The prevalence of obesity has reached epidemic proportions worldwide, which requires nutritional interventions for its effective control. Adiponectin has antiinflammatory capacity, improves glucose tolerance and presents decreased plasma expression and concentration in obese individuals. Studies with animals reveal improvement in insulin resistance after the infusion of adiponectin; in humans, caloric restriction increases its levels. The present study aimed to analyze the effects of dietary components on gene expression and plasma concentration of adiponectin. Sixteen articles were found following a literature review -seven with interventions in animal models and nine in human. The results in animal models demonstrate that the consumption of hyperlipidemic diets, rich in saturated fat, reduces the levels of adiponectin, while the diets rich in polyunsaturated fatty acids and supplementation with omega-3 and eicosapentaenoic acid increase its gene expression and plasma levels. In humans, the consumption of a healthy and Mediterranean diet are positively associated with adiponectin levels, although the mechanisms are not fully understood. Due to the importance of adiponectin in preventing metabolic diseases and reducing cardiovascular risk, more research are needed on food strategies to promote the increase of adiponectin levels. Therefore, studies must be carried out to evaluate the response to different sources and levels of various dietary components and the safety of the supplementation of specific nutrients.

**Keywords**