ORIGINAL RESEARCH PAPER

Physiotherapy

IS HOME QUARANTINE AS EFFECTIVE AS HOSPITALIZATION OF PATIENTS WITH MILD SYMPTOMS OF COVID'19? -A PILOT STUDY

KEY WORDS: COVID-19, FAS, PCFS, EQ-5D-5L, Home Quarantine

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ABSTRACT

Objectives: On March 11, WHO declared, the SARS-CoV-2 Corona Virus as a Global Pandemic. Ever since then, there have been millions of people around the world testing positive for the Virus. Several symptoms such as fever, dry cough, dyspnoea, cough with expectoration were observed. Since a definite treatment for the Virus was not available, there had been two alternatives, either to home quarantine patients or to get them hospitalized. Therefore, our study intends to compare the perception of fatigue, functional status, and health-related quality of life amongst patients who were hospitalized and home quarantined.

Methods: Our study is a cross-sectional study, conducted after taking ethics committee permission from DRB attached to a government tertiary care hospital [DRB/2021/02]. Post-COVID patient population from ages 18-60 years, both males and females who have tested negative in RT-PCR tests more than three and less than 6 months ago have been included in the study. 60 individuals were telephonically contacted, and their perception of Fatigue, Functional Status, and HRQoL was assessed using the Fatigue Assessment Scale, PCFS, and EQ-5D-5L, respectively. The obtained data were accumulated and analyzed.

Results: On descriptive analysis, the mean for FAS was 34, which interprets as slight generalized fatigue. The mean for PCFS was 0.8, which indicated negligible functional limitation. The mean obtained for EQ-5D-5L was 19, which indicated slight affection to the quality of life.

Non-parametric, Mann-Whitney U test was carried out for each outcome measure and on obtaining the results, it was found that both groups are not statistically significantly different in either of the 3 outcome measure used.

Conclusion: Therefore, we can say that the ones who received home quarantine also recovered equally well compared to those seeking hospital care.

INTRODUCTION

On March 11, 2020, the World Health Organisation (WHO) declared the outbreak of Severe Acute Respiratory Syndrome Coronavirus-2, SARS-CoV-2, which causes COVID-19 respiratory disease, a global pandemic[1]. More than 130 million cases have been confirmed, and more than 2 million deaths have been recorded globally[2]. There is a high risk of transmission of the Virus through face-to-face exposure during close contact activities like talking or close contact (<6 meters) with the infected individual for more than 15 minutes[3]. Symptoms such as fever, dyspnoea, headache, diarrhea, nausea, and vomiting have been observed in patients testing positive for the SARS-CoV-2[4,5]. There is evidence that symptoms such as fatigue, dyspnoea, chest tightness, cough, and headache were persistent even 3 months after the individual testing negative for the Virus. This persistence of symptoms months after the infection was termed the "Post-Covid Syndrome"[6]. These long-staying symptoms greatly impacted the patient's life, including limitation of their functional activity and health-related quality of patients[7,8]. Patients with critical symptoms and those requiring immediate oxygen supplementation based on a set of guidelines were either admitted to hospital wards or ICU wards[9], whereas patients having mild symptoms or those who tested positive without any symptoms were home quarantined[10,11]. Although these approaches were widely used, there is no good evidence of their long-term effect on the perception of fatigue, functional status, and health-related quality of life.

Therefore, the study aims to compare the perception of fatigue, functional status, and health-related quality of life amongst post-COVID hospitalized and home quarantined patients. We hypothesize there will be an increased perception of fatigue and a decrease in the quality of life and functional status of patients who were home quarantined compared to hospitalized patients.

Materials And Mehtods:

The survey was conducted from 25th February 2021 to 20th March 2021. Prior to the enrolment of participants, approval was sought from the Departmental Review Board [DRB/2021/02] affiliated with a government tertiary care hospital, and the study is registered with the Clinical Trial Registry of India [CTRI/2021/03/032063].

Home quarantine patients were contacted via snowball sampling technique by contacting them on phone, email, or WhatsApp.

A series of questions were asked relevant to their history of infection. These included demographic data: their age, sex, contact information, co-morbidities (if any, and those having uncontrolled co-morbidities were excluded later), present symptoms (if any), and the date of their first positive and negative swab.

After carefully assessing the data, only those who were appropriate according to the inclusion criteria were interviewed for the Fatigue assessment scale[13], Post-COVID functional status scale[14], and EQ-5D-5L[15]. The fatigue assessment scale is a 10-item scale that is used to measure the perception of fatigue, wherein the participant was asked to choose from 'never,' 'sometimes,' 'regularly,' 'often,' and

'always'[13]. The post-COVID functional status scale is ordinal, has 6 steps ranging from 0 (no limitation) to 5 (Severe Limitation), and covers the entire range of functional outcomes by focusing on limitations in usual duties/activities either at home or at work/study, as well as lifestyle changes. EQ-5D-5L is a popularly used scale for assessing the perception of the Health-related quality of life and includes five dimensions, namely, mobility, self-care, usual activities, pain/discomfort, and anxiety/depression [15]. It should be noted that Fatigue Assessment Scale and EQ-5D-5L are positive direction scales, whereas the Post-COVID functional Status scale is a negative direction scale.

STUDY DESIGN:

A total of 60 participants were included from age 18-60, with a total of 25 males and 35 females, out of which 30 were hospitalized and 30 were home quarantined. Patients admitted to a non-intensive care unit or wards in a hospital and patients who were home quarantined at Mumbai City were included in the study.

Patients testing negative within 3 months suffered from Post-COVID symptoms [6] while the syndrome lasts only for a period of 6 months, and a full recovery is expected after that [12]. Therefore, Post-COVID individuals who were tested negative on the RT-PCR test within 3 months to 6 months were included in the study. Patients requiring supplemental oxygen and having uncontrolled diabetes or hypertension were excluded from the study. The participants were included in the study after eliminating those who were admitted to ICUs and those having uncontrolled co-morbidities. Severe cases in hospital wards requiring supplemental oxygen were also excluded. After the acquisition of the patients' contact information, they were telephonically contacted, and verbal consent was taken.

Statistical Analysis:

Data were analyzed using the IBM SPSS version 26 (Chicago, USA). Descriptive analysis of the data was done. Since the data were not normally distributed, a non-parametric test (Mann–Whitney U test) was applied. The differences between the two means of EQ-5D-5L, PCFS, FAS scores of both the groups were compared using a Mann–Whitney U− test at a 95% confidence interval with the level of significance being 0.05.

Results And Discussion:

A total of 60 participants were surveyed to compare the perception of fatigue, functional status, and quality of life amongst patients who recovered from COVID. They were home quarantined (n=30) and admitted to the hospital during COVID 19 (n=30). The participants in both the groups were in the age group of 18–60 years, with a mean age of 32.96 ± 12.46 in the home quarantined group and 35.4 ± 11.87 years in the hospitalized group. The mean EQ-5D-5L score for the home quarantined group is 19.06 ± 1.61, and the mean score for the hospitalized group is 18.8 ± 1.69 (p=0.408). Similarly, the FAS score for the home quarantined group is 33.8 ± 5.52, and the mean score for the hospitalized group is 34.33 ± 5.53(p=0.694). The mean PCFS score for the home quarantined group is 0.8 ± 1.6, and the mean score for the hospitalized group is 0.86 ± 1.22 (p=0.451). A non-parametric Mann–Whitney U− test was used. We found no significant difference between home quarantined and hospital admitted patients in the perception of fatigue, functional status, and HRQOL.

Figures 1, 2 and 3 depict the results of Fatigue assessment scale, Post-covid functional status scale and EQ-5D-5L respectively.
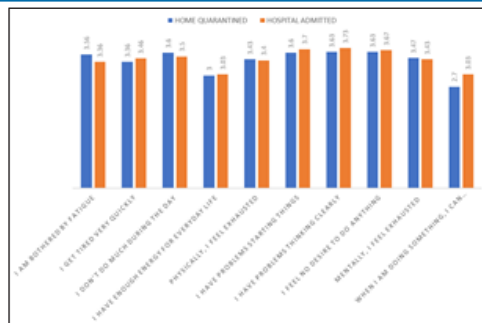

Figure – 1 Fatigue Assessment Scale
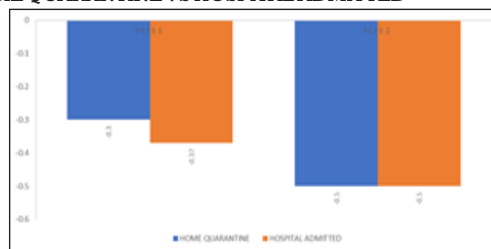HOME QUARANTINE VS HOSPITAL ADMITTED

Figure – 2 Post Covid Functional Status Scale
HOME QUARANTINE VS HOSPITAL ADMITTED

Figure – 3 Eq-5d-5l Scale
HOME QUARANTINE VS HOSPITAL ADMITTED

Due to an unforeseen increase in patients infected with COVID 19, many countries advocated home quarantine patients with mild symptoms. However, according to Goërtz and colleagues, a large group of non-hospitalized COVID-19 patients did not meet their healthcare needs. The study's findings are in conjunction with the study conducted by Petrrone et al., who suggested that many mildly ill COVID-19 patients can self-manage their symptoms (16).

One possibility that may explain the results in-home quarantine patients and hospitalized patients who did not require supplemental oxygen was that both had mild symptoms. Hence, no significant difference was seen in these individuals, but it might not be the case compared with ICU-admitted patients. Also, of note, all patients were below 60 years of age which is considered the young-old group, and high mortality was seen in patients who were above 60 years of age. A study conducted by Gietl et al. found that patients who were home quarantined during COVID 19 were largely confused regarding the regulations to be followed. At the same time, some medical authorities claimed two negative swab tests to come out of quarantine while some did not (17). We believe that patients who were home quarantined were in a state of dismay and uncertainty due to the lack of medical regulations outlined for them. The high fatality and strong infectiousness of the disease caused anxiety amongst the patients, which might have resolved after their recovery. Even though hospitalized patients were under the guidance of experts and doctors, patients who were home quarantined might feel closer to their loved ones while in isolation than in a hospital. Since doctors consulted patients during this phase via phone calls, WhatsApp, emails, and Zoom calls to monitor patients, it might have provided ongoing patient support and

decreased the need for in-person healthcare visits [18].

FAS scores in our study also suggest persistent fatigue in non-hospitalized patients, but it is not significant compared to hospitalized patients. Perhaps, home quarantining patients with mild symptoms will help tackle the adversity caused by a shortage of hospital beds and its effect on the country's current economic condition.

CONCLUSIONS

Thus, we conclude that it is the need of the hour to home quarantine patients with mild symptoms of COVID 19 during this unanticipated surge in the infection rate. In order to stay updated on the policies of home quarantine of COVID 19 patients, CDC guidelines must be followed [19]. However, it is necessary to make deliberate decisions on quarantine strategies because they may not be suitable for small living spaces such as urban slum areas.

Our study has a few limitations like small sample size and is limited to one geographic location and hence might lack the power to get the significant association. A longitudinal study could have helped solidify the findings of the study. In addition, our study does not comprise a specific time frame, and there is a possibility that patients only within 3 months may show different perceptions of fatigue, functional status, and quality of life. Therefore, the results of the study are not generalizable, and hence, further studies are required to justify the findings of this study.

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