Pediatrics & Therapeutics
ISSN: 2161-0665
OPEN ACCESS Freely available online
Commentary

Role of Probiotics in Managing Pediatric Gastrointestinal Disorders

Olivia Bennett*

Department of Pediatric Gastroenterology, Boston Children's Hospital, Harvard Medical School, Boston, United States

DESCRIPTION

Pediatric Gastro Intestinal (GI) disorders represent a significant portion of health concerns in children worldwide, ranging from acute conditions such as infectious diarrhoea to chronic diseases like Irritable Bowel Syndrome (IBS), Inflammatory Bowel Disease (IBD), and functional abdominal pain. In recent years, probiotics live microorganisms that confer health benefits when consumed in adequate amounts have emerged as a potential adjunct in the management of these conditions. High-income countries such as the United States, Canada, and many in Western Europe have seen a surge in research and clinical use of probiotics within Pediatric populations. The rationale lies in the growing understanding of the gut microbiota's important role in regulating digestive, immune, and even neurological functions. Children, whose microbiomes are still developing, may be particularly responsive to microbiota modulation through probiotic therapy.

The use of probiotics in Pediatric care has been explored for a wide variety of GI disorders. One of the most well-established indications is acute infectious diarrhoea, particularly that caused by rotavirus or other viral agents. Several meta-analyses have shown that certain probiotic strains, notably *Lactobacillus rhamnosus* GG and *Saccharomyces boulardii*, can reduce the duration of diarrhoea and hospitalization in children. These effects are most pronounced when the probiotic is administered early in the course of illness. Beyond acute infections, Antibiotic-Associated Diarrhea (AAD) is another domain where probiotics have proven beneficial. Antibiotics, while effective at clearing infections, often disrupt the normal gut flora, leading to diarrhoea or, in more severe cases, *Clostridioides difficile* infection. In high-income countries, routine administration of probiotics alongside antibiotics is increasingly being considered as a preventive strategy. A 2022 randomized controlled trial in Canada found that children receiving *Lactobacillus* strains alongside antibiotics had a significantly lower incidence of AAD compared to those receiving placebo.

Probiotics are also gaining traction in the management of functional GI disorders, such as functional abdominal pain and IBS, which are well-known difficult to treat due to their multifactorial etiology. A growing body of evidence suggests that symbiosis or imbalance of gut microbiota may play a role in these conditions. Trials involving strains like *Bifidobacterium infantis* have shown promise in reducing symptoms such as bloating, pain, and irregular bowel movements in children diagnosed with IBS. Moreover, there is emerging interest in the use of probiotics in inflammatory bowel diseases such as Crohn's disease and ulcerative colitis. Although the evidence is less strong than in other conditions, some studies have shown that specific strains (e.g., *Escherichia coli* Nussle 1917) may be as effective as standard medications like meclizine in maintaining remission in ulcerative colitis. However, results remain mixed, and further large-scale studies are needed before routine recommendations can be made in this area.

Despite the potential benefits, the application of probiotics in Pediatric practice is not without challenges. One major issue is the strain specificity of probiotics. Different strains can have vastly different effects, and benefits seen with one strain cannot be assumed for another. Unfortunately, many over-the-counter products in high-income markets are poorly regulated, with inconsistent labelling and potency. This makes it difficult for clinicians and caregivers to choose reliable products.

Another concern is the safety profile, especially in immunocompromised or critically ill children. While probiotics are generally considered safe for healthy children, there have been rare reports of bloodstream infections linked to probiotic use in vulnerable populations. This highlights the importance of selecting appropriate candidates for probiotic therapy and ensuring products are manufactured to high safety standards. Furthermore, probiotics should not be seen as a standalone treatment. Their role is supportive and should complement, not replace, evidence-based medical interventions. Education of healthcare providers and parents is important to prevent misconceptions about probiotics being a cure-all for digestive problems.

CONCLUSION

The role of probiotics in managing Pediatric gastrointestinal disorders is increasingly supported by scientific evidence, particularly in the treatment of acute infectious diarrhoea and the prevention of antibiotic-associated diarrhoea. In high-income

Correspondence to: Olivia Bennett, Department of Pediatric Gastroenterology, Boston Children's Hospital, Harvard Medical School, Boston, United States, E-mail: olivia.bennett@childrens.harvard.edu

Received: 03-Feb-2025, Manuscript No. PTCR-25-38020; **Editor assigned:** 05-Feb-2025, Pre QC No. PTCR-25-38020 (PQ); **Reviewed:** 19-Feb-2025, QC No. PTCR-25-38020; **Revised:** 27-Feb-2025, Manuscript No. PTCR-25-38020 (R); **Published:** 06-Mar-2025, DOI: 10.35841/2161-0665.25.15.598

Citation: Bennett O (2025). Role of Probiotics in Managing Pediatric Gastrointestinal Disorders. Pediatr Ther. 15:598

countries, where healthcare systems can support probiotic research and access, these interventions offer a relatively safe and effective addition to Pediatric GI care. However, their successful integration into clinical practice depends on strain-specific recommendations, accurate product regulation, and appropriate patient selection. As research continues to expand, especially in chronic and functional GI disorders, probiotics may become a staple in Pediatric gastroenterology. Until then, cautious optimism and evidence-based application remain the guiding principles for their use.