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Long Covid Syndrome and its Impact on Psychological and Social Health: An Indian Perspective

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SHORT COMMUNICATION

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Background

COVID19 emerged as a global pandemic in March 2020. The first case reported in India was on 31st, January 2020. Since then, about seven hundred million cases have been reported officially as diagnosed worldwide till date, and seven million have reportedly succumbed to the disease.

Besides the acute illness, discussions on the long term persistence of symptoms emerged, and Long COVID Syndrome, or Post-COVID-19 Syndrome, also known as Long-haul COVID-19, Post-COVID Conditions, Post-Acute Sequelae of COVID 19 (PASC), chronic COVID-19 Syndrome (CCS), was recognized as a new clinical entity based on data being reported from all over the world. As the active cases have reduced, Long Covid syndrome is a silent public health crisis in India, just like all other parts of the world, as indicated by the prevalence data obtained from the limited studies available.

The National Institute for Health and Care excellence (NICE) was the first international body to come up with a definition. They defined Long COVID-19 as the signs and symptoms that continue to develop after acute Covid19, including both ongoing symptomatic Covid 19 (from 4 to 12 weeks) and post-COVID-19 Syndrome (2 weeks or more). The Centres for Disease Control and Prevention (CDC) defined Long COVID-19 as a post-COVID 19 conditions with a wide range of new, returning, or ongoing health problems people can experience four or more weeks after first being infected. The World Health Organisation (WHO) defines Long COVID-19 as the continuation or development of new symptoms 3 months after the initial SARS-CoV-2 infection, with these symptoms lasting for at least two months with no other explanation. [4]

The NICE guideline proposes the following classification of the SARS-CoV-2 infection based on the temporal relationship between onset of disease and persistence of symptoms. Symptoms persisting up to 4 weeks were classified under aAcute COVID 19, those lasting 4 to 12 weeks under ongoing symptomatic COVID 19, and those developed during or after an infection and persisting more than 12 weeks came under Post COVID-19 [1] (Figure 1).

As for the symptoms commonly come across in long-haulers, profound fatigue, cough, breathlessness, chest tightness, palpitations, gastrointestinal symptoms, myalgia, headache, anosmia, confusion, and neuro-cognitive issues are the main sources of long-term distress to the patients, disrupting their day-to-day lives. [1] While numerous studies have focused on the clinical and epidemiological aspects of this clinical entity, very few research has been conducted on the psychological and social bearings of the condition on the survivors, and the resultant impact on their quality of life[2-4].

Aims

The purpose of this article is to garner knowledge from existing peer-reviewed literature on the neuropsychiatric manifestations of long-haul COVID-19, and their impact on the socio-economic productivity on an individual as well as societal level; and to determine appropriate management strategies at the level of caregivers, healthcare personnel, and even the socio-administrative policymakers, for the maximal physical and mental well-being of the afflicted, and their adequate socio-economic and vocational rehabilitation.

Methods

A literature search for scholarly articles was conducted on Google Scholar and PubMed. 30 peer-reviewed articles on the Indian scenario, authored in the English language were studied and the information obtained was analyzed.

Results

A comprehensive overview has been obtained on the nature and prevalence of the myriad neuropsychiatric manifestations in different patient cohorts, classified based on age, sex, socio-economic groups, pre-existing comorbidities, especially neuro-psychiatric illnesses, and severity and multitude of systemic involvement by the SARS-CoV2 virus.

Neuro-Psychiatric Manifestations

Neuro-tropism exhibited by the SARS CoV-2 virus, causing inflammation of the neurons via direct toxicity and neuro-immunomodulation has been found as a causative mechanism for the symptoms. Reduced levels of neurotransmitters, neuronal excitability, inflammation and dampening of the firing of motor neuron units have been incriminated to be the reason behind fatigue and myalgia. Studies have revealed low metabolism in the frontal lobe and cerebellum in those suffering from profound fatigue.

Neurogenic sensitization has been described to be the causative mechanism behind chronic fatigue syndrome. Additionally, nutritional deficiencies like Vitamin D deficiency and anemia cause significant musculoskeletal and constitutional symptoms [5-7].

The most common mode of CNS invasion by the virus is through the olfactory bulb, and through blood during the acute viremic phase. Persistent anosmia, one of the most experienced symptoms, is attributed to the destruction of the olfactory bulb, to which the virus binds. Meningoencephalitis, acute necrotizing encephalopathy, acute disseminated encephalomyelitis, and acute flaccid paralysis are not infrequent. Numerous cases of Guillain-Barre Syndrome and Bell's palsy have also been reported. Strokes, a common complication post COVID-19 and its residual neurological deficits contribute to significant loss of function and psychological distress[8].

Post-Intensive-Care Syndrome is seen in patients requiring prolonged ICU stay. Chronic neuro-inflammation and brain-cell degeneration leads to neuro-deficits and psychosomatic manifestations [9].

Psychological Effects

Mood disorders like depression, in varying severity are exceedingly common among the long haulers, as is anxiety. Factors seriously jeopardizing the mental health of the affected are prolonged isolation, fear of spreading the infection to family members, fear of death.

Frustration arising from infirmity and consequent inability to participate in the already shrinking workforce, was found to be severely denuding the self-esteem of the survivors who are left battling identity crises from job-losses, searching for their importance and validation in family life and social life, coupled with severe anxiety arising from uncertainty of future economic sustenance, and loss of faith in the existing social support and healthcare systems. The immeasurable loss of life and jobs has deeply traumatized society as a whole.

Post-traumatic stress disorder, affecting one-fourth of all covid patients, pose a significant cause of long-term disability and other somatization disorders.

Impact on Sexual Health

SARS-Cov-2 spreads through respiratory secretions and aerosolized droplets, and saliva may be a potential route for spread, so any form of physical intimacy poses a risk of contagion. Data regarding spread of the disease through semen or vaginal fluids is sparse and indeterminate. Considering the physical distancing, isolation, high communicability of the disease, misinformation, and anxiety regarding sexual routes of transmission, the intimate lives of the long haulers have been severely cut short. Grief, bereavement for loss of loved ones, disease related infirmity, anxiety, depression have given rise to sexual dysfunction, decreased arousal, marital discord in many.

On the other hand, increase in promiscuity, domestic sexual abuse, substance abuse has also been reported to be on the rise as erroneous coping mechanisms in attempts to deal with frustration. Recreational sex, between home bound family members, without family planning measures, can lead to unwanted pregnancies, illegal abortions, increased birth rates in families battling economic crises[10,11].

Socio-economic Aspects

Fatigue entails disturbance of all areas of life involving physical debilitation, sleep disturbances, exercise intolerance, and resultant psychological distress from disruption in socio-economic productivity[3]. Economic crises and total failure of social support systems have forced children out of schools into child labour, and also resulted in malnutrition and nutritional deficiencies in all age groups. Needless to say, the lower socio-economic strata are more in the throes of this psycho-social crisis.

In India, some glaring issues severely impacting the quality of healthcare delivery are huge patient burden and severely inadequate doctor patient ratio, dismissive approach to psychiatric issues, severe lack of infrastructure like Post COVID-19 clinics, stigma related to access to mental health professionals, especially in government

setups and rural areas where the vast majority of the population is found [9].

Quality of Life, which encompasses several distinct arenas of individual and community life, like wealth, employment, physical and mental health, education, recreation, social support etc has been seriously jeopardized for a vast section of the population in a poor economy like India[12].

Prevalence of Long COVID-19 in different patient cohorts

Age-specific data revealed the percentages to be 26 Per Cent in the age group of 18-34 years, 32 Per Cent in those aged 35-49 years and 47 Per Cent amongst the ones aged 50 and above. Women were twice as much susceptible to Post-COVID Sequelae than their male counterparts. Another finding of this study is that the elderly population experienced significantly more psychosocial distress due to increased isolation, familial neglect, poor nutrition, decreased mobility, in addition to being more prone to Post COVID-19 sequelae due to age related general ill health.

The persistence of residual symptoms was found to be about 35 Per cent in patients treated on an outpatient basis, as opposed to a whopping 87 Per cent in those requiring hospitalization. Patients with multi-systemic involvement (>5 systems involved) were found to be more susceptible to prolonged sufferings than those with milder forms of the disease. However, this was not always true. The persistence of debilitatory symptoms was not always directly correlated to the severity of their COVID-19 symptoms. Patients with supposedly milder disease, had, not infrequently, experienced severe fatigue and other psychosocial distress to a significant degree.

Data classified based on co-morbidities revealed figures to be 28 Per Cent in those with no existing comorbidities, 46 Per Cent in those with two, and 57 Per Cent in those with three or more comorbidities. Obese patients, with BMI>25, and those with pre-existing mental health issues were more susceptible to long-term sequelae. The most common comorbidities predisposing the patients at risk for Long COVID-19 were diabetes, hypertension and hypothyroidism.

It was found that patients who had received two doses of vaccination had 45 Per Cent less chances contracting post-COVID-19 sequelae than their non-vaccinated counterparts.

Conclusion

This study revealed the need for newer treatment approaches for this new clinical entity. Considering the high prevalence of post COVID-19 sequelae, dedicated special clinics for post-COVID-19 patients can be a very helpful measure for adequate redressal of the sufferings of long-haulers. Such clinics are already being run in some parts of the country.

Psychological health, forever ignored and suppressed in Indian society, is another silent epidemic running in the country, grossly exacerbated during COVID 19 times and thereafter.

Severe gaps in knowledge impede the understanding of the natural progression of the disease, severity indicators, and predicting the outcomes. With this aim, all Covid recovered patients must be kept under regular follow-up. Longitudinal studies are helpful for better understanding of the natural history of the disease. Further research, both collaborative and multidisciplinary is the dire need of the day.

Recommendations

It is our recommendation that long- haulers need to be routinely screened for underlying systemic and metabolic disturbances, nutritional deficiencies and hormonal imbalances, correction of which may drastically improve their overall health related outcomes. The post-COVID 19 clinics need to be run routinely in all corners of the nation to ensure that. Psychiatric consultations should be resorted to whenever necessary. The onus lies on the physicians to raise awareness on the crucially of mental well-being, and the drastic difference timely and appropriate help can make, which inevitably translates to much improved socio-economic productivity. [9] Routine enquiry and counselling on the part of the physicians regarding the sexual life of the patients and safe-sex practices is strongly advocated, as the dictum goes- “You don’t ask, and they don’t tell”.

Physiotherapy can be beneficial as well and should include exercise training (both aerobic and resistance), chest and lung physiotherapy, energy conservation strategies, dietary and lifestyle modifications with a structured approach and incremental rewards, to ensure adherence. Presently in India, infrastructure for rehabilitation is very scanty. [9] Hence, interdisciplinary rehabilitation, if instituted, will be of utmost benefit to the patients.

We also suggest raising awareness regarding adequate sick leave, sickness benefits that need to be placed before the socio-administrative policymakers by different doctors’ governing bodies, not only for the individual benefit of the patients, but also to significantly improve the Health and Quality of Life Indicators of the Nation as a whole.

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Figures

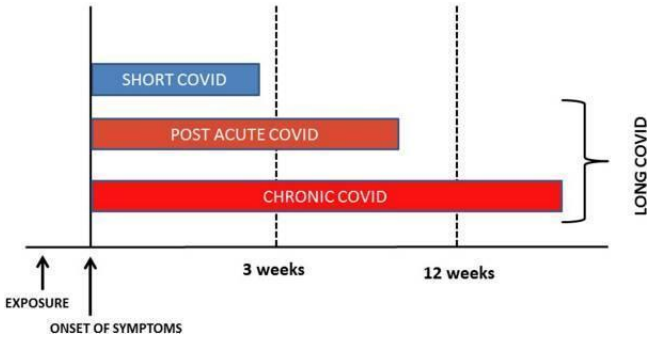

Figure 1: NICE classification of COVID-19 Symptoms based on their duration of symptomatology.

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