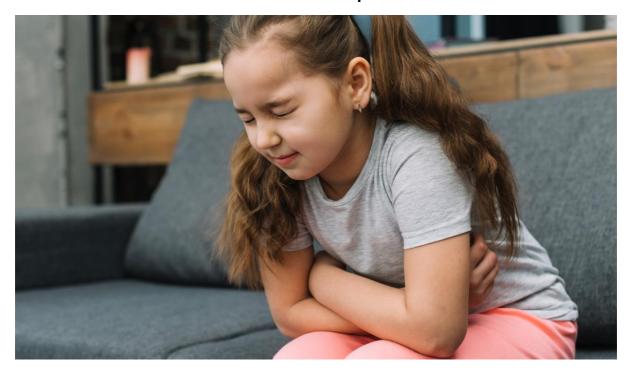


Childhood Constipation



Constipation is often considered as the most common gastrointestinal disorder in children and is usually associated with low-fibre intake. Most constipated children (90–95%) suffer from functional constipation^{3,6}, characterized by decreased bowel movements and/or hard stools, which cause significant distress for children and their caregivers. "Functional" implies the absence of organic causes with a focus on behavioural aspects¹.

During infancy, the transition from breastfeeding to formula feeding or the introduction of solid foods is sometimes a trigger for the onset of functional constipation ¹⁰. Symptoms of functional constipation include infrequent depositions, possibly painful, and large and hard stools with or without faecal incontinence. Regarding therapeutic options, some evidence exists about prebiotic dietary fibre and their benefits on intestinal functions³.

LOCAL MARKETS TO GLOBAL FOOD INNOVATIONS

Prebiotics may help babies with constipation

Breast-fed infants have an intestinal microbiota dominated by Bifidobacterium and

Lactobacillus and this is quite different from those fed with a standard infant formula⁵.

Breastmilk is gifted with both prebiotic and probiotic properties which standard infant

formula doesn't. Today's infant formulas are often fortified with prebiotics to better mimic

properties of human milk with respect to its effect on gastrointestinal microbiota composition

and function².

The effectiveness of prebiotics is due to their ability to resist digestion and to reach

the large intestine, where they are completely fermented by the gut microbiota and are

leading to a selective increase of beneficial bacteria⁸. Infants on these supplemented formula

with prebiotics inulin and oligofructose have a lower stool pH, a better stool consistency and

frequency and a higher concentration of bifidobacteria in their intestine compared to infants

on a non-supplemented standard formula^{4,7,9}.

Conclusion

Supplementing the baby's diet with prebiotic inulin-type fructans seems to be

promising for treating functional constipation in infants and young children³. At DPO

International, we are honoured to be in partnership with Beneo Orafti to bring you a wide

range of ingredient choices that will elevate the nutritional quality of your baby food

products.

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References

¹Avelar Rodriguez, D., Popov, J., Ratcliffe, E., & Toro Monjaraz, E. (2021). Functional Constipation and the Gut Microbiome in Children: Preclinical and Clinical Evidence. Frontiers In Pediatrics, 8. https://doi.org/10.3389/fped.2020.595531

²Borewicz, K., Suarez-Diez, M., Hechler, C., Beijers, R., de Weerth, C., & Arts, I. et al. (2019). The effect of prebiotic fortified infant formulas on microbiota composition and dynamics in early life. Scientific Reports, 9(1). https://doi.org/10.1038/s41598-018-38268-x

³Closa-Monasterolo, R., Ferré, N., Castillejo-DeVillasante, G., Luque, V., Gispert-Llaurado, M., & Zaragoza-Jordana, M. et al. (2016). The use of inulin-type fructans improves stool consistency in constipated children. A randomised clinical trial: pilot study. International Journal Of Food Sciences And Nutrition, 68(5), 587-594. https://doi.org/10.1080/09637486.2016.1263605

⁴Closa-Monasterolo, R., Gispert-Llaurado, M., Luque, V., Ferre, N., Rubio-Torrents, C., Zaragoza-Jordana, M., & Escribano, J. (2013). Safety and efficacy of inulin and oligofructose supplementation in infant formula: Results from a randomized clinical trial. Clinical Nutrition, 32(6), 918-927. https://doi.org/10.1016/j.clnu.2013.02.009

⁵Hojsak, I., & Pavic, A. M. (2014). Supplementation of prebiotics in infant formula. Nutrition And Dietary Supplements, 69. https://doi.org/10.2147/nds.s39308

⁶Kranz, S., Brauchla, M., Slavin, J., & Miller, K. (2012). What Do We Know about Dietary Fiber Intake in Children and Health? The Effects of Fiber Intake on Constipation, Obesity, and Diabetes in Children. Advances In Nutrition, 3(1), 47-53. https://doi.org/10.3945/an.111.001362

⁷Oswari, H., Widodo, A., Handayani, F., Juffrie, M., Sundjaya, T., Bindels, J., & Hegar, B. (2019). Dosage-Related Prebiotic Effects of Inulin in Formula-Fed Infants. Pediatric Gastroenterology, Hepatology & Amp; Nutrition, 22(1), 63. https://doi.org/10.5223/pghn.2019.22.1.63

⁸Roberfroid, M., Gibson, G., Hoyles, L., McCartney, A., Rastall, R., & Rowland, I. et al. (2010). Prebiotic effects: metabolic and health benefits. British Journal Of Nutrition, 104(S2), S1-S63. https://doi.org/10.1017/s0007114510003363

⁹Vandenplas, Y., Greef, E., & Veereman, G. (2014). Prebiotics in infant formula. Gut Microbes, 5(6), 681-687. https://doi.org/10.4161/19490976.2014.972237



¹⁰Walter, A., Hovenkamp, A., Devanarayana, N., Solanga, R., Rajindrajith, S., & Benninga, M. (2019). Functional constipation in infancy and early childhood: epidemiology, risk factors, and healthcare consultation. BMC Pediatrics, 19(1). https://doi.org/10.1186/s12887-019-1652-y