

Effects of Probiotic Supplementation on Gastrointestinal, Sensory and Core Symptoms in Autism Spectrum Disorders: A Randomized Controlled Trial .

Article in *Frontiers in Psychiatry* · September 2020. *Front. Psychiatry* 11:550593

Introduction and Background:

Autism Spectrum Disorder (ASD) is characterized by persistent social and communication difficulties along with restricted and repetitive interests and activities.

The prevalence of gastrointestinal (GI) symptoms has been found to be higher in ASD children compared to typically developing children.

Several studies showed a significant dysbiosis and a change in the stability, diversity, composition and/or metabolism of the gut microbiota in ASD children compared to typically developing peers.

The microbiota-gut-brain axis has been recently recognized as a key modulator of neuropsychiatric health.

In this context, probiotics (recently named “psychobiotics”) may modulate brain activity and function, possibly improving the behavioral profiles of children with Autism Spectrum Disorder (ASD).

ACADEMIC P.E.A.R.L.S

Pediatric Evidence And Research Learning Snippet



Probiotic Supplementation on Gastrointestinal, Sensory and Core Symptoms in Autism Spectrum Disorders

Summary:

ASD children with and without GI symptoms could benefit from probiotic therapy with differing effects. This is due to distinct microbiota targets. Difficulties in multisensory processing have been related to the serotonergic system whose levels are modulated by the gut microbiota.

Probiotic supplementation on children with no GI symptoms can act on dysbiosis and could reduce distress and enteroception caused by GI.

Alternatively, dysbiosis could influence neurotransmitters that play a role in sensory developmental pathways.

This is relevant since positive effects in multisensory processing could have a positive impact on adaptive functioning thus providing a possible explanation for the beneficial effects of probiotics on adaptive functioning,

Probiotic supplementation on children with ASD who have GI symptoms significantly reduces their GI symptoms like hard stools and have better “formed” stools.

EXPERT COMMENT

Probiotics are hypothesized to address an imbalance of intestinal microbes in individuals with ASD. The present study shows that probiotics have a positive impact on autism severity in children without pre-existing GI symptoms. This reinforces the complexity of the microbiota -gut-brain-axis. Probiotics also positively help children with Autism with pre-existing GI symptoms by reducing their GI symptoms, promoting overall better wellbeing and holistic health. The above positive effect on both GI and NGI children merits the identification of those ASD children who can respond to probiotic supplementation.

Probiotics in mental health illness has been an area of research. Studies that have found *Lactobacillus*- and *Bifidobacterium*-based probiotics are promising approaches in the treatment of mild to moderate depression too. Probiotics for Autism is a promising area and their benefits have been reported in the limited data that we have. Although they are unlikely to be harmful, we need more stringent studies before we can recommend probiotics on a routine basis in Autism.”

Dr S. Subramanian

MD Pediatrics

Paediatrician & Director,

Nishta Integrated Neurodevelopment Centre, Chennai

With warm regards,

**DR MANINDER S
DHALIWAL**

DR. PIYUSH GUPTA
IAP NATIONAL
PRESIDENT 2021

DR REMESH KUMAR
IAP PRESIDENT
ELECT 2022

**DR G.V.
BASAVARAJA**
HON. SECRETARY
GEN. 2021 - 22

**DR BAKUL JAYANT
PAREKH**
IAP PRESIDENT
2020

Reference

Santocchi, Elisa et al. “Effects of Probiotic Supplementation on Gastrointestinal, Sensory and Core Symptoms in Autism Spectrum Disorders: A Randomized Controlled Trial.” *Frontiers in psychiatry* vol. 11 550593. 25 Sep. 2020, doi:10.3389/fpsy.2020.550593