

# Pediatrics, Pediatric Gastroenterology & Nutrition

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## Dietary adequacy of Egyptian children with autism spectrum disorder

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Although the etiology and pathology of Autism Spectrum Disorder (ASD) is still poorly understood, a number of environmental, neurobiological and genetic factors have been related to the pathophysiology of ASD. Investigations about a reliable relationship between diet and ASD are still lacking. The present study aimed at comparing dietary regimens and habits of normally developing apparently healthy children, without diagnosed ASD, with a pediatric population of individuals affected by autistic disorder. Assessments of nutritional and anthropometric data, in addition to biochemical evaluation for nutrient deficiencies, were performed. A total of eighty children with autistic disorder and eighty healthy, normally developing pediatric individuals were enrolled in the study. Parents were asked to complete the standardized questionnaire regarding the different types of food and the proportion of a serving for their children. Biochemical analysis of micro- and macronutrients were also done. Plotting on the Egyptian sex-specific anthropometric growth chart, absolute weights as well as weight-related for age classes, were significantly higher in cases than controls. A total of 23.8% of children with autistic disorder vs. 11.3% in the healthy control group had a nutrient intake below the Recommended Dietary Allowance (RDA) of protein. Children with autistic disorder showed low dietary intake of some micronutrients; calcium (Ca), magnesium (Mg), iron (Fe) and selenium (Se) and had significantly high intake of potassium (K) and vitamin C compared to controls. Serum Mg, Fe, Ca, and vitamin B12 in autistic children were significantly low compared with healthy children. Significant positive correlations between serum Mg, Fe, Ca, vitamin B12 and their levels in food were present. These results confirmed that different nutritional inadequacy was observed in Egyptian children with autistic disorder. The evidence reported in the present study should recommend screening of the nutritional status of ASD children for nutrient adequacy to reduce these deficiencies by dietary means or by administering appropriate vitamin and mineral supplements. Nutritional intervention plan should be tailored to address specific needs.

### Biography

Nagwa A Meguid is a Professor of Human Genetics, National Research Centre, Egypt. She is a fellow at Uppsala University, Sweden and Yale University, USA. She has authored and co-authored 100 publications. She has used her expertise to identify and describe several novel recessive genes and genetic syndromes. She is working with Neurodevelopmental disorders, where she participated in determining the spectrum of gene mutations causing common genetic disorders in Egypt. She is a Member in Regional Bio-Ethics Society of UNESCO. She has been awarded for Africa & Middle East UNESCO/L'Oreal, 2002.

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