Abstract

Introduction: The high prevalence of metabolic syndrome (MS) in Spain requires additional efforts for prevention and treatment. Objective: The study RESMENA-S aims to improve clinical criteria and biomarkers associated with MS through an integral therapy approach. Methods: The study is a randomized prospective parallel design in which it is expected to participate a total of 100 individuals. The RESMENA-S group (n = 50) is a personalized weight loss (30% energy restriction) diet, with a macronutrient distribution (carbohydrate / fat / protein) of 40/30/30, high meal frequency (7/day), low glycemic index/load and high antioxidant capacity as well as a high adherence to the Mediterranean diet. The control group (n = 50) is assigned to a diet with the same energy restriction and based on the American Heart Association pattern. Both experimental groups are under dietary and psychological control during 8 weeks. Likewise, for an additional period of 16 weeks of self-control, it is expected that volunteers will follow the same pattern but with no dietary advice. Results: Anthropometric data and body composition determinations as well as blood and urine samples are being collected at the beginning and end of each phase. This project is registered at www.clinicaltrials.gov with the number NCT01087086 and count with the Research Ethics Committee of the University of Navarra approval (065/2009). Conclusions: Intervention trials to promote the adoption of dietary patterns and healthy lifestyle are of great importance to identify the outcomes and nutritional mechanisms that might explain the link between obesity, metabolic syndrome and associated complications.

Keywords

Metabolic syndrome, Weight loss, Inflammation, Oxidative stress, Mediterranean diet.