Title: Progressive Multiple Sclerosis Patients Require Special Attention as a Group at Risk for Coronavirus Infection

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On January, a novel coronavirus was identified by the Chinese Center for Disease Control and Prevention (CDC) and which was subsequently named 2019-nCoV (Li et al., 2020).

Coronavirus disease 2019 (Covid-19) has been transferred to many countries in 2020.

Several studies have discussed Covid-19 epidemiology and risk factors. Most affected patients have had mild symptoms and good prognosis but some developed severe pneumonia or multiple organ failure that cause death.

A study has reported that most adult patients were between 35 and 55years of age (2). According to a study on early transmission dynamics of the virus, the majority (59%) of the patients were males, and the median age of patients was 59 years of age (Chen et al., 2020).

Overall, half of patients infected by COVID-19 had chronic diseases, mostly cardiovascular diseases, cerebrovascular diseases, and diabetes. Many results suggest that this disease mostly infects males and elderly people with chronic comorbidities as a result of weak immune functions (Chen et al., 2020). The majority of deaths were observed among middle-aged and elderly patients with comorbidities including coronary heart disease, diabetes, hypertension, Parkinson's disease, tumor surgery, and cirrhosis (Chen et al., 2020).

Given the global Covid-19 epidemic condition, it is important to identify and take care of high-risk groups or people with underlying medical conditions as the mortality could be higher in these groups.

Multiple sclerosis (MS) is a chronic neurologic disease with a progressive nature which is manifested mostly among males and old cases, creating a substantial burden on the individuals, society, and healthcare system (Marrie et al., 2015).

Although MS is present in all regions of the world, it is more prevalent in Caucasians. The global estimated number of MS patients has increased from 2.1 million in 2008 to 2.3 million in 2013.

Comorbidities such as hypertension, diabetes, hyperlipidemia, ischemic heart disease, chronic lung disease, migraine, epilepsy, and mood and anxiety disorders are common in MS population and they can affect an individual's disease course and prognosis, resulting in more disability, increased health care requirements, and increased risk of hospitalization and mortality (Marrie et al., 2015).

Among all individual comorbidities, chronic lung disease, hypertension, and diabetes mellitus were most common diseases among MS patients which can increase risk of Covid-19 infection (Marrie et al., 2015).

On the other hand, the status of MS (progressive vs a relapsing onset course), sex , and age are among the variables associated with higher disability and Expanded Disability Status Scale (EDSS) that can increase risk of infection in MS patients, hence increasing the need for taking more care of these people (Celius, 2017).

Even though there is no treatment for MS, disease modifying therapies (DMTs) can reduce the number of attacks and decrease the progression of MS (Al-Sakran, Marrie, Blackburn, Knox, & Evans, 2020).

Many immune modulatory drugs prescribed for MS patients do their function by altering the immune system, subsequently a significant number of older and disable MS cases need support from caregivers or their family members through whom they might be infected by COVID-19 and be at risk of infection with the virus.

Moreover, some MS patients who use second- or third-line drugs that are primarily immunosuppressive might be more at risk of COVID-19 infection (Al-Sakran et al., 2020).

Since MS patients are more at risk of COVID-19 infection, the specific health precautions that may prevent or slow down the transmission of infection should be considered, including telephone follow up and home visits; identification, isolation, and follow-up of contacts; training environmental disinfection; and equipping at risk individuals with personal protective equipment.

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Authors have no conflict of interest.

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