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## Tropical Medicine and Health

Vol. 34 (2006) , No. 3 p.125

### **PREBIOTIC EFFECT OF DAILY FRUCTOOLIGO INTAKE ON WEIGHT GAIN AND REDUCTION OF DIARRHEA AMONG CHILDREN IN A BANGLADESHI SLUM: A Randomized Double-masked Placebo-controlled Trial**

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**Abstract:** Fructooligosaccharide (FOS) is a typical prebiotic agent. A double-masked, placebo-controlled study was performed to evaluate the effect of daily intake of an isotonic solution containing FOS on body weight gain and acute diarrhea in children in an urban slum in Bangladesh over six consecutive months. A total of 150 children, aged 25-59 months, were enrolled. Sixty-four children received 50 mL of isotonic solution with 2 g of FOS added, and 86 children in the placebo group were given an identical solution with 1 g of glucose added. Measurements of body weight were carried out every other day; height and arm circumference were measured once a month; and the children's mothers were interviewed about diarrhea, the consistency and constitution of stool, other symptoms, and treatment. As a result, the body weight gain during the six-month period was significantly higher in the FOS group and 0.89±0.48 kg in the placebo group, while the arm circumference were not significantly different between the two groups. The number of diarrhea episodes during the six-month period was not significantly different, but there was a significant reduction in the duration of diarrhea days and of duration per episode in the FOS group ( $p=0.039$  and  $p=0.008$ , respectively). In conclusion, daily intake of FOS was associated neither with the children's growth nor with the number of acute diarrhea episodes. A significant reduction in the duration of diarrhea days was observed. Further studies are needed to confirm the effects of FOS by changing the doses and eliminating the use of antibiotics.

**Key words:** [prebiotic effect](#), [fructooligosaccharide \(FOS\)](#), [weight gain](#), [acute diarrhea](#)

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Sadako Nakamura, Shafiqul Alam Sarker, Mohammad Abdul Waheed, Tsuneyuki Oku and Kazuhiko Moji: "PREBIOTIC EFFECT OF FRUCTOOLIGOSACCHARIDE INTAKE ON WEIGHT GAIN AND ACUTE DIARRHEA AMONG CHILDREN IN A BANGLADESHI Randomized Double-masked Placebo-controlled Study". *Tropical Medicine and International Health* Vol. **34**, pp.125-131 (2006) .