

## IMPACT OF NUTRITIONAL STATUS AND DIETARY HABITS ON THE QUALITY OF LIFE OF MULTIPLE SCLEROSIS PATIENTS

*E. Mauriz<sup>1,2</sup>, M.J. González Fernández<sup>2,3</sup>, M.C. García-Fernández<sup>3,4</sup>*

<sup>1</sup> Department of Nursing and Physiotherapy, Universidad de León, León, Spain

<sup>2</sup> ALINS Investigation Group, Alimentación, Nutrición y Seguridad Alimentaria, Universidad de León, León, Spain

<sup>3</sup> Management of Primary Care of León, León, Spain.

<sup>4</sup> Department of Hygiene and Food Technology, Universidad de León, León, Spain

**Introduction:** Multiple sclerosis (MS) is an inflammatory disease resulting in demyelination and neuronal degeneration. Among the multiple risk factors that contribute to MS progression, malnutrition plays a pivotal role in the impact and quality of life of MS patients.

**Objectives:** The aim of this study was to evaluate the effect of nutritional status and dietary habits on daily function and well-being of patients presenting relapsing-remitting (RR), primary progressive (PP) and secondary progressive (SP) MS forms.

**Methods:** A cross-sectional observational design was used in this work. The nutritional status of MS patients was determined by collecting anthropometric measurements (weight, height and Body Mass Index: BMI), dietary (Mini Nutritional Assessment, MNA) and clinical (biochemical serum parameters: glucose, cholesterol, lipids and proteins) data. Health-related and disablement outcomes were assessed by the questionnaires comprising the Multiple Sclerosis Impact Scale (MSIS-29) and the Expanded Disability Status Scale (EDSS), respectively. This study is a continuation of a placebo controlled nutritional intervention that evaluated the effectiveness of antioxidant dietary supplementation on inflammatory markers of patients with different clinical subtypes of multiple sclerosis.

**Results:** A convenience sample of 19 participants classified as relapsing-remitting (n=9), primary progressive (n=4) and secondary progressive (n=6) MS presentations was selected for the study. There was no difference in BMI values between groups whilst most of the biochemical parameters were within ordinary ranges. The risk of malnutrition (MNA<23.5) was higher in the progressive MS forms (21.4 vs 22.1, p=0.723). Patients in the SP group obtained higher scores on the MSIS-29 physical scale (69.25±8.77, p=0.197). EDSS mean scores showed statistical differences among the groups (p=0.038). The comparison between MNA mean scores and the MSIS-29 psychological scores produced good correlation values (rho=-0.589, p=0.013) for all the MS forms. A positive and statistically significant association was also observed between EDSS and MSIS-29 scores (rho=0.710, p=0.001).

**Conclusions:** Our results showed that the risk of malnutrition is correlated with higher MS impact and lower quality of life perceptions. These findings suggest that an accurate nutritional monitoring of MS patients may contribute to ameliorate the impact and relapse of MS related symptoms.

**Conflict of Interest:** The authors declare no conflicts of interest associated with this publication.

**Keywords:** Nutritional status; Malnutrition; Multiple sclerosis; Quality of Life, Disability