

New Treatment For Functional Constipation In Children?

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Functional constipation (FC), is frequent in children and diagnosed by Rome IV criteria has a worldwide prevalence of 14.4% (95% CI 11.2-17.6). In most children the cause is unknown. However, frequency of constipation will vary depending upon the geographical location, dietary habits, toilet training and perhaps the traumatic events in a child's life^{1, 2}. Inadequate dietary habits, diminished physical activity, swift socio-cultural transformations, heightened stress levels, and unsuitable parental attitudes contribute to this issue³.

The fundamental contributing factor to functional constipation is thought to be the deliberate cessation of defecation due to pain or fear, creating a "vicious circle." In 50% of younger children, the act of withholding stool is believed to be the root cause of constipation. The extended retention and buildup of fecal mass result in rectal enlargement and reduced efficiency in anal muscle contractions. This, in turn, leads to fatigue in pelvic floor muscles, weakened anal sphincter function, and instances of fecal incontinence. Nearly 30% of children experiencing functional constipation exhibit soiling of their underwear^{4,5}.

Functional constipation is frequently categorized as normal transit constipation (NTC), slow transit constipation (STC), and conditions associated with defecation or rectal evacuation. Problems related to defecation or rectal evacuation arise from

pelvic floor dyssynergia (PFD), coupled with a reduction in intra-abdominal pressure, rectal sensory perception, and rectal contraction⁶.

Functional constipation involves infrequent and difficult bowel movements and without structural or definitive organic cause of constipation. During the time period when the baby is breast fed, stool may occur after each feed or more than four times per day, in first week of life, after weaning is introduced at 6 months of life and further dietary changes and child starts to eat what his parents are taking, by 4 years stools can be one or two times per day. While by 5 years of age a child passes stool daily or every other day, stool is soft and there is no straining⁷.

Hence, pathophysiology of functional constipation is multifactorial including diet imbalance, inadequate fluid intake, psychological issues, toilet training, pain, recent illnesses and family history of constipation. Children when playing will tend to hold the stool, especially in schools where appropriate facilities may not be available, may have been subjected to abuse or trauma and lack of social support^{3,8}.

Guidelines are available for evaluation of children with constipation aged less than 6 months and older^{8,9}, the document was designed to help clinicians on a daily basis in the evaluation of constipation, however further clinical trials were indicated. Though studies indicate that constipation results due to multifactorial causes which include a lack of appropriate diet, decreased fluids, physical activity, pre- or probiotics¹⁰. Nevertheless, the evidence-based guidelines from ESPGHAN and NASPGHAN have determined that there is inadequate evidence

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to support the incorporation of fiber supplements and fluids in the management of constipation in children and adolescents. Furthermore, the report highlights the absence of randomized studies assessing the impact of heightened physical activity on childhood constipation. Also, there is no support for use of pre-or probiotics in the treatment of childhood constipation. There was also controversy in multidisciplinary treatment for constipation. These observations were made based on lack of evidence to support these factors and lack of RCTs⁹.

Functional constipation in children can be managed by non- pharmacological treatment. In children with fecal impaction, laxative polyethylene glycol is used as the first line maintenance therapy. New Therapeutic methods are required for the management of constipation in the modulation of microbiota. However further research is needed on this aspect¹⁰.

Apart from the diverse therapeutic and other interventions for addressing constipation, a recent phase 3 trial conducted as a randomized, double-blind, placebo-controlled, multicenter study has investigated the effectiveness of linaclotide in treating functional constipation¹¹. The findings of this study suggest that Linaclotide is a effective and well-tolerated medication for treating functional constipation in children aged 6 to 17 years. Following these results, the US Food and Drug Administration has granted approval for its use in this specific indication. It is anticipated that this drug will alleviate the pain and distress experienced by these children.

In conclusion, causes of functional constipation has a multiple aetiology. Prevention should focus on early behavioral habits of toilet training, food according to specific age group, attention on the time availability and venue for defecation including privacy, avoidance of stress, adequate amount of water and above all knowledge and awareness of parents and care taker on the preventive aspects of constipation. New medications, hopefully will help the child to get relief from the stress and pain due to functional constipation.

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