Probiotics in antibiotic-associated diarrhoea

Probiotics are live organisms that are intended to provide a positive health benefit when consumed. Common strains include species of lactobacillus and bifidobacterium bacteria. Increasing evidence suggests that probiotics may be beneficial in a range of gastrointestinal conditions, including diarrhoea related to antibiotic use. Up to 30% of people who take antibiotics have associated diarrhoea, either during treatment or up to two months afterwards (Barbut and Meynard, 2002).

C difficile is an anaerobic bacterium that is present in the gut but rarely causes problems in healthy people, because it is kept in check by the intestine’s normal bacterial population. Antibiotics disrupt the balance of bacteria and can allow overgrowth of bacteria that cause diarrhoea, such as C difficile.

Current advice
Probiotics may help to maintain or restore the normal bacterial population of the intestine, which may reduce antibiotic-associated diarrhoea. However, licensed preparations of probiotics are not available on the health service. The National Institute for Health and Care Excellence has no formal guidance on the use of probiotics for preventing or treating antibiotic-associated diarrhoea. NICE’s (2013) clinical knowledge summary suggests that probiotics should not be recommended for treatment and prevention of C difficile infection.

New evidence
A systematic review and meta-analysis of 63 randomised controlled trials evaluated the evidence for probiotic use in the prevention and treatment of antibiotic-associated diarrhoea (Hempel et al, 2012). Probiotics reduced the risk of antibiotic-associated diarrhoea, equating to a number needed to treat of 13. This result was consistent across several subgroup and sensitivity analyses.

However, there was significant heterogeneity across studies and evidence was insufficient to determine whether the association varied by population, antibiotic characteristics, or probiotic preparation.

Most trials used blends of probiotics. However, the probiotic strains used were poorly documented and assessment of probiotic-specific adverse events was lacking. The authors suggested that future studies should address factors such as the strains or blends of probiotics, patient characteristics and type of antibiotic. Further trials should also explicitly assess possible adverse events.

Adapted from Eyes on Evidence (May 2013), a bulletin produced by the National Institute for Health and Care Excellence. Available at tinyurl.com/EoE-probiotics

Carmel Thomason is senior publishing manager, evidence resources, National Institute for Health and Care Excellence

References

Nursing Times Learning
For a Nursing Times Learning unit on assessing and managing diarrhoea, go to www.nursingtimes.net/diarrhoea