

PROJECT: KETO-MINOX: The effect of isocaloric, energy-restrictive, KETOgenic diet on Metabolism, Inflammation, Nutrition deficiencies and OXidative stress in women with overweight and obesity

In last years, the incidence of obesity and overweight increase in an alarming speed. Caloric restriction is the most commonly used way of losing weight. In general, there is no single best nutritional strategy, as far as the diet is followed and energy-restriction is maintained. Therefore, it is important to choose the diet to obtain an efficient effect of losing weight, and a diet safe in adherence, without causing adverse effects. A ketogenic diet (KD) is a diet with a high-fat and low-carbohydrate regime resulting in the ketosis state in the body. And even though the popularity of this diet increases in general public and the number of its followers increases in the last years, there is limited knowledge about the safety and the efficiency of KD for weight loss. The available scientific literature indicates that following of KD could be beneficial for obesity management. However, still, there is a lack of comprehensive studies warrants the safety of using KD for bodyweight loss. To date, most of the studies had a small sample size, lack of control groups and the intervention was short term without the follow-up check. Moreover, the majority of studies with the KD were conducted with the very-low-calorie KD, and the beneficial effect on body weight can be related only to a high caloric deficit, not the nutritional composition. There is a great need for more randomized, controlled studies with much better monitoring on the diet adherence and focused on the physiological and metabolic effects of the diet composition. Despite the few studies conducted on the nutritional deficiencies, there is still a great need to conduct more studies on mineral, vitamin and nutrient intakes and their concentrations in the body. Taking all the above-presented information into account, this Project is proposed to give a better understanding of the metabolic effects of KD in overweight individuals in the most possible controlled way for nutritional studies – a food catering balanced by the experienced dietitian and delivered to each participant daily. The proposed Project is going to fill the gap in knowledge about the effects of KD on the inflammation, obesity-associated parameters, nutritional deficiencies, oxidative stress and metabolism in women with overweight and obesity. The final outcomes of the Project will give a direct answer to the questions asked by many individuals from the general public struggling with obesity and overweight, who wonder if the KD is safe and efficient as a weight loss solution.