

ABSTRACT

Effectiveness and safety of selected dietary supplements

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Introduction: The market for dietary supplements in recent years has seen a noticeable upswing and supplements become for some people part of their daily lives, which could mean potential risks.

Objectives: To assess the effectiveness and risks of selected dietary supplements containing *Vaccinium macrocarpon*, *Serenoa repens*, *Cimicifuga racemosa*, *Glycine max* and *Silybum marianum*. At the same time, the aim of this work was to evaluate the safety of selected supplements from the point of view of content of additives, check undesirable effects of harmful additives and compare them with the identified undesirable effects of medicinal plants.

Methods: Efficacy and safety were assessed on the basis of scientific studies. It has been rated 5 best-selling groups of food supplements in 2011. The list of 100 best-selling nutritional supplements in the Czech Republic were given to us by one pharmacy chain. From the most selling supplements was made a list of the most frequently occurring substances content which was sent to the Ministry of Health with a request to add products with the same substance content of the current database of registered food supplements. Safety evaluation of selected dietary supplements in terms of additives based on the distribution of additives to categories of safety. Data were analyzed in Microsoft Excel 2010.

Results: The efficiency of medicinal plants has not been confirmed. Only 10 of 94 supplements in this evaluation can be described as safe according to the methodologies. There is no safe product of supplements containing *Serenoa repens* extract and *Cimicifuga racemosa* extract. As harmful is classified 57 % additives. Some harmful additives may cause undesirable effects similar to the undesirable effects of medicinal plants.

Conclusion: Food supplements are safe for the majority of the population, but in predisposed individuals may appear potential risk of negative influence for the human organism, maybe caused by presence of the additives.

Key words: Safety, dietary supplements, food additives