Multiple Sclerosis and COVID-19: A Cross-Sectional Survey Looking at the Impact of the Pandemic on Perceived Stress and Lifestyle Changes

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Objective

To assess the impact of the COVID-19 pandemic on patients living with MS, with respect to mental health and lifestyle (diet, physical activity, sleep and substance use).

Background

A novel severe acute respiratory syndrome coronavirus 2 (SARs-CoV-2), better known as COVID-19, was officially declared a pandemic by the World Health Organization on March 11th, 2020[1]. Similar to other viruses, it has been established that key risk factors for contracting COVID-19 and developing severe symptoms is associated with older age, pre-existing chronic conditions, and a state of being immunocompromised due to therapies or the pathophysiology of a condition[2]. Given these factors and that Canada has one of the largest population of patients diagnosed with Multiple Sclerosis (MS), it would be beneficial to look at the unique psychological stressors faced by these patients and the impact on their health promotion behaviours. This may help understand potential physical and mental health complications that may emerge in the near future as a result of this unprecedented time.

Method

This study is a cross-sectional survey targeting patients over the age of 18 who have been diagnosed with Multiple Sclerosis (MS) prior to the COVID-19 pandemic. The sampling method used in this study is convenience sampling as participants are selected from the Burnaby Hospital MS clinic. Participants who had an appointment booked between Dec 2021-Mar 2022 were informed of the study during their appointments, and if they provided consent to hearing more and participating, were contacted via phone or e-mail.

The survey utilized is broken down into the following subsections:

1. Demographic (gender, age, ethnicity)
2. Patients health background (MS subtype, duration, other chronic conditions)
3. Depression screening (PHQ2)
4. Anxiety Screening (GAD7)
5. Perceived Stress Scale (PSS)
6. COVID-19 Perceptions
7. Lifestyle and habit changes (SMILE-C)

Results

Mental Health Outcomes

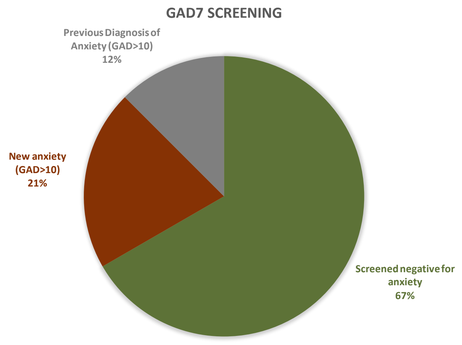

Fig 1: 49 participants completed the GAD7 screening questionnaire. A total of 10 individuals with no previous history of anxiety screened positive, while 6 individuals with a known diagnosis of anxiety also screened positive (GAD>10). Together, these individuals make up the moderate and severe anxiety category.

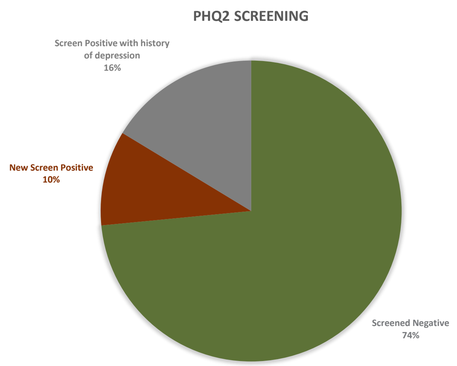

Fig 2: 49 participants completed the PHQ2 screening questionnaire. A total of 5 individuals with no previous history of depression screened positive, while 7 individuals with a known diagnosis of depression also screened positive (PHQ>3).

Lifestyle Changes

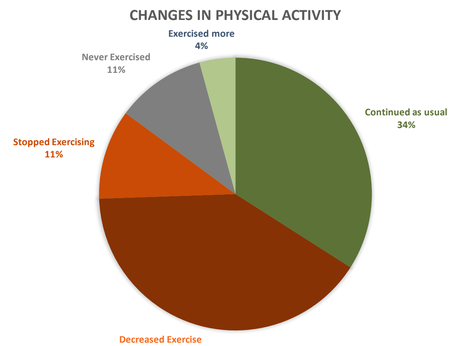

Fig 3: 47 participants responded to the question about physical activity patterns during the pandemic. 24 participants (51%) had a negative response of either decreasing or stopping physical activity.

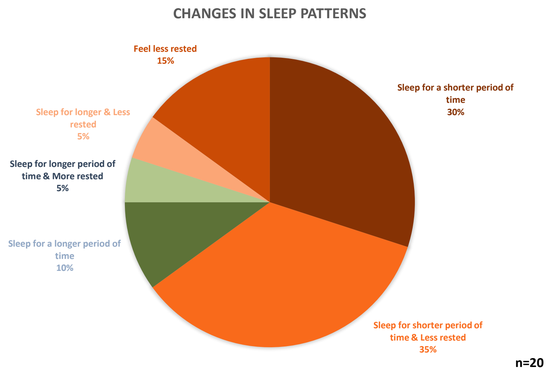

Fig 4: 20 individuals responded to questions about their sleep patterns. The red categories highlight negative sleep behaviors that were adopted during the pandemic such as sleeping for shorter durations and/or having less restful sleep. Whereas the green highlights positive sleep patterns of increased sleep duration or more restful sleep.

Discussion

Overall, with respect to mental health, most patients with MS show resilience throughout the pandemic with 67% and 74% screening negative for anxiety and depression respectively. Many of those who had previous diagnoses of depression and/or anxiety, continued to have heightened levels in these domains. However, there is still a proportion of individuals who have a new positive screen for for anxiety (20%) and depression (10%). Therefore, healthcare professionals providing care to patients with MS should be aware of the need to screen for psychiatric conditions that may have developed over the pandemic.

Similarly, patients with MS adopted negative lifestyle changes such as reduced physical activity, decreased sleep duration and less restful sleep. With respect to substance use, of the participants who reported a change in consumption, majority (70%) increased their use. Interestingly, individuals who made negative changes to their diet were also more likely to have a negative change to physical activity (61%). This highlights how interconnected lifestyle changes are and how the pandemic may lead to numerous negative behavioral effects.

References

1. WHO Coronavirus (COVID-19) Dashboard. World Health Organization. https://covid19.who.int/. Accessed March 29, 2021.

2. Centers for Disease Control and Prevention. https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/groups-at-higher-risk.html. Accessed April 3, 2021.

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