

The role of nutritional factors as one of the important probable factor in MS etiology, in Mashhad

Morteza saeidi ¹, Maryam Ghanizadeh ², Mohsen Froughipour ³,
Mohsen Nematy ⁴, Lida Jarahi ⁵, Fatemeh Keykhaei ^{6*}, Fatemeh Amiri ⁷,
Abdolreza Norouzy ⁸

1-Neurology Department, Ghaem Hospital, School of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran

2-Student Research Committee, Medicine Research Center, School of Medicine, Islamic Azad University, Mashhad, Iran

3-Neurology Department, Ghaem Hospital, School of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran

4-Department of Nutrition, School of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran

5-Department of Community Medicine, School of Medicine, Mashad University of Medical Sciences, Mashad, Iran

6-Department of Nutrition, School of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran

7-Department of Nutrition, School of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran

8-Department of Biochemistry and Nutrition, Endoscopic & Minimally Invasive Surgery and Cancer Research Centers, School of Medicine, Mashhad University of Medical Sciences, Mashhad

Background: Multiple Sclerosis (MS) disease is the most common neurological demyelization disorder in young adults that makes them disable. Different studies support the role of nutritional factors as one of the important probable factor in MS etiology. However, dietary patterns associated with MS risk are unknown. Thus, the main objective of this study was to investigation of relation dietary patterns with MS in Mashhad (North East of Iran).

Method: In this case-control study conducted in 2015 in the City of Mashhad, demographic data were collected of 197 MS patients and 200 controls matched for age, gender, education and body mass index through interviews and questionnaires. Information regarding the usual dietary intake of each individual in the past year was collected by using a valid and reliable 160-item semi-quantitative food frequency questionnaire. Logistic regression was used to find a relationship between dietary patterns with risk of MS.

Results: Four major dietary patterns were identified: unhealthy (condiments, coffee, sugar and sweets, pickles, meat and soft drinks), western (pizza, poultry, snacks, processed meat and tuna), healthy (vegetables, salads, stews, fruits, breads and low-fat dairy), traditional (broth, nuts, eggs, fruit juices and high-fat dairy products and fish). After

adjustment for confounding factors, highest tertile of healthy dietary pattern was associated with a reduced risk of MS by 74% (OR=0.26, P<0.001), whereas the unhealthy diet pattern 3-fold increased the risk of the disease (OR=3.04, P<0.001). Before and after adjustment for confounding factors, there is no association found between western and traditional diet patterns with MS.

Conclusion: Our results suggest that a healthy diet reduce the risk of MS, whereas the unhealthy diet pattern increased the risk of MS.

Keywords: Multiple Sclerosis, dietary pattern, Mashhad