

A Study on Functional Status of Post Covid 19 Patients and Their Determinants Using the Post Covid Functional Status Scale (PCFS) In Tahirpur, New Delhi

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Abstract

INTRODUCTION

COVID 19 is an infectious disease caused by a newly discovered corona virus. The World Health Organisation (WHO) indicated that approximately 1 in 10 people all over the world have been affected by this virus. Hence, there is a need to find the functional limitation of post COVID 19 patients and recommend measures for reducing the same.

AIM OF THE STUDY

1. To assess the functional status of post COVID 19 patients.
2. To find the risk factors associated with the functional limitation of post COVID 19 patients.

METHODOLOGY

A total of 100 registered confirmed COVID 19 patients were included. They were followed up for 3 visits and history regarding their functional limitation along with basic information were collected using a structured questionnaire.

Very few studies have been done regarding this information and necessitate further studies regarding the same.

RESULTS

79% of covid recovered cases have diverse degree of functional restrictions ranging from negligible (62%), slight (13.8%), moderate (2%) to severe (0.5%) based on the PCFS scale. Also, there is substantial variance between PCFS score with age ($p=0.003$), gender ($p=0.014$) and duration of onset of symptoms ($p<0.001$), need for oxygen ($p<0.001$), need for ICU ($p=0.003$) and smoking ($p<0.001$)

CONCLUSION

Most covid 19 recovered cases have diverse degrees of functional restrictions ranging from negligible to severe based on PCFS. These were affected by age, gender, smoking, duration of symptoms, need for oxygen support and need for ICU care.

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I. Introduction

It has been assessed that almost four billion individuals are living in social segregation during this pandemic. Initially described in China, in December 2019, a severe acute respiratory syndrome caused by Corona virus 2 (SARS-CoV-2) has spread all over the world. The outbreak of Coronavirus has been associated with concomitant persistent impairment in pulmonary function, muscle weakness, pain, lethargy, depressed mood, anxiety and impaired quality of life in various grades.

Because of enormous number of COVID 19 cases that necessitate strong follow up, a simple and reproducible method to categorise the patients complaining of sluggish or partial recovery would aid in guiding research efforts.

PATIENTS AND METHODOLOGY

During the period from August 1, 2020 to September 15, 2020, around 100 patients with confirmed covid 19 status from Rajiv Gandhi Super Specialty hospital were selected. They were contacted and asked Questionnaire over phone calls.

STUDY DESIGN Cross sectional (Observational study)

SAMPLE SIZE Calculated using Epi info statistical package version 7. For the cross sectional study, a total of 92 patients were selected. It was raised to 100 considering a 10% dropout.

DATA COLLECTED

The patient demographics and clinical data including age, gender, smoking status, presence of co existing co morbidity, oxygen supplementation and history of ICU admission were recorded.

POST COVID 19 FUNCTIONAL STATUS SCORE (PCFS SCORE)

A questionnaire covering the entire range of functional limitations, including changes in lifestyle, sports and social cultures was designed. If there was no limitation in activity, it was graded 0. Negligible effect on activities for patient was considered grade 1, a lower intensity of activities was considered grade 2. Grade 3 accounted for inability to perform certain accomplishments, forcing patients to structurally modify these. Finally grade 4 was reserved for those patients with unembellished functional restrictions.

STATISTICAL ANALYSIS

Data was coded and analysed using the statistical package of Social Science software program, version 26. Data was presented as range, mean, standard deviation, for qualitative variables and frequency and percentage for qualitative variables. One way ANOVA test, p values ≤ 0.05 was considered statistically significant.

II. Results

Post Covid Functional Status scale (PCFS)

Most participants (63%) had trivial limitations in activities after recovery from covid 19 (grade1), 14% had slight (grade 2), 2.5% had moderate (grade 3) and only 0.5% had severe functional limitation (grade 4). Only 20% had no functional limitations (grade 0).

III. Discussion

During the pandemic of covid 19, we have encountered an enormous proportion of cases with severe clinical features like cough, fever, shortness of breath, musculoskeletal (lethargy and joint ache), gastro intestinal and sleep disorders. We found 80% of covid 19 recovered cases have severe degree of functional restrictions ranging from negligible (63.1%) , slight (14.4%), moderate (2%) to severe (0.5%) based on PCFS.

The results are not surprising as in addition to impairment of physical activities, the long duration of confinement and the extreme doubt during covid 19 disease had generated remarkable mental and attitude disorders.

In the present study, only 3% of cases necessitating ICU did not record any functional restriction and 93.3% had negligible to slight functional restriction (compared to 22.7% no restrictions and 75% negligible – slight functional restrictions, in patients not admitted in ICU $p=0.003$)

It is recommended that the functional state could have a predictive value for covid 19 patients as compromised physical activity was independently concomitant with worst consequences in hospitalised cases with community acquired pneumonia according to recent prospective studies. The performance status may forecast one-month death rates as well as the frequently used CRB-65 score (confusion, respiratory rate, BP and age >65) in patients with viral or bacterial pneumonia.

LIMITATION OF STUDY

First , lack of data of functional status before covid 19 infection. Second the history of the symptoms both at onset of covid 19 and after recovery is not included. Third, the pharmacologic therapy given to patients was not mentioned (however all patients received the standard protocol according to Ministry of Health of India). Lastly, random selection bias maybe present and an inability for personal face to face interview in some cases.

IV. Conclusion

Most covid 19 recovered cases have different degrees of functional limitations ranging from negligible to severe based on PCFS. These limitations were affected by age, gender, smoking status, duration of symptoms, need for oxygen therapy or ICU admittance and the presence of co existing co morbidity.

It is recommended that post covid 19 monitoring programs should be implemented in specific clinical settings or as an out-patients program to follow the functional status of patients in 15, 30 and 45 days to support the complete care for cases recovered from COVID-19. Furthermore, extended monitoring using simple scales as PCFS is necessary to determine whether these functional deficits after COVID- 19 recovery persist or not. Further studies are required to explain the underlying cause of post COVID-19 functional limitation.

Table 1: Post COVID-19 Functional Status Scale (PCFS) in the studied recovered COVID - 19 cases (n=100)

Variable	Percentage
No limitation (grade 0)	20.0
Negligible limitation (grade 1)	63.1
Slight limitation (grade 2)	14.4
Moderate limitation (grade 3)	2.0
Severe limitation (grade 4)	0.5

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