

Disability and Long COVID

Daniel Suárez Hernández¹, Elena Pascual Roquet Jalmar², Carlos Diego Coll³, Ramón Valdés Carrillo⁴, Ramon Munera Escolano⁵

1. Laboral Doctor, Benejúzar Health Centre, Alicante, Spain.
2. General Practitioner, St. Adrian Health Centre, Navarra, Spain.
3. General Practitioner Bigastro Health Centre, Alicante, Spain.
4. Pediatrician La Loma Health Centre, Alicante, Spain.
5. General Practitioner in SAMU Denia, Alicante, Spain.

Abstract: Long COVID may affect 10 to 33 million working-age adults in the United States, and it involves a range of potentially disabling symptoms. There is no standard presentation or treatment for Long COVID, and it is still unclear how long it will last for those affected. The implications of Long COVID for employment and health coverage are not yet well understood. It is also unclear whether vaccines and prior immunity protect against Long COVID. The impact of Long COVID on a worker's return to work can be significant, and occupational medicine physicians should follow best practices in handling the return to work of Long COVID patients.

Key words: Long COVID; disability; Long COVID symptoms

1. Overview and Impact of Long COVID

Long COVID is a condition caused by COVID-19 infection that can have disabling symptoms and affect a person's ability to work. A survey found that almost 1 in 5 adults with prior Covid-19 infection reported Long COVID symptoms lasting four weeks or longer. Among adults with Long COVID, 10% stopped working because of their symptoms, and an additional 5% reduced their work hours. Long COVID can lead to challenges in meeting basic needs and increased healthcare costs.

The term "Long COVID" refers to the persistent symptoms experienced by individuals who have had a previous Covid-19 infection. These symptoms can include cognitive deficits, such as attention problems, slow information processing, memory difficulties, and executive function impairments, as well as psychological disturbances like anxiety, depression, and sleep disorders. Fatigue is also a commonly reported symptom. Studies have documented neurological damage and subsequent cognitive decline associated with Long COVID. It is estimated that 15.2% of people with symptomatic infection develop persistent Covid, with more than a million individuals in Spain alone, of which 80% are women. The World Health Organization (WHO) has referred to this condition as "post-Covid condition," encompassing both persistent and new symptoms. Long COVID is a collection of signs, symptoms, and conditions that continue or develop after initial infection with SARS-CoV-2. It is not one condition but represents various potentially overlapping conditions with different causes and risk factors. Diagnosis can be a lengthy process as healthcare providers rule out other conditions. Symptoms of Long COVID can include fatigue, cognitive impairment, respiratory symptoms, headaches, and

more. Long COVID has potentially affected up to 23 million Americans and has kept around 1 million people out of work. Policies and practices that help workers with Long COVID stay at work or return to work when ready are beneficial.

The nature of Long COVID is characterized by episodic symptoms that can affect various parts of the body. These symptoms can remain the same or change, fluctuating in intensity and unpredictability. This can negatively impact daily activities, work, family life, social relationships, and caring for others. Long COVID is described as a multidimensional, episodic, and sometimes unpredictable health disorder or disability. People with Long COVID may experience physical, cognitive, mental, and emotional challenges, difficulties in daily activities, social inclusion issues, and uncertainty about future health. Episodic disability is a term used to describe the fluctuation in six dimensions of disability, such as fatigue, difficulty breathing, physical pain, cognitive fog, and their impact on daily activities, social inclusion, and mental-emotional well-being. These dimensions of disability can be influenced by factors such as stigma, lack of credibility in health issues, or inaccessible environments. Support can help improve these challenges.

2. The Challenges of Individual with Long COVID and Interdisciplinary Responses

Long COVID can have significant impacts on an individual's ability to perform their job duties. Many individuals with Long COVID experience reduced stamina, brain fog, and other symptoms that can make it challenging to carry out their usual work tasks. In some cases, individuals may require accommodations or adjustments in their work environment to help them cope with these challenges. It is important for employers to be aware of the potential impact of Long COVID on their employees and to provide support and flexibility when needed. Additionally, individuals with Long COVID may benefit from seeking medical advice and support from healthcare professionals who can help manage their symptoms and provide guidance on returning to work.

Given the biopsychosocial impact that Long COVID causes on the patient, it is necessary to address this impact from an interdisciplinary team made up of health professionals, psychologists, psychotherapists, occupational therapists, dietitians, speech therapists, etc. Not only is biological treatment necessary but also is addressing the social and psychological aspects. It is proposed to carry out a multidisciplinary approach, with a holistic and comprehensive view, covering biopsychosocial aspects, taking into account the patient's experience as the main axis of their entire health disease process, without stigmatizing the patient. In the approach to the patients with Long COVID, given that they present multiorgan involvement, a comprehensive, holistic assessment is required. The anamnesis must be completed with a general physical examination and equipment (pulmonary and cardiac auscultation, abdominal examination, extremity examination, neurological examination and basic ophthalmological and otorhinolaryngological examination). It will be complemented with other tests such as electrocardiogram, echocardiogram, joint ultrasound, pulse oximetry and spirometry, other complementary laboratory tests. The study of comorbidities and the functional and social situation will be carried out. All of this will allow for an initial baseline assessment of the affected person. It is necessary to carry out a comprehensive assessment that includes:

- Nutritional: due to the cachectic effect that the disease has in its early phases. Determining the available nutritional information: weight, height, BMI and laboratory values of total proteins, albumin, ferritin, vitamin B12, vitamin D. It is recommended to perform screening with the MUST (Malnutrition Universal Screening Tool) validated in outpatient, hospitalized and institutionalized adults; and the MNA (Mini Nutritional Assessment) validated in the elderly population. With these tools, emphasis is placed on the patient's current nutritional condition and whether it has remained stable in recent months or may worsen if intake is insufficient.

- Assessment of sarcopenia: as a decrease in muscle strength, muscle mass and finally physical performance, through physical tests to measure muscle strength. The SARC-F scale is recommended. The SARC-F test is a simple five question

questionnaire that is based on the patient's own perception of their strength limitations, ability to walk independently, get up from a seat, climb stairs, and falls in the past year, so it is easy integration into daily clinical practice.

- Assessment of frailty and dependency because many are elderly and/or multi-pathological patients. The FRAIL scale is a questionnaire of 5 questions related to 5 domains: fatigue, resistance, ambulation, comorbidity and weight loss. It is quick, can be completed in person or by telephone and does not require a physical space for its execution. The score ranges between 0 and 5. If the result is >1 , it is considered that there is a high probability of frailty. The FRAIL scale can be administered in a very short time. For this reason, its use is also proposed for the active detection of frailty in centers where older people go or live regularly (residences, senior centers, etc). Its use is proposed opportunistically in places where older people frequently go: pharmacies, day centers, disability centers, adult education centers, patient associations, etc. If the FRAIL scale >1 , it is recommended to start counseling on health lifestyles (physical activity and diet especially) and refer to the health center.

- Emotional assessment for the impact on emotional health. HAD scale is recommended. It is the most used self-assessment instrument to assess rare emotional distress in people with physical illness in a hospital context (fibromyalgia, cancer, chronic fatigue, HIV, heart problems, etc). The HAD is a simple and quick scale to answer, composed of 14 items and two subscales, anxiety and depression, with scores from 0 to 3.

- Social assessment due to the deterioration of their social life. Assessment of activities and participation, due to the great relevance of disability and occupational dysfunction caused by symptoms in patients with persistent COVID or Long COVID. The use of the FAQ questionnaire is recommended. The Functional Activities Questionnaire measures instrumental activities of daily living such as preparing balanced meals and managing personal finances. Since functional changes are noted.

- Functional assessment: the impact on the functionality, independence and work capacity of people suffering from Long COVID or persistent COVID are assessed by applying the Baeke Physical Activity Short Questionnaire (BPAQ) to evaluate the average level of physical activity at work, sport and leisure. The information is completed with the SF-36 quality of life scale, which is one of the most used and evaluated instruments. The SF-36 is composed of 36 items that assess both positive and negative states related to health. They cover the following scales: physical situation, physical role, body pain, general health, vitality, social function, emotional role and mental health. Additionally, it includes a transition item that asks about the change in general health status compared to the previous year.

Occupational therapy aims to support individuals to achieve the highest degree of autonomy and independence, as well as the highest quality of life possible. According to the International Classification of Functioning, Disability and Health of the WHO, the occupational therapist helps to recover or reduce limitations in activity and restrictions in participation through different types of interventions that are focused on the person, the activity, and the environment. The value of the occupational therapist lies in their holistic knowledge of the human being and occupations, as well as their ability to analyze the dynamic interrelation between the person, the activity, and the environment. Occupational therapists will study the needs of people with Long COVID or Prolonged COVID and plan treatment together with the individual and their loved ones, so that they can achieve maximum independence in their activities of daily living (ADL), productivity, and leisure. They will work on their occupational performance patterns (roles, routines) within their environments to achieve a healthy occupational balance. The interventions may be carried out in person or by remotely monitoring the individual.

3. Conclusions

Prolonged COVID-19 and persistent symptoms also affect outpatients (non-hospitalized individuals), including young adults and people with few or no chronic underlying medical conditions [16, 17]. A multidisciplinary approach is required for the care and monitoring of patients with Post-COVID syndrome, as well as for follow-up studies over time to elucidate the health consequences of COVID. Fatigue, persistent dyspnea, and neuropsychological symptoms are the three most common symptom groups of Long COVID. However, it is estimated that there are over 50 signs and symptoms that can occur. Among them, the most prominent ones are: fatigue, shortness of breath, cough, pain in the joints, and pain in the neck and chest. Other signs and symptoms that may occur in the long term include myalgia, headaches, tachycardia, loss of smell or taste, memory problems, concentration issues, or sleeping problems, rashes, or hair loss. The neuropsychiatric effects of COVID are evident and may manifest as anxiety, depression, mental fog (disorientation, confusion, and difficulty concentrating). Therefore, these patients must undergo a specific work capacity evaluation due to their potential limiting impact on work.

Long COVID is, by definition, the persistence of COVID-19 symptoms beyond what is normally expected. Although its specific inclusion in ICD-10 has not been determined, despite the WHO announcement on December 14, 2020, it does specify that the term for Long COVID will be Post-COVID syndrome. Long COVID has its own nosological identity as an emerging pathology. This leads to the need to develop a protocol for evaluating work capacity/disability for the correct assessment of IT workers who suffer from Long COVID. Such a protocol would aid in making better decisions when addressing the situation of IT workers with COVID and assessing their work aptitude. We need to investigate the impact of Long COVID on the working population, including the extent and duration of the limitations it places on their ability to work, as well as how it has affected the prolongation or hindrance of their return to work. Therefore, we propose a study on work incapacity due to Long COVID, utilizing a methodology that involves analyzing cases and collecting data for a period exceeding 90 days. This data will include information such as age, sex, occupation, the number of days on sick leave, any relapses in sick leave, and whether it has resulted in permanent disability. We will also consider previous medical history, the clinical progression of the illness, complications related to medical devices, hospital admissions or ICU care received during treatment, and whether the process was managed on an outpatient basis. Additionally, we will document any functional limitations or long-term effects noted upon medical discharge or when considering permanent disability status.

Both patients with severe COVID (hospitalized, with or without ICU care) and those with mild COVID (patients treated at home without hospitalization) must be included in the assessment of the impact on work incapacity, as it has been demonstrated that SPC occurs in both types. In any case, it is crucial to address the long-term consequences, the impact of COVID-19 on work fitness and quality of life, and particularly those who suffer from Post-COVID-19 syndrome. We must assess SPC and its impact on quality of life and health, including occupational health, as well as its influence on work aptitude. SPC represents a decrement in the quality of life. Fatigue, asthenia, myalgia, arthralgia, feelings of shortness of breath, mood disorders, sleep disorders, and cognitive impairments are poor prognostic factors for returning to work. Assessing disability/work capacity due to SPC involves evaluating its symptoms and understanding how limiting and debilitating they are for work. A comprehensive approach to the rehabilitation of patients with SPC is required, as well as awareness of their condition and the limiting situations it presents, to prevent prolonged damage to health and work capacity. SPC influences the prolongation of sick leave due to COVID, and minimizing its disabling effects can help mitigate damage to occupational health, making a healthy return to work after infection more feasible.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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