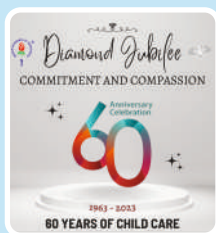


Indian Academy of Pediatrics (IAP)



nRICH

Newer **R**esearch and recommendations **I**n **C**hild **H**ealth

Lead Author
M Sen Sharma

Co-Author
SK Yachha



UNDER THE AUSPICES OF THE IAP ACTION PLAN 2023

Uendra Kinjawadekar

IAP President 2023

GV Basavaraja
IAP President 2024

Remesh Kumar R
IAP President 2022

Vineet Saxena
IAP HSG 2022-23

Dear fellow IAPans,

nRICH

Newer Research and recommendations In Child Health-aims to bring you the abstracts of some of the breakthrough developments in pediatrics, carefully selected from reputed journals published worldwide.

Expert commentaries will evaluate the importance and relevance of the article and discuss its application in Indian settings. nRICH will cover all the different subspecialties of pediatrics from neonatology, gastroenterology, hematology, adolescent medicine, allergy and immunology, to urology, neurology, vaccinology etc. Each issue will begin with a concise abstract and will represent the main points and ideas found in the originals. It will then be followed by the thoughtful and erudite commentary of Indian experts from various subspecialties who will give an insight on way to read and analyze these articles.

I'm sure students, practitioners and all those interested in knowing about the latest research and recommendations in child health will be immensely benefitted by this endeavor which will be published online on every Monday.

Happy reading!

Upendra Kinjawadekar
National President 2023
Indian Academy of Pediatrics



© Indian Academy of Pediatrics

Chairperson

Upendra Kinjawadekar

Convenor

Vijay Yewale

IAP nRICH team

Arun Bansal

Vaman Khadilkar

Indu Khosla

Srinivas Murki

Nitin K Shah

Tanu Singhal

Rhishikesh Thakre

Prakash Vaidya

SK Yachha

Psyllium in children with irritable bowel syndrome: Old is gold!

M Sen Sharma¹, SK Yachha²

Department of Pediatric Gastroenterology, Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow, India¹,
Department of Pediatric Gastroenterology, Hepatology and Liver Transplant, Sakra World Hospital, Bengaluru, India²

BASED ON ARTICLE

Menon J, Thapa BR, Kumari R, Puttaiah Kadyada S, Rana S, Lal SB. Efficacy of Oral Psyllium in Pediatric Irritable Bowel Syndrome: A Double-Blind Randomized Control Trial. *J Pediatr Gastroenterol Nutr.* 2023 Jan 1;76(1):14-19. doi: 10.1097/MPG.0000000000003622. Epub 2022 Sep 22. PMID: 36136861.

SUMMARY

Menon et al conducted a double blind randomised controlled trial (RCT) to evaluate the efficacy of psyllium husk as compared to placebo in pediatric IBS patients. In this trial, 43 children were assigned to psyllium arm (Group A) and 38 into placebo (maltodextrin) arm (Group B). Both psyllium and maltodextrin were administered in powder form and subjects were asked to ingest it after mixing with plain water, twice a day. Both powders were administered in the form of radio-opaque sachets, with each sachet containing 3 g of either of the material, to ensure double blinding. Patients between 6 and 12 years of age were given 6 g per day and those in the 13–18 year age group were given 12 g per day in two daily divided doses. Severity is assessed at baseline and after 4 weeks of treatment using IBS severity scoring scale (IBS-SSS) and classified into mild, moderate, and severe categories. Mean ages (\pm SD; in years) of Groups A and B were 9.87 (2.7) and 9.82 (3.17), respectively, with median duration of illness of 12 months. At baseline, type, severity, and parameters (IBS-SSS) of IBS were equally distributed in 2 groups. There was a significant reduction in median interquartile range (IQR) of total IBS-SSS in psyllium versus placebo [75 (42.5-140) vs 225 (185-270); $P < 0.001$] at 4 weeks. Similarly 43.9% in Group A versus 9.7% in Group B attained remission [IBS-SSS < 75 ($P < 0.0001$)]. The mean difference in IBS-SSS between Group A and Group B was -122.85 with risk ratio of 0.64 (95% CI; 0.42-0.83; $P = 0.001$) and absolute risk reduction of 32% (NNT = 3). The authors concluded that Psyllium husk is effective for the therapy of pediatric IBS when compared with placebo in short term [1].

COMMENTARY

Prevalence of IBS among Indian school children is reported to be 1.3% [2]. A recent meta-analysis of 16 cross-sectional studies looking into the epidemiology of pediatric IBS from Asian countries showed a prevalence of 2.8%–25.7% with a pooled prevalence of 12% [3]. Among the pharmacotherapies advocated in IBS, psyllium has always been in discussion. Psyllium is a fiber, used as a home remedy for centuries in India, fondly termed as *Isphagula Isabgol* or *Bhusi*. A glass of warm milk, a handful of raisins (munakka) and isabgol was the the standard old wives' magic laxative for the constipated child at home. The efficacy of psyllium may be a result of its water-retaining capacity; the presence of arabinoxylan, which is a prebiotic or due to its immunomodulatory effects. Psyllium had always been

the underdog yet underplayed in science of bowel dysfunction. When translated into scientific practice, it was felt that psyllium was definitively efficacious though the results were not overwhelmingly conclusive. A meta-analysis in 2022 of all the RCT performed on fibers showed that psyllium (>10g/day) used for >4 weeks significantly improved stool frequency and consistency in adults. However, there were limitations in interpretation due to heterogeneity in the studies [4]. But is psyllium equally efficacious in children? There is a significant paucity of literature on use of fiber in children with IBS.

In this light, Menon et al attempted to narrow this gap. This study comes as a fresh breath to the existing practices of treating IBS in children. They conducted a double blind RCT and included patients of all varieties of IBS (constipation, diarrhea, mixed) in near equal proportions though the numbers were small. They used the IBS-SSS as a semi-objective scoring scale to assess response. Majority of the patients had moderate-severe symptoms of IBS. After 4 weeks of therapy, significant improvements were noted in pain, frequency, distension, satisfaction and life interference in psyllium as compared to placebo. With the relative and absolute risk reduction of 0.36 and 0.32, it was concluded that number needed to treat with psyllium to get a response was 3. The drug did not have any side effects during therapy though adult literature reported increased flatulence [1,4]. The study however drew a sharp criticism of having used IBS-SSS, an adult-validated questionnaire which may not be suitable for recording pediatric efficacy and a likely over-interpretation of drug response [5]. The authors defend that due to lack of uniformity in assessment of children, IBS-SSS was the only available option. In this process they could also validate this adult based questionnaire in children, paving way for further pediatric trials to use the same and avoid heterogeneity in future meta-analysis interpretations.

Why is this study important for India? As explained, psyllium is a relatively inert substance with a deep rooted faith in our cultural practice. Other drugs used in IBS may have cholinergic and anticholinergic mismatches. Use of psyllium may potentially avoid the same. Due to changes in lifestyle, pediatric IBS is becoming increasingly common in office practice as well as referral institutes. Hence bigger trials recruiting larger number of patients in each IBS subset will never be an issue. We also need RCTs to evaluate psyllium versus other pharmacotherapies. All said and done, this study is one of the first one of its kind. Old is truly gold!

REFERENCES

1. Menon J, Thapa BR, Kumari R, Puttaiah Kadyada S, Rana S, Lal SB. Efficacy of Oral Psyllium in Pediatric Irritable Bowel Syndrome: A Double-Blind Randomized Control Trial. *J Pediatr Gastroenterol Nutr.* 2023 Jan 1;76(1):14-19. doi: 10.1097/MPG.0000000000003622. Epub 2022 Sep 22. PMID: 36136861.
2. Bhatia V, Deswal S, Seth S, Kapoor A, Sibal A, Gopalan S. Prevalence of functional gastrointestinal disorders among adolescents in Delhi based on Rome III criteria: A school-based survey. *Indian J Gastroenterol.* 2016 Jul;35(4):294-8. doi: 10.1007/s12664-016-0680-x. Epub 2016 Aug 24. PMID: 27554498.
3. Devanarayana NM, Rajindrajith S, Pathmeswaran A, Abegunasekara C, Gunawardena NK, Benninga MA. Epidemiology of irritable bowel syndrome in children and adolescents in Asia. *J Pediatr Gastroenterol Nutr.* 2015 Jun;60(6):792-8. doi: 10.1097/MPG.0000000000000714. PMID: 26000888.
4. van der Schoot A, Drysdale C, Whelan K, Dimidi E. The Effect of Fiber Supplementation on Chronic Constipation in Adults: An Updated Systematic Review and Meta-Analysis of Randomized Controlled Trials. *Am J Clin Nutr.* 2022 Oct 6;116(4):953-969. doi: 10.1093/ajcn/nqac184. PMID: 35816465; PMCID: PMC9535527.
5. van Tilburg MAL, Reed B, Benninga M, Chogle A, Chumpitazi BP, DiLorenzo C, Levy R, Nurko S, Rajindrajith S, Saps M, Shulman RJ, Staiano A, Thapar N, Velasco Benitez CA, Vlieger A. Letter RE: Efficacy of oral psyllium in pediatric Irritable Bowel Syndrome: A double-blind randomized control trial. *J Pediatr Gastroenterol Nutr.* 2023 Apr 26. doi: 10.1097/MPG.0000000000003814. Epub ahead of print. PMID: 37098052.