

EFFECT OF FOOD INTAKE AND AMBIENT PARTICULATE AIR POLLUTION ON ANKYLOSING SPONDYLITIS DISEASE ACTIVITY

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Abstract

Background: Ankylosing spondylitis (AS) is a chronic inflammatory disease characterized by axial arthritis. The genetic–environmental factors seem to be involved in the pathogenesis of the disease and the disease debilitates patients during the most productive stages of their lives. The aim of this study was to examine the relationships between two environmental factors, diet and air pollution with disease activity and functional impairment in AS.

Methods: A case-control study was carried out. Thirty patients with AS and 30 age and sex-matched healthy controls were included. Disease scores including BASMI, BASDAI, BASFI, and BASG were calculated by means of the international Ankylosing Spondylitis Assessment working group consensus recommendations. The food intake was evaluated by semi-quantitative food frequency questionnaire (147 items FFQ). Level of air pollution indices, PM10 and PM2.5 was obtained from the Tehran air quality control network.

Results: Total energy and fat intake, some vitamins (A, B1, B2, C) and mineral intake (potassium, calcium, iron, phosphorus, magnesium, zinc, copper and selenium) were significantly higher in patients with AS compared to controls. Fat component consumption especially Saturated Fat of

Food was moderately correlated with BASFI score. PM2.5 long term exposure was strongly correlated with BASMI, BASFI and BASDAI scores of patients.

Conclusion: High-fat diet and long term exposure to air pollution are associated with worse disease outcomes reported in patients with AS. This is an interesting area of investigation in AS pathogenesis and management.