Abstract

Introduction: The intestinal microbiota has several beneficial functions related to host health. Studies suggest that it may be related to the presence of metabolic diseases, including obesity. Objective: A bibliographic survey was carried out upon the relationship between the intestinal microbiota and obesity and the possible impacts of the use of prebiotics and probiotics, aiming to understand this complex and promising interaction. Methods: A search was conducted in the Lilacs, PubMed, SciElo and ScienceDirect databases, using the keywords “gut microbiota” and “obesity”. Results and discussion: We identified 613 original studies. After careful selection, 61 original articles were included in this review. The others indicated that there are differences in the microbial composition between obese and non-obese patients and the possible mechanisms involved. Alteration is caused in the energy homeostasis, in the use of dietary intake and storage of lipids due to the composition of the intestinal microbiota. Among the studies that evaluated the microbiota modulation, seven used probiotics; 24 used prebiotics, and five studies were performed using food. After dietary manipulation, the growth of bifidobacteria was obtained in 10 studies, in association with weight reduction, adipogenic effects of diet, intestinal permeability and inflammatory markers. Conclusion: Knowledge on the impact of the microbiota on metabolic pathways allows to conceive new factors associated with obesity and modulation by prebiotics and probiotics. In this sense, the main effect observed was the increase in bifidobacteria, usually accompanied by weight loss and enhancement of parameters related to obesity.

Keywords