



Effect of Synbiotics on Short-Chain Fatty Acid and Putrefactive compounds in Thai obese adults: A Preliminary study

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Abstract

Obesity is a non-communicable disease and the primary public health concern in many countries around the world, and it is continuously increasing. Recently, studies have shown that changes in short-chain fatty acids were related to obesity and play a role in preventing obesity. Moreover, the putrefactive compounds found increasing in obesity due to the growth of harmful bacteria and related to maintaining health. The current research aimed to study the effects of synbiotics that reduce the putrefactive compounds and increase short-chain fatty acids. Preliminary, five subjects with obesity had received synbiotic formulation containing 30×10^9 CFU/g of 3 strains of probiotics (15×10^9 CFU of *Bifidobacterium breve*, 5×10^9 CFU of *B. longum*, and 10×10^9 CFU of *Lactobacillus paracasei*) and 10 g of prebiotics (5 g of Inulin and 5 g of Oligofructose). The supplementation of synbiotics for 12 weeks increased short-chain fatty acids level significantly, indicating the growth of probiotics. Lactic acid, acetic acid, butyric acid, and propionic acid levels were increased by 255.63, 89.13, 150.25, and 125.01 in percentage, respectively. The putrefactive compounds, including cresol, indole, and skatole, were also decreased by 53.68, 50.00, and 63.16, in percentage, respectively. It can be inferred that the supplementation of synbiotics helps against the degeneration of the intestinal tract due to the ability of probiotics to promote the growth of gut microbiota, which was indicated from short-chain fatty acids, and inhibit the growth of pathogenic bacteria, which was indicated from putrefactive compounds. This project was supported by the Research and Innovation Fund for Small Scale Enterprise (RISE), Thailand.

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