

## **Diet and neuromyelitis optica spectrum disorder; association between food group intakes and disability in patients with NMOSD**

Mohammad Bagher Maljaei, Vahid Shaygannejad and Omid Mirmosayyeb  
Isfahan University of Medical Sciences, Iran

**Introduction:** Neuromyelitis Optica Spectrum Disease (NMOSD) is an inflammatory disorder of the central nervous system (CNS) that presents typically with relapses of optic neuritis or transverse myelitis, in which IgG autoantibodies against aquaporin-4 water channel protein probably play a pathogenic role and IgG-NMO levels had correlation with disability in this patient. Assessment of dietary intakes of food groups is an approach that has been used to evaluate diet-disease and diet-disability association.

**Method:** 68 patients with diagnosed NMOSD with MRI assessment of brain and spinal cord, clinical symptoms and IgG-NMO test were recruited from multiple sclerosis clinic in Kashani Hospital of Isfahan University of Medical Sciences, Isfahan, Iran, include from present cross-sectional study. A 168-item, semi-quantitative food frequency questionnaire (FFQ) was used for assessment of dietary intakes of food groups. Medical history questionnaire, Expanded Disability Status Scale (EDSS) and Fatigue questionnaire record from all participants.

**Results:** Mean±SD of EDSS and fatigue scale in IgG-NMO positive group was significant higher than IgG-NMO negative group. There was a negative significant correlation between

intakes of whole grain ( $r=-0.312$ ,  $p=0.031$ ), fish ( $r=-0.452$ ,  $p=0.018$ ) and fresh fruits ( $r=-0.365$ ,  $p=0.026$ ) with EDSS in all participants and intakes of fresh vegetables ( $r=-0.394$ ,  $p=0.038$ ) and EDSS in IgG-NMO negative subgroup. In addition, there was a negative significant correlation between intakes fresh vegetables ( $r=-0.302$ ,  $p=0.034$ ) and fresh fruits ( $r=-0.372$ ,  $p=0.023$ ) with fatigue scale in all participants. Correlation between red and processed meats with EDSS ( $r=0.512$ ,  $p=0.002$ ) and fatigue scale ( $r=0.439$ ,  $p=0.020$ ) was significantly positive in all participants. Although correlation between dietary intakes of dairy and vegetable oil with EDSS and fatigue scale in all participants and subgroups were negative, but was not significant.

**Conclusion:** Our study demonstrated that there is a positive significant correlation between intakes of red and processed meat with EDSS and fatigue scale in all participants. In addition dietary intakes of whole grain, fish and fresh fruits can decrease EDSS in all patients with NMOSD. This is first report of dietary intakes of food groups in NMOSD patients. Further studies with larger sample sizes and other population needed to prove this correlation.

e: mbmaljaie@gmail.com