

An Overview of Literature Related to Post COVID-19 Rehabilitation

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Introduction

COVID-19 is an evolving disease that has completely changed modern healthcare systems worldwide. At the time of research, the Center for Disease Control (CDC) has recorded about 70 million cases since December 2019. Initially, research related to COVID-19 was focused on treating those hospitalized and discharged with symptoms related to post-intensive care syndrome (PICS). As the pandemic progressed, it became apparent that symptomology persisted in some individuals, unrelated to the severity of initial illness. The CDC has defined this as post-COVID condition, which represents those who are experiencing symptoms prevailing more than four weeks past initial infection. Post-COVID condition can also be described as post-acute COVID, chronic COVID, and post-acute sequelae of SARS CoV-2 (PASC). As the pandemic progresses and we see an increased prevalence in post-COVID condition, there is an increased likelihood that more patients with lingering impairments will seek care in outpatient physical therapy settings.

Common Symptoms

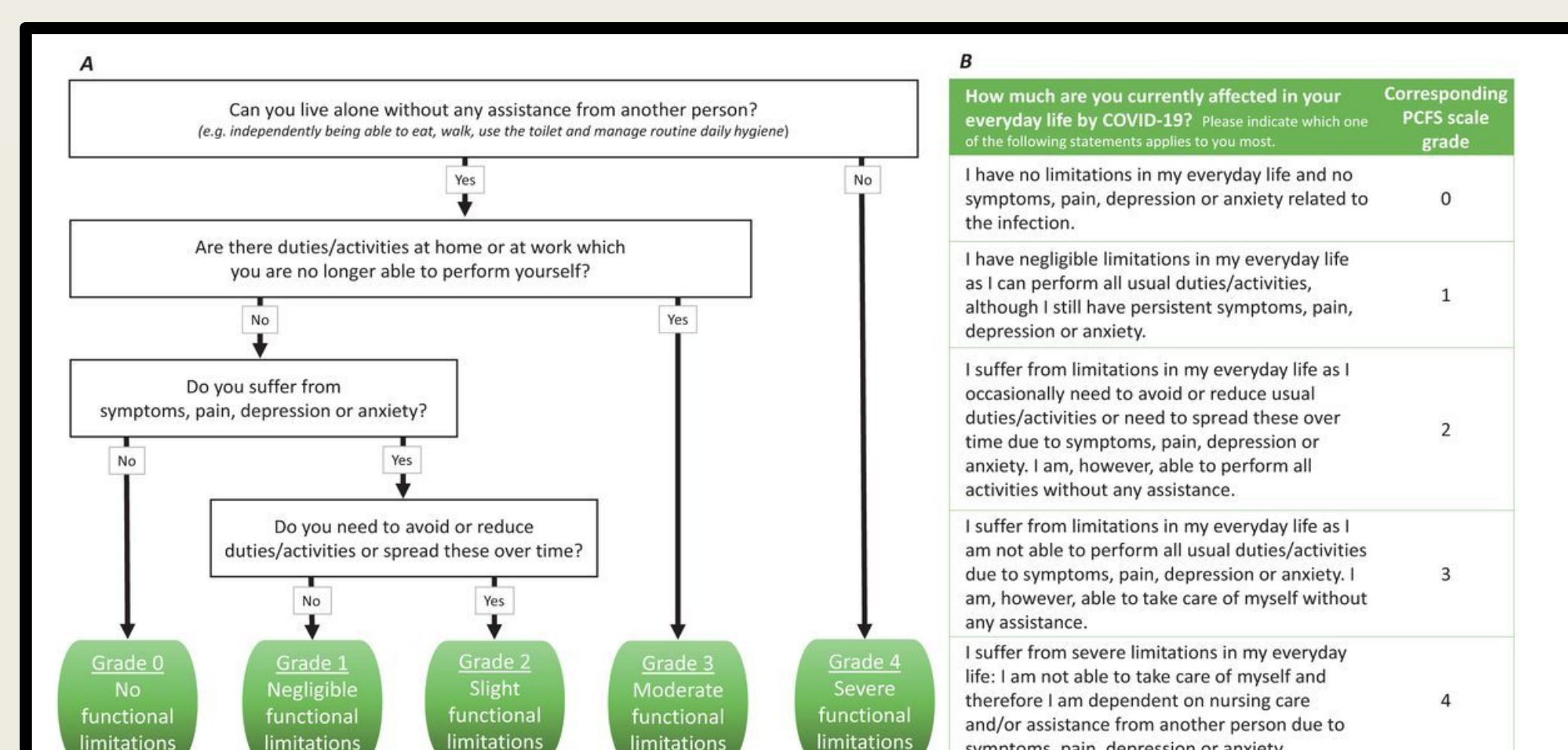
- Fatigue, weakness, reduced exercise tolerance, difficulty breathing, decreased quality of life, anxiety, depression
- Myalgic Encephalomyelitis/Chronic Fatigue Syndrome (ME/CFS), Post-Exertional Malaise, Postural Orthostatic Tachycardia

Methods

- Searches conducted from August 2021-November 2021 and a second search performed in February 2022
- **Databases searched:** Pubmed, Cochrane, Medline Plus
- **Inclusion Criteria**
 - Adults 18+, post COVID, relevant to outpatient physical therapy
- Hand picked searches to find relevant information due to limited research pertaining to outpatient clinic settings
- **Purpose**
 - Examine current literature pertaining to COVID-19 rehabilitation and potential interventions that can be used in an outpatient setting
 - COVID-19 continues to become more prevalent as more individuals are infected so therapists should be prepared to treat these patients in any physical therapy setting

Post-COVID-19 Functional Status Scale

- This is an ordinal scale that helps clinicians assess the full range of functional limitations of those who are recovering from COVID-19



Interventional Strategies

- **Pulmonary Rehabilitation**
 - Breathing Techniques → inspiratory muscle training, breath control, pursed lip breathing
 - Relaxation Exercise → decrease anxiety and make it easier to manage routine activities
 - Changing Activity Habits → modification of daily routine to accommodate symptoms
 - Maximizing Energy Levels → conservation of energy (planning activities, take time to gather materials)
- **Strength and Aerobic Training:**
 - Performed functional strength activities with 10-15 repetitions while maintaining Borg mRPE scale of 5-6/10
 - Strength exercises included: leg press, squats, lunges, and upper extremity resistance exercises
 - Aerobic exercises included walking on ground surfaces or treadmill, dancing, upper and lower body cycle ergometer, sit to stands, and stepping exercises with maintaining Borg mRPE of 4-6/10
 - All activities are geared toward regaining function
- **Interval Training (HIIT):**
 - Increase in intensity can cause surge of anti-inflammatory myokines
 - IL-6 is involved in viral clearances and mobilization of natural killer and dendritic cells
 - Protocols of 4x4, 6x1, and 10-20-30
 - Challenge the patient but maintain proper pacing

PT Implications

- Post COVID conditions are becoming more prevalent, need to use fundamental skills as therapists when treating these patients
- Activity pacing and conservation of energy
 - Breaking down tasks to save energy
 - Time demanding tasks when less fatigued
 - Rest as needed, watch for signs of exertion
- Individualized POC, personalized management and recognition of unique symptoms that may be seen after COVID-19

Limitations

- Limited early research relevant to outpatient setting
- Low numbers of participants
- Early rush to disseminate knowledge on information related to COVID-19
- Differing practices for PT interventions in other countries where studies were conducted

Conclusion

- COVID-19 has affected all realms of healthcare and continues to pose new challenges
- Implemented programs must be specific to the individual and safe to perform
 - Pace, educate, and advocate
- Continued research is necessary as findings evolve

References:

