

## **Abstract**

**INTRODUCTION:** Metabolic syndrome is a cluster of risk factors which tend to occur together and belong to the main causes of cardiovascular disease and type 2 diabetes mellitus. In the treatment of metabolic syndrome dominates pharmacotherapy of the individual components. However, this therapy usually addresses the consequences rather than the causes and puts the patient in the position of a passive recipient of drugs. Although a change of lifestyle should be the cornerstone of prevention and treatment of the metabolic syndrome, the vast majority of the general and professional public doesn't know how and to what extent it can help.

**OBJECTIVES:** The aim of this study was to find recommendations on physical activity and nutrition in relation to the prevention and treatment of metabolic syndrome and the mechanisms of action.

**METHODS:** Information was sought in scientific journals, books and websites of healthcare organizations. Review articles and meta-analysis were selected primarily from the journals, general information and recommendations related to the issues discussed were obtained from the books and websites.

**RESULTS:** The available literature confirmed that the modification of physical activity and nutrition can significantly improve all of the metabolic abnormalities associated with metabolic syndrome. Increased physical activity, reduced sedentary behavior, healthy diet, reduction of energy intake, adjustment of macronutrient composition and consumption of certain foods are effective strategies for reducing all the parameters of the metabolic syndrome, including obesity, dyslipidemia, insulin resistance, hypertension and endothelial dysfunction.

**CONCLUSION:** Considering the components of the metabolic syndrome have the same etiology, there should exist a common prevention and therapy. Therefore the cornerstone of prevention and treatment should be reduction of excessive energy intake, diet modification, increased physical activity and better stress management. The long-term health improvements can be achieved only by permanent lifestyle changes. The aim of the medical staff should be to encourage long-term adherence to these changes, especially through an individual approach and educating patients about the positive effects of lifestyle changes independently of weight reduction.