

A randomised controlled trial of the probiotic *Bifidobacterium breve* BBG-001 in preterm babies to prevent sepsis, necrotising enterocolitis and death: the Probiotics in Preterm infants (PiPS) trial

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Declared competing interests of authors: The probiotic and placebo used in this trial were manufactured and transported to the UK free of charge by the Yakult Honsha Co. Ltd, Tokyo, Japan. The company had no involvement in the trial design or conduct or in the analysis and interpretation of the data, nor has the chief investigator had any direct contact with the company. Edmund Juszczak has been a member of the Health Technology Assessment (HTA) Commissioning Board since November 2013. Michael Millar was a member of the Diagnostic and Screening panel of the HTA throughout the trial. Peter Brocklehurst has been chairperson of the HTA Maternal, Neonatal and Child Health panel since December 2014. He received money from Oxford Analytica for consultancy and as chairperson of the Medical Research Council Methodology Research Programme panel; his Institution received money from the National Institute for Health and Care Excellence for his role as lead for maternal health review updates and for evidence updates of National Institute for Health and Care Excellence guidance during the conduct of the trial. He also reports that his institution received money for numerous Medical Research Council, National Institute for Health Research Health Services and Delivery Research and National Institute for Health Research HTA programme grants.

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Plain English summary

The Probiotics in Preterm infantS (PiPS) trial

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Plain English summary

Infection contracted after birth and necrotising enterocolitis (NEC), which is the most common serious complication affecting the gut, are important causes of death and life-long health problems for premature babies. It is thought that giving 'good bacteria' (probiotics) might strengthen the bowel wall and provide protection by preventing bacteria that cause disease from entering the body.

Previous trials of probiotics have provided encouragement, particularly when the results of different trials are added together, but there are concerns about the reliability of some of the trials.

This trial aimed to overcome problems of earlier trials, in particular by being big enough to give clear answers.

The trial was successfully completed and results are available for 1310 babies, born more than 9 weeks early, in 24 different hospitals; 650 were allocated to receive probiotics.

No problem was reported with safety but neither was there any evidence of benefit associated with giving this probiotic to these babies in preventing NEC, severe infection, death or any of the other common problems of prematurity.

We believe that our results support the view that different types of probiotic may have different effects and that it may be a mistake to combine the results of trials of different probiotics as if they were all the same. Although short-term safety is good, we do not yet know about longer-term effects of these products on child development or illnesses such as asthma and, until we know more, we should be cautious about their use.

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This report

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