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## Prebiotics and the colonic microbiota in enteral nutrition

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Diarrhea is one of the common complications in enteral nutrition (EN) and it may have negative impact in patients' daily life and health outcome. Despite there are several studies focusing on role of fibre in minimizing diarrhea in EN patients, very few studies really investigated the effect of prebiotics and diarrhea. A prebiotic is a selectively fermented ingredient that allows specific changes in the composition and / or activity of the gastrointestinal microbiota that confers benefits upon host wellbeing and health. Fructo-oligosaccharides (FOS) is the most extensively prebiotics being investigated and it selectively stimulate the proliferation of *bifidobacteria* and potentially lactobacilli. Clinical study has shown that in-patients who were experiencing diarrhea during EN using standard (fiber/ prebiotics free) enteral formula have lower fecal *bifidobacteria* concentrations and higher clostridia concentrations. The gastrointestinal microbiota can be manipulated by adding prebiotics, such as non-digestible fructo-oligosacharides, to the enteral formula. There were no differences in the concentrations of fecal microbiota in patients receiving standard or a fiber enriched FOS formula from our previous findings. Nevertheless, the impact of additional FOS on the gastrointestinal microbiota, fermentation and stool output in patients receiving EN on intensive care unit (ICU) has not been investigated. Possibility of different *bifidobacteria* concentrations after FOS supplementation may influence diarrhea is not known. My presentation will be focusing on minimizing diarrhea evidences in relation with prebiotics and recent research update of the additional FOS supplementation on the gut microbiota, short-chain fatty acids and stool output in patients receiving enteral nutrition on the ICU.

## Biography

Hazreen Abdul Majid is a senior lecturer and an accredited practising dietitian at the Faculty of Medicine, University of Malaya. He obtained his PhD majoring in clinical nutrition at King's College London at the age of 32. He has published several papers in international peer-reviewed journals and a book chapter. He is a member for several associations including Dietitians' Association of Australia and currently the Vice President of Malaysian Dietitians Association (2011-2013). He is also an associate member for The Higher Education Academy, UK. Functional foods (e.g. prebiotics/ probiotics) have always been Hazreen's research interest. He conducted the randomised controlled trial to determine the effect of additional fructooligosaccharides on colonic microbiota, faecal short-chain fatty acids and immune status among intensive care unit patients receiving enteral nutrition. He was awarded Nutricia Research Grant to conduct this clinical nutrition trial.

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