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An Evaluation of Functional Status Inindividual With Covid Recovery Using Post Covid-19 Functional Scale (Pcfs) Questionnaire.

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ABSTRACT:
Background: A "Post-COVID-19FunctionalStatus(PCFS)scale"isrecommendedintheCOVID-19pandemic.Itisproposedthatitcould be used to exhibit direct retrieval and thefunctional squeal of COVID-19. It plays a vitalrole in assessing functional status for patientswithcovidrecoveryfortrackingtheprogression.Thereisapaucityofsuchstudiesin India; therefore, there is a need to evaluate thefunctionalstatusofindividualswithcovidrecovery.

Methodology: Inform consent was asked in thelanguage best understood by the participant andthe demographic details were taken. ConformeddiagnosisofCOVID-19basedonlabreportssuch as PCR test, Antigen test and Radiographicreports participantwereselected according toinclusion&exclusioncriteria.UsingPostCOVID-19FunctionalScale(PCFS)Questionnaire, participants were interviewed inthebestlanguageunderstoodbythem.Statisticalanalysiswasdoneafterdatacollectionusing SPSSSoftware.

Results: Outof1000participants,680weremales and 320 were females. The mean age was43.49years and the range was 30-60years table.According to WHO Ordinal Scale for ClinicalImprovementScore69.9%wereadmittedinhospitalamongstwhich40.3%didn'trequireoxygen therapy, 24.5% required oxygen therapyand 5.1% required ventilator support and 30.1%werehomequarantined.96%ofCOVID-19recoveredcaseshavediversedegreesoffunctional restrictions ranging from negligible(11.1%), slight (42.7%), moderate (25.8%) tosevere(16.5%)basedonPCFS.Majorityof populationhadslighttomoderatefunctionallimitation

Conclusion: Most of the COVID-19 recoveredcaseshavevaryingdegreesoffunctionalrestrictionsrangingfromnegligibletoseverebasedonPCFS,emphasizingmoretowardsslighttomoderatefunctionallimitations.

KEYWORDS:COVID-19;SARS-CoV-2;Post COVID-19; post-COVID-19,FunctionalStatus;PostCOVID-19Functionalscale

I. INTRODUCTION

Corona viruses are a family of viruses that can cause illnesses such as the common cold, severe acute respiratory syndrome (SARS) and Middle East respiratory syndrome (MERS). In 2019, a new corona virus was identified as the cause of a disease outbreak that originated in China. The virus is now known as the severe acute respiratory syndrome corona virus 2 (SARS- CoV-2) [(1)]. In March 2020, the World Health Organization (WHO) declared the COVID-19 outbreak a pandemic. Covid-19 is caused by novel enveloped single stranded RNA virus (SARS CoV-2). Prevalence rate-In middle age is 5.26%, In elderly age is 5.56%. Signs and symptoms of corona virus disease 2019 (COVID-19) may appear two to 14 days after exposure. This time after exposure and before having symptoms is called the incubation period. It includes Fever, Cough, Tiredness; early symptoms of COVID-19 may include a loss of taste or smell. Other symptoms can include: Shortness of breath or difficulty breathing, Muscle aches, Chills, Sore throat,Runnynose,Headache,Chestpain,pinkeye(conjunctivitis)[(2)].Medicalmanagementincludeschloroquine,hydroxychloroquine,lopinavir,azithromycin.Physiotherapymanagementincludesairwayclearancetechnique,positioning,bronchialhygiene,breathingtechniques.Preventionincludespracticesocialdistancing,wearmask,followproperhandwashingregimenandtakeprecautions.Indeed,asofJanuary2021,over103million confirmedcaseshavebeenaccounted globally. In the coming weeks andmonths,emphasiswillgradually alsoinvolvepost-acute care of covid- 19 survivors. Previousoutbreaksofcoronaviruseshavebeenassociatedwith persistentpulmonaryfunctionimpairment,muscleweakness,pain,fatigue,depression,anxiety,vocationalproblemsandreducedqualityoflifetovariousdegrees[(3)].

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Given the heterogeneity of COVID-19 in termsofclinicalandradiologicalpresentation,itispivotaltohaveasimpletooltomonitorthecourseofsymptomsandtheimpactofsymptoms on the functional status of patients. [4] It is not known why some people's recovery isprolonged. Persistent viraemia due to weak orabsentantibodyresponse,relapseorreinfection,inflammatoryandotherimmunereactions,deconditioningandmentalfactorssuchaspost-traumaticstressmayallcontribute.Longtermrespiratory,musculoskeletal,andneuropsychiatricsquealhavebeendescribedforothercoronaviruses(SARSandMERS),andthesehavepathophysiologicalparallelswithpost-acuteCovid-19.[5]

Functionalcapacityrepresentsanindividual'smaximum capacity to perform daily activities inthe physical, psychological, social, and spiritualdomainsof life,functional performancerefersto the activities people actually do during thecourse of their daily lives. A maximal exercisetestmeasuresphysicalfunctionalcapacity,while a self-report of activities of daily livingmeasures. Functionalstatuscanbeinfluencedbybiologicalorphysiologicalimpairment,symptoms, mood, and other factors. It is alsolikely to be influenced by health perceptions.For example, a person whom most would judgetobewellbutwhoviewshimselfasillmayhave a low level of functional performance inrelationtohiscapacity.[6]

Itisessentialtohaveaneasiermeasuretorecordtheprogressionofsymptomsandtheeffect of these symptoms on the functional stateoftheaffectedpatients.Becauseoftheextensivenumberof COVID-19recoveredcasesthatrequirefollow-up,asimpleandstandardizedmeasuretocategorizethospatientscomplainingfromstagnantorpartialrecovery would aid in guiding the deliberate useofmedicalfundsandwillalsosystematizeresearchefforts.Recently,agroupofinvestigators recommended an ordinal scale forevaluationofpatient-relevantfunctionalrestrictions.Followinganeventofvenousthrombo-embolism(VTE):thepost-VTEfunctional status (PVFS) scale [7, 8].It covers thefullspectrumoffunctionalconsequencesandfocuses on both restrictions in usual activitiesand alterations in life-style in 6- scale scores. Itis already known that there is a great frequencyofpulmonaryembolism,myocardialinjury/myocarditis and neurologicaldysfunctions,inseverelyillcaseswithCOVID19[9, 10]. That'swhyKlokandhiscolleaguesproposedtheirFunctionalStatus(PCFS)scale(afterslightadaptation)tobevaluableintheexistingCOVID19pandemic.Therecommendedscalecouldbeuseduponhospital discharge, at 4-8 weeks after-dischargetodisplaydirectrescue,andat6monthstoevaluatefunctional residue[11].

II. EXPERIMENTATION

Study design -The study was a descriptive study followed up by a telephonic interview. The study was conducted after approval from the ethical committee and institutional review board. Informed verbal consent was taken from all participants via a phone conversation before proceeding to the survey.

Study setting - All participants in the study were recruited from the COVID-19 registry of MGM Medical College and Hospital, Kamothe.

Participants - The inclusion criteria consist of individuals diagnosed with COVID -19 with a positive RT-PCR test, both males and females within the age group of 30-60 years were included. Participants will be a part of inclusion criteria if they were aware, oriented and able to communicate; Patients who recovered from COVID 19 (post recovery 4-6 weeks). Based on WHO ordinal scale for clinical improvement under the score of 1-7 (mild – Severe disease). Exclusion criteria were patients under the age of 30 years and above 60 years Based on WHO ordinal scale for clinical improvement under the score of 0(unaffected) and 8(Death).

Data Collection – The study involved a total of 1000 participants, randomly selected from a list of 2000 patients. Out of that 680 were males and320 were females. Post COVID-19 Functional Scale (PCFS) questionnaire was used in the survey to interview participants via telecommunication. The survey was conducted for 6 weeks. The data collection was done 4 weeks post recovery. Demographic data including age, sex, history of hospital, confirmatory tests, WHO Ordinal scale for clinical improvement score was taken.

Symptom's score- The severity of involvement of status was ranked by the interviewer with a Post COVID-19 Functional scale consisting of No Functional Limitations, Negligible Functional Limitations, Slight Functional Limitations, Moderate Functional Limitations, Severe Functional Limitations.

Statistical method – Data was coded and analyzed using the Statistical Package of Social Science software program, version 28 (IBM SPSS 28 Statistics for windows, Armonk, NY: IBM Corp).

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Data was presented as range, mean, standard deviation, for age a quantitative variable and frequency, percentage for qualitative variables. The frequencies and respective percentages were calculated and presented in a pie chart.

III. RESULTS

The MGM Covid Data, Post Covid Data and patients with a positive RT PCR test result.
The demographic and clinical characteristics of the study population comprising 1000 participants are presented which are randomly selected from a list of 2000 patients that included patients from

Table-1Demographicdata

PARTICULAR	FREQUENCY	PERCENT(%)
AGE		
30-60	43.49 ±10	-
GENDER		
Male	680	68
Female	320	32
WHOORDINALSCALEFORCLINICALIMPROVEMENTSCORE		
Nolimitationofactivities	57	5.7
Limitationofactivities	244	24.4
Hospitalized,nooxygentherapy	403	40.3
Hospitalized,OxygenbyMaskornasalprong	245	24.5
Non-invasiveOxygenventilationorhighflow	50	5.0
Intubationandmechanicalventilation	1	.1

Outof1000participants,680weremalesand320werefemales.Themeanagewas43.49years and the range was 3060years table.According to WHO Ordinal Scale for ClinicalImprovementScore69.9%wereadmittedinhospital amongst which 40.3% didn't requireoxygen therapy, 24.5% required oxygen therapyand 5.1% required ventilator support and 30.1%werehome quarantined.

Post COVID-19 Functional Status Scale (PCFS): -

According to Post COVID-19 Functional StatusScale (PCFS) Most of the COVID-19 recoveredcaseshavevaryingdegreesoffunctionalrestrictionsrangingfromnegligibletoseverebasedonPCFS,emphasizingmoretowardsslighttomoderatefunctionallimitations.

Table2-SymptomChecklist

Limitations	Frequency	Percent	ValidPercent
NoLimitation	39	3.9	3.9
SymptomfromCovid 19 withoutfunctionallimitationorproblemwithrelaxing.	121	12.1	12.1

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Symptoms,throughwhichusualduties/activitiesavoided,reduced or spreadovertime.	840	84	84
Total	**1000**	**100**	**100**

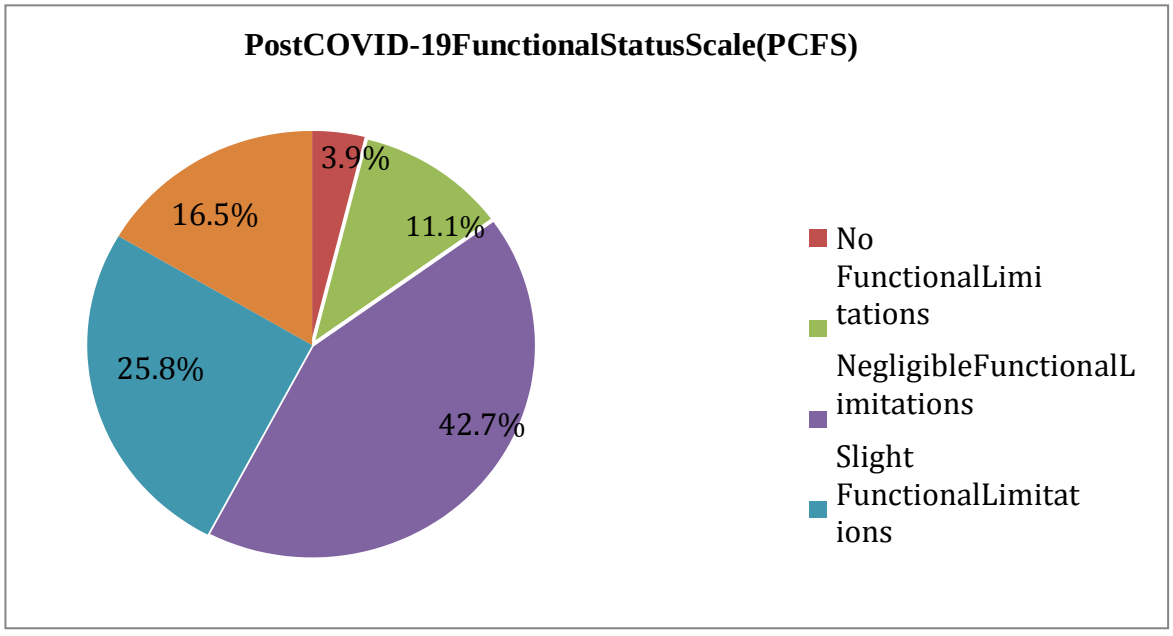
Outof1000population,96%participantshad atriviallimitationinactivitiesafterrecoveryfromCOVID-19.
84% patients had post COVID symptoms through which usual duties/activities avoided, reduced orspreadovertime and12.1% patientshadsymptom fromCOVID19withoutfunctional limitationorproblemwithrelaxingand trauma.2.8%ofpatientsrequireconstant carepresentedintable (2).

Table3-PostCOVID-19FunctionalStatusScale(PCFS)

Limitations	**Frequency**	**Percent**	**ValidPercent**
NoFunctionalLimitations	39	3.9	3.9
NegligibleFunctionalLimitations	111	11.1	11.1
SlightFunctionalLimitations	427	42.7	42.7
ModerateFunctionalLimitations	258	25.8	25.8
SevereFunctionalLimitations	165	16.5	16.5

11.1% had negligible functional limitation (Grade 1), 42.7% had slight functional limitation (Grade 2), 25.8%had moderate functional limitation (Grade 3) and 16.5% had severe functional limitation (Grade 4). Wherein,3.9%hadnofunctional limitations(Grade0) table (3)

Figno.1-Post-CovidFunctionalLimitations



CONCLUSION

Thisstudyconcludesthat96.1%patientsrecoveredfromCOVID-19havesignificantlimitation infunctional status.Slight functionallimitationwasmostcommonlymanifestedfollowedbymoderatefunctionallimitationinactivities of daily living 4 weeks post recovery.Thestudy result increases ourunderstanding ofthe spectrum of

covid-19 and gives more in-depthinformationwhichinturnmayleadtomoreefficient care for Covid-19 survivors and will helpthe patient to get back to their activities of dailylivingindependentlywithoutanylimitations.

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