on domiciliary oxygen support. The average EQ-5D index was 0.71.

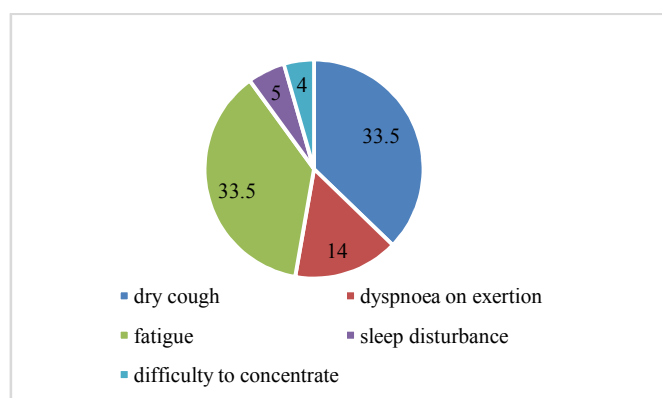


Figure 3 Proportion of Persistent Symptoms

## DISCUSSION

In this study, dry cough and fatigue was found to be the most concerning complications post covid among the study subjects which is consistent with existing literature. A study conducted in scotland by nhsinform came to the conclusion that dry cough is one of the most common coronavirus symptoms, but some people may have a cough with phlegm.<sup>(3)</sup> It was found by Sophia Antipolisetal that COVID-19 patients who continue to be short of breath during physical activity one year after recovering from the infection may have suffered heart damage.<sup>(4)</sup> Myocardial injury, as defined by an increased troponin level, has been described in patients with severe acute COVID-19, along with thromboembolic disease.<sup>(5)</sup> according to a German study. In our study, patients were not physically called upon for follow up evaluation and hence cause could not be ascertained.

Fatigue is recognized as one of the most common presenting complaints in individuals infected with SARS-CoV-2, the cause of the current COVID-19 pandemic. In early reports on the clinical characteristics of those infected, fatigue was listed as a presenting complaint in 44–69.6%as compared to our study in which 33.5% experienced fatigue<sup>(6,7)</sup>. This variability might be due to small sample size. A recent study conducted in the United Kingdom found that fatigue, pain, and social role deficiencies including PTSD symptoms, anxiety/depression, and concentration problems were the among the most common post-discharge symptoms.<sup>(8)</sup>

During the study period, 15% patients suffering from moderate to severe COVID-19 infection, had to be discharged from the hospital on home based oxygen therapy which is consistent with multiple studies conducted across the globe. These results highlight the need for a long-term follow-up of those patients and rehabilitation programs.

**Limitations:** The main limitation in this study is small sample size with single study location. The potential bias from self-reported symptoms cannot be ruled out. Due to lack of laboratory based follow up in the study sample, the symptoms cannot be clinically correlated to its cause. The psychological symptoms were not assessed which accounts for a significant percentage of morbidity in patients having chronic sequelae due to any disease.

## CONCLUSION

A significant percentage of COVID-19 recovered individuals reported persistent symptomshence, effective awareness programs and interventions are needed to increase their quality of life. The association of socio-demographic characteristics with Health-related quality of life further imparts the need for a patient-centered approach to delivering health care and disease management programs. Psychological morbidity also has to be addressed in order to improve the health-related quality of patients.

**Declaration of Conflict of Interest:** None

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