

**‘Specialization in ICTs and Special Education: Psychopedagogy
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**DEMOCRITUS UNIVERSITY OF THRACE Department of Greek
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AUTISM AND NUTRITION

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ABSTRACT

Autism spectrum disorder (ASD) is a neurodevelopmental and genetic disorder that has been characterized mainly by social withdrawal, repetitive behavior, restricted interests, deficits in language and cognitive functions, including learning and memory. The biology of ASD appears to be highly complex and heterogeneous. Therefore, finding a therapeutic target remains obscure. There has been no complete prevention or cure for this disorder. Until now, the best conventional treatments for autism have been based on a combination of pharmacotherapy, educational, behavioral treatments. However, their effectiveness is not certain and sometimes these therapies are expensive, difficult to implement and tiring for both, children and their families. Moreover, individuals with ASD often have poor gastrointestinal health, may be caused or exacerbated by restrictive behavioral patterns. Those individuals with gastrointestinal issues tend to demonstrate more behavioral deficits (irritability, agitation, hyperactivity). Dietary intervention can improve those gastrointestinal issues. As a result, many parents and caregivers opt for specific dietary interventions, in the hope of alleviating the symptoms of their children and helping them cope with this disorder.

The objective of this thesis is to evaluate the latest research pertinent to nutritional management in the treatment of ASD and discuss the effectiveness and safety of dietary interventions, nutritional approaches, and supplementation in ASD. This systematic review was conducted in the Google Scholar, PubMed and Scopus databases, using a search strategy to identify the latest scientific studies and review articles in Greek, English and Spanish. Were included studies that described ASD (prevalence, symptoms, causes, common interventions, etc.), described nutritional interventions in children and adolescents with ASD and assessed autistic behavior and/or gastrointestinal symptoms. But we also excluded other review articles and studies that did not include a control group in the research design.

The research on dietary approaches to managing ASDs is limited and the results are mixed. However, a few approaches, such as the gluten-free/casein-free diet, fatty acid supplementation, and pre/probiotics have generally demonstrated improved gastrointestinal health and associated behavioral symptoms. Furthermore, a balanced maternal diet and specific dietary supplements might affect the behavioral development of children in the first few years of life. Last but not least, a balanced nutrition and a specific dietary intervention, made by a registered dietitian, tailored to individual needs can cover nutritional deficiencies and child's nutritional needs for growth and development. As a result, dietary intervention may offer a cheap and easily implemented approach to improve the lives of those with ASD.

Although some authors report progress in the symptoms of people with ASD undergoing nutritional interventions, most randomized control trials are limited. More prospective controlled trials are also needed, designed to identify the link between ASD and nutrition and determine the efficacy of dietary therapy approaches.

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