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Anti-obesity effect of *Lactobacillus shirota* and *Bifidobacterium longum* on high fat diet-induced obese rats

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Obesity and overweight are the major public health problems which have an upward trend in almost all countries and all parts of the world. Increased prevalence of obesity cannot be solely attributed to changes in the human genome, nutritional habits, or reduction of physical activity in our daily lives. Gut microflora may play an even more important role in maintaining human health. Thus, this study aimed to detect the anti-obesity effects of *Lactobacillus shirota* and *Bifidobacterium longum* separately and in combination on high fat diet-induced obese rats. Forty eight male Sprague-Dawley rats were assigned into six groups as follows: (1) group I, fed by standard diet, (2) group II, fed by high fat diet, (3) group III, fed by high fat diet and *Lactobacillus shirota*, (4) group IV fed by high fat diet and *Bifidobacterium longum*, (5) group V, fed by high fat diet and a combination of two bacteria, (6) group VI, fed by orlistat. After 12 weeks, the body, organ, and fat weights, food intake, blood serum levels, fecal bacterial counts were measured. Administration of *Lactobacillus shirota* and *Bifidobacterium longum* reduced body and fat weights, blood serum levels of TC, LDL, leptin, CRP and significantly increased HDL and fecal bacteria counts. Further studies to elucidate the anti-obesity effect of *Lactobacillus shirota* and *Bifidobacterium longum* are needed.

Biography

Golgis Karimi has completed her Master at the age of 24 years from University Kebangsaan Malaysia (National University of Malaysia). At present, she is PhD candidate in the University Putra Malaysia. She has published 5 papers in reputed journals.

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