

# Dietary Patterns and Attention Deficit Hyperactivity Disorder Among Iranian Children: A Case-Control Study

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## Abstract

### OBJECTIVE:

Associations between nutritional/dietary factors and mental disorders have been suggested. This study was conducted to assess the relation of major dietary patterns determined by factor analysis with attention-deficit/hyperactivity disorder (ADHD) in a group of Iranian preschool- and school-aged children.

### METHODS:

This case-control study was conducted with 500 preschool- and school-aged children (4-12 years old) matched by age and sex, in Isfahan, Iran. Dietary intake was identified by a 168-item questionnaire, and major dietary patterns were identified by factor analysis. The multivariable logistic regression is used for the association of dietary patterns with the diagnosis of ADHD. ADHD diagnosis was carried out with the criteria of the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition.

### RESULTS:

Two major dietary patterns were identified: healthy and Western. The healthy dietary pattern was rich in fruits, vegetables, vegetable oils, whole grains, legumes, and dairy products. The Western pattern was rich in processed meat, red meat, pizza, eggs, snacks, animal fat, hydrogenated fat, and salt. After controlling for potential confounders, children in the top quintile of the Western dietary pattern score had greater odds having ADHD, compared with those in the lowest quintile (odds ratio [OR] = 3.45; 95% confidence interval [CI], 1.17-18.3;  $p_{trend} = 0.03$ ). The healthy pattern was inversely associated with ADHD (OR = 0.46; 95% CI, 0.38-0.91;  $p_{trend} = 0.01$ ).

### CONCLUSIONS:

A significant independent association was found between the Western dietary pattern and the odds of ADHD. The healthy dietary pattern was associated with lower odds of having ADHD. Prospective studies are needed to confirm these findings.