CORRELATION BETWEEN FATIGUE AND SELF-ESTEEM IN PATIENTS WITH MULTIPLE SCLEROSIS

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Abstract – Objective: To assess the possible association of fatigue with self-esteem in multiple sclerosis (MS) patients. Method: Thirty patients were prospectively assessed. None of them presented moderate or severe depression or anxiety and their degree of disability was low (EDSS≤3.5). They had been clinically stable for at least three months and had been receiving the same medication for at least six months. Socioeconomic level was assessed. Severity of fatigue and self-esteem were evaluated using specific, validated scales. Patients with moderate to severe anxiety and/or depression were excluded. Results: Low self-esteem correlated with fatigue (p=0.01), but not with any other variables, such as age, gender, EDSS, MS duration, number of relapses, mild depression and/or anxiety. Conclusion: Greater severity of fatigue in MS correlates with low self-esteem, thus suggesting that this chronic complaint that affects so many patients can interfere with the way in which they see and value themselves.

KEY WORDS: fatigue, self-esteem, depression, anxiety, multiple sclerosis.

Fatigue is a common and disabling symptom of multiple sclerosis (MS), and it frequently has a negative impact on quality of life¹. This symptom is “invisible” to others, who may misunderstand the limitations imposed by such overwhelming feeling of tiredness². Physical and mental fatigue do not seem to correlate with the degree of disability, or to cognitive decline³ and therefore such patients’ chronic fatigue complaints may not be well understood by their relatives, work colleagues or caregivers. The underlying pathophysiological mechanisms for MS fatigue seem to include dysfunction of the basal ganglia and frontal cortex, as well as the chronic inflammatory condition⁴. There is no specific treatment for MS fatigue, and the few clinical trials on the subject have rendered rather frustrating results⁵-⁷. Non-pharmacological approaches include both rest⁸,⁹ and physical activity¹⁰-¹⁵. In short, there is no consensus on how to treat this frequent and disabling MS symptom. The difficulties involved in therapeutic approaches towards frequent and disabling conditions that are likely to be misunderstood and undervalued by others may influence such patients’ behavior. Indeed, some studies show correlations between levels of depression and fa-
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\textbf{METHOD}

The project was approved by the Research Ethics Committee at UNIMES. Participation was voluntary and the evaluations were performed during regular consultations. Patients participating in this study signed a written consent statement. All patients were interviewed by the same psychologist (EOS) and clinically assessed by a single neurologist (YDF), and all data were sent blindly to another neurologist (AF) for analysis. This was a prospective study and no control group was assessed. The parameters analyzed were specific to the disease, i.e., fatigue in MS in relation to self-esteem. Due to the very high prevalence of fatigue among our MS patients, we could not provide a control group with MS and without some degree of fatigue.

MS was diagnosed according to the Mc Donald criteria, and all patients had been followed in our service for at least one year.

The exclusion criteria were related to other parameters that could influence self-esteem. In order to exclude any possible influence of disability, depression and/or anxiety on fatigue or self-esteem among these patients, all individuals who volunteered to participate in the study underwent specific assessments so that a more homogeneous group could subsequently be formed. Patients were enrolled only if they did not present moderate or severe depression and/or anxiety, according to the Hospital Anxiety and Depression Scale (HAD)\textsuperscript{19}, as validated in Portuguese by Botega et al.\textsuperscript{19}. Only patients with little or no disability were included, i.e., those who scored 3.5 points or less on the Expanded Disability Status Scale (EDSS)\textsuperscript{15}. Patients were only included if they had received the diagnosis of MS for at least one year, and not presented a relapse for at least three months prior to the evaluation. Only patients who had not undergone medication changes within the previous six months were enrolled.

Socioeconomic level was assessed in accordance with Brazilian standards\textsuperscript{21}, taking into consideration schooling and house goods. The different levels were classified as A, B, C, D, E (highest to lowest) and 1 or 2 (higher or lower) within the previous social classes A, B or C.

The Portuguese version\textsuperscript{22} of the severity of fatigue scale\textsuperscript{23} was used to assess and grade fatigue. Self-esteem was assessed using the Rosemberg Self-Esteem Scale (SES)\textsuperscript{24,25}, as validated for use in Brazil\textsuperscript{26-28}. This scale is widely used in over 50 countries, and has shown high reliability and validity. Briefly, higher score values show lower self-esteem. Scores of more than 15 points denote low self-esteem.

The scale's final score was used individually for each patient and the obtained number was analyzed in relation to other studied parameters.

The t-test was used to analyze continuous data and the chi-square test, for categorical data. Multiple linear regression was used to analyze different variables that could jointly influence the main outcome (self-esteem). Correlations were assessed using the Pearson and Spearman tests. Results were considered significant when \( p < 0.05 \).

\textbf{RESULTS}

Thirty patients presenting relapsing-remitting MS according to the Mc Donald criteria were included in this study. The group consisted of nine males and 21 females, aged between 20 and 63 years (mean age=42.7 years \( \pm \)11.78), with an average of 9 years since their MS was first diagnosed (range: 1 to 20 years). There were no significant differences between male and female patients regarding any of the clinical characteristics assessed in this study. Twenty patients were regularly using glatiramer acetate and ten patients were regularly using beta-interferon.

Patients’ socioeconomic level included all categories, with no particular predominance of any of them, regarding schooling and the possession of house goods.

The average EDSS was 2.2±1.41 and the mean number of relapses since diagnosis was 4.6±3.86. Higher EDSS values were correlated with age (\( p = 0.026 \)) and duration of MS (\( p = 0.024 \)). Neither EDSS nor the number of relapses correlated with age, gender, mild anxiety, mild depression, fatigue or self-esteem.

None of these patients presented moderate or severe anxiety/depression. There were five mild cases of depression, which were undergoing treatment with low doses of fluoxetine or sertraline. The average score for anxiety was 7.1, while the average score for depression was 5.2; both of these were typical of normal scores. Higher scores for these mild conditions of anxiety and depression were not correlated with EDSS, duration of MS, age, gender, number of relapses, socioeconomic level or self-esteem.

The average score on the self-esteem scale was 7.3±3.8. Whether analyzed individually or by multiple regression, there was no correlation between low self-esteem and depression, anxiety, EDSS, age, gender, socioeconomic level, time elapsed since MS diagnosis and number of relapses. There was a correlation between self-esteem and fatigue (Spearman coefficient 0.64; \( p = 0.01 \)).

\textbf{DISCUSSION}

Self-esteem is defined as the individual’s sense of his or her value or worth, or the extent to which a person values, approves of, appreciates, prizes or likes himself or herself\textsuperscript{29}. It is a difficult concept for others to understand and there are few scales for its measurement. Most stud-
ies use the Rosenberg scale, although its scores tend to be skewed toward high self-esteem. Therefore, it can be assumed that, when this scale shows low self-esteem, this is most likely to be really the case and it is not a biased result.

A variety of diseases, addictions and socioeconomic conditions may interfere with self-esteem. Depression and anxiety could have influenced the results of the present study, but the patient selection excluded these variables. Even the low depression and anxiety scores among patients undergoing the present evaluation could not be correlated with low self-esteem. The condition of having a chronic and disabling illness did not seem to influence the self-esteem of the patients enrolled in this study. A study with a similar age and gender population, but without chronic diseases also showed similar results. The degree of disability correlated with the duration of the disease, but neither of these could be correlated with low self-esteem.

Gender and age did not correlate with self-esteem, although some studies tend to show lower self-esteem among women. There are few and conflicting results regarding socioeconomic level and self-esteem but, on the whole, these two variables seem to correlate. However, the present study did not confirm this correlation, and both of these variables were independent.

The hypothesis for the present study was that fatigue in MS patients might correlate with low self-esteem. There are only very few studies on self-esteem and chronic fatigue syndrome and there are no studies on MS fatigue and self-esteem. Other scales for fatigue assessment have now been validated in Portuguese, but the aim of the present study was to investigate the severity of fatigue. Therefore, the most appropriate scale for this evaluation was chosen for this study.

Although quality of life, depression, anxiety, cognition and disability are frequently evaluated in MS patients, self-esteem is an important aspect of life that is forgotten in such evaluations. The present study suggests that there may be a correlation between self-esteem and fatigue in MS patients. Only three out of the thirty patients assessed in the present study were undergoing psychotherapy, and none of them talked about self-esteem with the therapist. In fact, it was only after the results from this study that our MS center started to routinely question patients regarding their self-esteem.

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