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## A RANDOMIZED DOUBLE-BLIND STUDY ON KETOGENIC DIET WITH AMINOACID SUPPLEMENT

**OBJECTIVE:** Obesity plays a relevant pathophysiological role in the development of health problems, arising as result of complex interaction of genetic, nutritional and metabolic factors. We conducted a dietary intervention case-control randomized trial, to compare the effectiveness on body composition of two nutritional protocols: a very-low-carbohydrate ketogenic diet (VLCKD), integrated by an aminoacid supplement with whey protein, and very low restricted-calorie diet (VLCD). **PATIENTS AND METHODS:** The clinical study was conducted with a randomized case-control in which twenty-five healthy subjects gave informed consent to participate in the interventional study and were evaluated for their health and nutritional status, by anthropometric, and body composition evaluation. **DISCUSSION:** Many studies have shown the effectiveness of the ketogenic diet on weight loss; even if not know how to work effectively, as some researchers believe that the weight loss is due to reduced calorie intake, satiety also induced by the effect of the proteins, rather than the low-carbohydrates. **RESULTS:** The results of this pilot study show that a diet low in carbohydrates, associated with a decreased caloric intake, is effective in weight loss. After VLCKD, versus VLCD, no significant differences in body lean of the trunk, body lean distribution (android and gynoid), total body lean were observed ( $p > 0.05$ ). Moreover, the frequency of sarcopenia at baseline according to ASMMI was 20% in the X group; after VLCKD, no sarcopenic subject was highlighted. **CONCLUSIONS:** Our pilot study showed that a VLCKD was highly effective in terms of body weight reduction without to induce lean body mass loss, preventing the risk of sarcopenia. Further clinical trials are needed on a larger population and long-term body weight maintenance and risk factors management effects of VLCKD. There is no doubt, however, that a proper dietary approach would impact significantly on the reduction of public expenditure costs, in view of prospective data on increasing the percentage of obese people in our nation.