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## Factors associated with Cognitive fatigue in people with Multiple Sclerosis

**Sorayya Askari**

Dalhousie University, Canada

**Introduction:** Fatigue, a disabling symptom of Multiple Sclerosis (MS), can manifest as physical, cognitive, and psychosocial fatigue. Cognitive Fatigue (CF), defined as declined performance during prolonged cognitive tasks, is often overlooked in literature. Knowledge of the factors associated with CF is inconclusive, limiting treatment options. A comprehensive review of the literature facilitates an understanding of what knowledge exists.

**Objectives:** This scoping review aims to identify the key correlates of CF in people living with MS.

**Methods:** Following Arksey and O'Malley's scoping review framework, four databases were searched in July 2021 using the keywords related to "multiple sclerosis" and "cognitive fatigue". Included studies reported on the relationship of CF with other factors, participants were adults with MS, and were published in peer-reviewed articles in English or French. All retrieved records were screened, and potentially relevant articles were fully reviewed for eligibility by two independent researchers.

**Findings:** Of the 1014 located records, 49 were included. Two categories emerged: neural correlates of CF and (2) MS-related or personal correlates of CF (n= 35). Depression (n=18) and sleep quality (n=8) were the most frequently assessed MS-related correlates of CF. Other correlates include quality of life, disease severity, disease duration, and age. The brain structures most associated with CF were the basal ganglia, prefrontal cortex region, frontal cortex, and thalamus volume.

**Practice Implications:** The findings of this study can build the foundation for developing specific interventions to manage CF in MS by identifying the main contributory factors.

### Recent publications

1. Gobbi G, Atkin T, Zytynski T, Wang S, Askari S, Ware M, Dendukuri N, Mayo N. (2019). Association of Cannabis Use in Adolescence and Risk of Depression, Anxiety, and Suicidality in Young Adulthood: A Systematic Review and Meta-analysis. *JAMA Psychiatry*, 76(4):426–434. doi:10.1001/jamapsychiatry.2018.4500.
2. Askari S, Brouillette MJ, Fellows L, Moriello C, Duracinsky M, Mayo N. (2018). Development of an Item-Pool Reflecting Cognitive Concerns Expressed by People with HIV. *American Journal of Occupational Therapy*. 72(2). doi: 10.5014/ajot.2018.023945.
3. Grenier S, Payette M-C, Gunther B, Askari S, Desjardins F, Raymond B, Berbiche D. (2018). Association of age and gender with anxiety disorders in older adults: A systematic review and meta-analysis. *The International Journal of Geriatric Psychiatry*, 34(3):397-407. doi: 10.1002/gps.5035

### Biography

Sorayya Askari, PhD, OT Reg (NS) is a registered Occupational Therapist and an Assistant Professor at the School of Occupational Therapy, Dalhousie University. Her research is in cognitive impairment among people with chronic disorders. She has been involved in nationally funded studies (CIHR and National MS Society) focused on the well-being of people living with chronic disorders (MS and HIV). She has a strong methodological background used in measurement development studies, review studies, quantitative, qualitative, and mixed-methods design studies. She has previously developed a self-report measure of cognitive abilities for people living with HIV, and has expertise on how to design, develop and validate a measure.

sorayya.askari@dal.ca