Abstract
Objective: The maintenance of normal blood glucose concentrations is a crucial factor to the achievement of a good health status throughout life. However, the occurrence of abnormalities in this parameter has become increasingly common, which can result in several non-transmissible diseases, such as type 2 diabetes and cardiovascular diseases. Therefore, the purpose of this study was to discuss the role of protein sources in the glycemic and insulinemic responses. Methods: In this review paper, we critically analyzed recently published studies that discussed the role of different protein sources in the glycemic and insulinemic responses in healthy individuals and in those who have cardiovascular diseases or type 2 diabetes. Results: The results of some of these studies suggest that the daily ingestion of at least one high protein meal containing low to moderate amounts of carbohydrate increases insulin secretion and glucose uptake, improving insulin sensitivity. Furthermore, the results indicate that these effects are particularly associated with the consumption of animal protein (p.e. hydrolyzed whey protein), which has a high content of branched-chain amino acids such as leucine, valine and others such as arginine, which leads to improvements in insulin secretion and uptake glucose, since it increases insulin sensitivity. However, there is still no consensus in the literature about the quantity and quality of protein capable of reducing or maintaining blood-glucose concentrations at the desirable range, without causing adverse effects. The difference in the results of the studies may be associated to methodological problems presented by these studies. Conclusions: Well designed studies should be conducted to identify the quantity and quality of protein that can lead to the improvement on blood glucose concentrations, without negative effects to health. These studies should also identify the mechanisms and the magnitude by which protein may affect glycemic response.

Keywords
Protein quality, Glycemic response, Type 2 diabetes, Cardiovascular diseases.