



Probiotics: Acute infectious diarrhoea

Intervention

Oral probiotics taken directly or mixed with food/fluid.

Indication

There may be a significant difference between the pharmaceutical-grade probiotics that show promise in clinical trials and probiotics in foodstuffs.

Episodes of acute infectious diarrhoea, particularly in children (there are few studies involving adults), aiming to shorten the duration of diarrhoea and reduce stool frequency.

When used in conjunction with oral rehydration, probiotics have been shown to reduce the duration of diarrhoea by around 25 hours, decrease the risk (by almost 60%) of diarrhoea lasting longer than four days; and reduce the frequency of diarrhoea on day 2 after the intervention. Due to the marked variability in study findings, these figures are approximate.

Probiotics have several actions in the gut, including actively competing with pathogens for nutrition, making gut contents acidic, secreting local antimicrobial agents, and enhancing specific and non-specific immune responses.

Precautions

Evidence suggests that probiotics are safe for the vast majority of people. As there is a very small risk of sepsis, these agents should potentially be avoided in patients who are immunocompromised, severely debilitated, critically ill or postoperative.

Adverse Effects

Probiotics are not associated with serious adverse effects. Some people experience bloating and diarrhoea.

Availability

Many different formulations of probiotics (capsules, powders, sachets) are available from supermarkets, pharmacies and health food stores. Products containing probiotics that are classed as foodstuffs (eg yoghurt) are not subjected to the same rigorous processes for labelling and listing as those applied to medicines.

There do not appear to be important differences in probiotic effect related to choice of probiotic strain, the number of different strains included, the viability of the organisms, or whether low-dose or high-dose preparations are used.



Description

The ESPGHAN Working Group for Probiotics and Prebiotics recommends the types of probiotics that may be considered (in addition to rehydration treatment) for the management of acute infectious diarrhoea in children include *Lactobacillus rhamnosus* GG, *Saccharomyces boulardii*, *Lactobacillus reuteri* DSM 17938 and heat-inactivated *Lactobacillus acidophilus* LB.

Probiotics may be taken alone or with food/fluid according to the manufacturer's directions. The ideal duration of treatment has not been established, however 5–10 days appears to be appropriate.

Tips and Challenges

The use of probiotics for acute infectious diarrhoea may be particularly useful for parents travelling with children. Products that do not require refrigeration are more convenient; however, it is difficult to single out a particular product.

Grading

NHMRC Level I evidence.

References

Allen SJ, Martinez EG, Gregorio GV, Dans LF. [Probiotics for treating acute infectious diarrhoea](#). Cochrane Database Syst Rev 2010(11):CD003048. doi: 10.1002/14651858.CD003048.pub3.

www.ncbi.nlm.nih.gov/pubmed/21069673

Szajewska H, Guarino A, Hojsak I, et al. on behalf of the ESPGHAN Working Group for Probiotics and Prebiotics. [Use of probiotics for management of acute gastroenteritis: A position paper by the ESPGHAN Working Group for Probiotics and Prebiotics](#). J Pediatr Gastroenterol Nutr 2014;58:531–39.

www.ncbi.nlm.nih.gov/pubmed/24614141

Consumer resources

NHS Choices: Probiotics

www.nhs.uk/Conditions/probiotics/Pages/Introduction.aspx