



SUMMARY OF THE DOCTORAL THESIS

The efficacy of Cognitive-Behavioral Therapy on depression and anxiety associated with multiple sclerosis

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State of the art

Multiple sclerosis (MS) represents one of the most challenging neurodegenerative diseases requiring a multimodal and integrative treatment approach for reducing the negative impact on patients' quality of life. Due to its progressive and unpredictable features, MS is often associated with psychopathology, specifically depression, anxiety and dysfunctional personality changes. The co-occurrence of mental health disorders can significantly influence the patients' adaptation to MS as well as their proactive behavior in its management.

Given the high prevalence of emotional disorders, research conducted over the last decade investigated the effectiveness of psychological interventions on the reduction of depressive and anxious symptomatology. Among these, Cognitive Behavioral Therapy (CBT) interventions have demonstrated a moderate effect in reducing psychopathology and improving the quality of life of MS patients. Nevertheless, few patients have access to these treatments due to several factors, including: the specific clinical symptoms of the disease, the scarcity of therapists specialized in this psychological intervention and the duration of the therapeutic process.

Furthermore, as far as we know, the impact of CBT interventions on the dysfunctional psychological mechanisms, responsible for the onset of psychopathology, was not assessed yet. Moreover, the exploration of the relationship between psychological and physiological symptoms, cognition and personality disorders could improve the efficiency of psychological interventions by enabling the development of a personalized treatment approach for patients with MS.

General objective

The present research aimed to evaluate the psychological factors involved in the adaptation process of patients to MS by investigating the prevalence of mental health disorders associated with MS and establishing the connections between psychopathology and most common disease symptoms, as well as testing the efficiency of a CBT intervention to improve the psychological well-being of patients.

Study 1 aimed to evaluate the co-occurrence of neuroticism as the most representative dysfunctional personality trait and emotional disorders in MS patients, along with their clinical impact on the manifestation of the illness. The study consisted in a systematic review and a meta-analysis including a number of 22 studies published between 2012-2024 which assessed the comorbidity between neuroticism, anxiety and depression. The systematic review was conducted in accordance with the PRISMA checklist and the meta-analysis was performed using a software for one group mean. Also, the risk of bias of the included studies was assessed using the AXIS tool for observational studies. The outcomes revealed that patients with increased levels of neuroticism and depression reported higher levels of fatigue and lower quality of life. In the same light, neuroticism was associated with attention and memory deficits, whereas depressive

symptoms positively correlated with cognitive impairment. Likewise, anxiety in co-occurrence with neuroticism predicted the worsening of both the physical and psychological component of life quality in MS patients. Disease progression and relapses are influenced by the association between anxiety and neuroticism. In line with previous investigations, the results of meta-analysis demonstrated an increased prevalence of emotional disorders and neuroticism in MS patients. The association of these psychological factors increases the risk of multimorbidity in MS, affecting the patient adjustment to the treatment plan and correlating with negative consequences on the disease progression.

Study 2 tested the efficiency and feasibility of an online single session intervention (SSI) based on a CBT protocol addressing anxiety and depressive symptoms, psychological mechanisms, fatigue and perceived health in patients with MS. After screening for anxiety and depressive symptoms, 31 adult patients with a final diagnosis of MS, following a disease modifying treatment, without severe psychiatric disorders were included in a pretest-posttest intervention pilot study interventional investigation. The 90-minute intervention protocol was tailored for MS patients and included specific cognitive and behavioral techniques meant to reduce the clinical symptomatology level of patients. Based on the cognitive model of psychopathology the intervention included the following phases: psychoeducation, cognitive case conceptualization, cognitive restructuring, mindfulness, behavioral activation, relaxation, sleeping hygiene and action plan elaboration. All clinical instruments were applied before the intervention, two weeks after the intervention and at the 2-month follow-up. The results of our study established a significant positive correlation between depression, anxiety, dysfunctional psychological mechanisms (negative automatic thoughts, irrational beliefs and dysfunctional attitudes). Also, the outcomes demonstrated the immediate and long-term efficacy of an online CBT SSI for reducing mild to moderate symptoms of depression and anxiety and improving the perceived health status of MS patients. Furthermore, our protocol reduced the scores of dysfunctional psychological mechanisms underlining their role in the onset and maintenance of psychopathology.

Study 3 explored the interplay between personality, dysfunctional psychological mechanisms and symptoms in a clinical sample of Romanian patients diagnosed with MS and a control group. Thus, this observational study included two convenience samples comprising 43 MS patients and 32 healthy controls. After signing the informed consent, participants completed the assessment of personality, depression, anxiety, fatigue, health status and dysfunctional psychological mechanisms. The comparisons of variables between groups showed that the clinical sample had higher levels of clinical symptoms when compared with controls. Also, as expected, from the dimensional perspective of personality, MS patients reported more dysfunctional personality traits, such as, negative emotionality, along with social and affective detachment. Besides, personality assessed using the categorial framework revealed an increased presence of dependent and schizoid personality traits within the MS sample, as compared with controls. The mediation analysis underlined the important role of the dysfunctional psychological mechanism on the relationship between personality and clinical symptoms in MS. Specifically, negative automatic thoughts acted as a strong mediator between dependent personality trait and emotional disorders and physical symptoms in MS. Interestingly, the relationship between personality traits and depression was mediated by the interaction between all dysfunctional psychological mechanisms, emphasizing the significance of the cognitive model in the onset of psychopathology in such cases. In addition, these outcomes accentuate the value of the biopsychosocial model of neuropsychiatric disorders in MS, underlining the associations between genetic, neurobiological, immunological and psychosocial risk factors.

General discussion

This research highlights the important implications of psychological factors involved in the process of patients' adaptation to the particularities and effective management of the disease. Considering the increased prevalence of psychopathology and dysfunctional personality traits and their co-occurrence in MS a comprehensive and repeated multimodal and integrative assessment of emotional disorders, dysfunctional psychological mechanisms and personality is highly recommended for monitoring and preventing the development of psychopathology. The innovative brief CBT intervention for reducing emotional disorders and associated dysfunctional psychological mechanisms may promote adherence to medical treatments, improving the overall health status of patients. Besides, the protocol can be applied by trained medical staff to improve the general care of MS patients, as part of an exhaustive approach for the disease management.