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Title:

EFFECT OF PROBIOTICS ON RESPIRATORY, GASTROINTESTINAL AND NUTRITIONAL OUTCOMES IN PATIENTS WITH CYSTIC FIBROSIS: A SYSTEMATIC REVIEW

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What was your research question?

The purpose of this review was to collect and summarise all the relevant literature on the effects of probiotics on digestive, respiratory and nutritional outcomes in people with cystic fibrosis (CF).

Why is this important?

Bacteria live in our gastrointestinal tract (gut) and play an important role in health and disease. In CF an imbalance of bacteria occurs, so there are fewer beneficial and more potentially harmful bacteria.

Probiotics are live bacteria and in the correct amounts, provide a health benefit to the person taking them. They can be effective in inflammatory diseases of the gut, respiratory conditions and in diarrhoea caused by antibiotics.

Health professionals are frequently asked about the use of probiotics in CF. It was therefore important to do a review of the evidence so they can provide evidence-based advice to patients.

What did you do?

There has been an increasing number of studies investigating the effects of probiotics in CF. We systematically searched for all relevant research articles. We checked the quality of all evidence and graded its ability to provide us with reliable information. We then summarised the evidence and reported the effects of probiotics on various outcomes and the safety of their use.

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What did you find?

We included nine studies in our review. They included children and adults, aged between 2 to 44 years old. Six different types of probiotics were used with various doses. The main findings suggest that probiotics have the potential to reduce the number of pulmonary exacerbations (flaring up of lung disease) and decrease inflammation in the gut. No harmful effects of probiotics were reported.

What does this mean and reasons for caution?

Despite the promising findings, we need to be cautious as the amount of evidence is limited and the studies vary greatly in quality. There are many different types of probiotics and all provide different benefits. However there is not enough evidence at this time to recommend a specific probiotic, or how much or how often people with CF should take a probiotic. Probiotics appear to be safe, but should be used with caution in some patients such as those with poor lung function or during exacerbations. Patients should seek professional healthcare advice and guidance before using probiotics.

What's next?

This review provides information allowing health professionals to advise patients of the potential benefits and risks of available probiotic options and to make the best recommendations for each individual.

Larger and stronger studies are needed to confirm the beneficial effects of probiotics on gastrointestinal and respiratory outcomes in CF and to investigate the safety of their use. We also need to study the effects of probiotics on outcomes important to people with CF including gastrointestinal symptoms (e.g. bloating, excess gas, stomach pain???) and quality of life and to determine the specific probiotic and dose that is best for people with CF.

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