

Does baby poo hold the key to preventing killer disease?

November 22 2013

Flinders researchers in conjunction with the CSIRO are on the hunt for baby poo, which they hope may hold the key to treating one of the developing world's most common childhood killers – acute diarrhoea.

The research team – led by Flinders University Professor Graeme Young and including Flinders Medical Centre Fellow Dr Geetha Gopalsamy – will study the poo specimens to determine if the [bacteria](#) in the gut of infants have the capacity to ferment resistant starch.

Bowel health depends to a large degree on healthy bacterial balance, and it is known that resistant starch – starch which is undigested in the small intestine, but is available for fermentation by bacteria in the large intestine – has significant health benefits.

Professor Young has been involved in research demonstrating that certain resistant starches when combined with oral rehydration solutions can significantly improve diarrhoeal outcomes in developing countries. According to the World Health Organisation, approximately 760,000 children under the age of five die each year from acute diarrhoea.

However, in order to be effective in the treatment of diarrhoea, resistant starch must be broken down by bacteria in the large intestine – and not all bacteria can break down all types of resistant starch.

Young infants are particularly vulnerable to acute diarrhoea, however it is not known whether the bacteria in their gut have the capacity to

ferment resistant starch. This is because the bacteria in the large intestines of babies differ considerably from older children and adults.

"Several factors can influence the types of bacteria in the gut, including being breast or formula fed or being born through natural or caesarean section," explained Dr Gopalsamy.

"We also know that the type of bacteria in the gut can have major consequences for overall health, both in infants and adults."

She said the introduction of solid foods to a baby's diet was another important step in altering the microbial ecology of the gut.

"Our study will investigate whether the bacteria in infant faeces has the capacity to break down resistant starch. We will test this by incubating the faeces – which is predominantly made up of bacteria – with the resistant starch in the laboratory and measuring the by-products of fermentation.

"We will also compare the differences in the types of bacteria in the faeces before and after incubation, as we may find that the resistant starch actually promotes the growth of 'good bacteria.' We will also compare whether there is any important differences between formula and breast fed infant faeces."

The work will be conducted in Dr Tony Bird's lab at the CSIRO and with the aid of Dr Claus Christophersen, a research scientist at CSIRO who is a leading expert in this area of research.

Dr Gopalsamy said by obtaining a repeat faecal specimen post weaning, the team could also investigate whether there were any major changes once an infant was introduced to solid foods.

Provided by Flinders University

Citation: Does baby poo hold the key to preventing killer disease? (2013, November 22)
retrieved 23 April 2024 from

<https://medicalxpress.com/news/2013-11-baby-poo-key-killer-disease.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.