

A randomized controlled trial to assess the effect of an Ayurveda gut therapy protocol for managing dysbiosis in children with autism spectrum disorders

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Background: Autism Spectrum Disorder (ASD), a neurobehavioral disorder with skyrocketed numbers of reports marked an incremental surge in its prevalence getting multiplied by four in the last few decades appears to be a global concern with about one in 160 children being identified with ASD according to the observation from the World Health Organization. Parallel and complex interactions of gut and brain are driving researchers universally to probe links between gut microbes and autism symptoms under the rubric of 'Brain-gut micro biome axis'. In spite of multiple health-care facilities, dissatisfaction among the parents has led to the adoption of Complementary and Alternative Medicine (CAM) in ASD management as in India, people prefer Ayurveda over other alternative systems of medicine, especially in long-term and debilitating conditions.

Methods: A randomized control trial was conducted in the setting of Vaidyaratnam P. S. Warrier Ayurveda College, Kottakal for assessing the effectiveness of a Ayurveda gut therapy protocol comprising poly-herbal Ayurveda medications along with lifestyle and diet modifications and other interdisciplinary interventions for managing dysbiosis in children with ASD.

Assessment: Assessment of dysbiosis was done through 16S ribosomal RNA sequencing for each faecal samples. Autism features was assessed through Childhood Autism Rating Score (CARS) and gastro intestinal symptoms of dysbiosis through an Ayurveda gut health assessment questionnaire and GI severity index. Each of these was done in three phases as baseline period (0th day), interim period (30th day) and final phase (60th day).

Results: Relative abundance of microbes assessed through

alpha diversity calculated with methods of Chao 1 and Shannon matrices along with beta diversity plotted in the PCOA plot were found significant from the results of 16SrRNA sequencing. CARS scores obtained for the intervention group was MD= 5.7679, SE=0.38359 and control group was MD=2.1207, SE=0.31058 with P<0.05. In the GI severity index, the estimated marginal mean in control group showed a reduction of 1.06 points and intervention group of 2.9 points with P<0.0005.

Conclusion: Ayurveda intervention encompassing polyherbal compounds, lifestyle guidelines and dietary modifications was found effective for the management of dysbiosis in children suffering from ASD. Dysbiosis management through the Ayurveda methodology was effective in the management of neurobehavioral symptoms of ASD.

Biography

Geethu Balakrishnan, a post graduate in Ayurveda, finished her studies from Amrita School of Ayurveda managed by Amrita Vishwa Vidyapeetham -a globally renowned institution. She currently serves with an internationally reputed academic institute -Vaidyaratnam P. S. Varier Ayurveda College. She is in possession of her credit -7 publications that include peer reviewed and indexed journals, along with chapters in books and more than nine presentations both international and national. Since 2020, she serves as a Senior Research Fellow under the guidance of Dr. Dinesh. K. S for an Extra Mural Research Project funded by the Government of India under the Ministry of AYUSH Dr. Geethu's track record-both academic and presentation have won several accolades contributing towards numerous milestones. She is primarily interested in research and aspires to contribute in converting traditional Ayurveda knowledge to an evidence based platform with Trans and multi-disciplinary approaches.

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