



## POSSIBLE ALGORITHMS FOR DETERMINING ADVERSE REACTIONS CAUSED BY FOOD SUPPLEMENTS IN ROMANIA

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**Introduction.** The advertising of food supplements on various media channels or in specialty stores with natural products and other stores, as well as the lack of informative and educational programs for the population on side effects and the interaction of food supplements with food and drugs, have led to the development of uncontrolled marketing of these products. Through this paper we want to present the algorithms that can be applied to determine the side effects caused by food supplements in Romania, the need to initiate a legislative project on reporting these side effects and educating the population on the consumption of food supplements.

**Material and methods.** PubMed, ResearchGate and EUR-Lex databases (online portal providing access to EU legislation) were analyzed between 2015-2021, based on search criteria: adverse reactions, ingredient new food, food supplements, algorithms.

**Results.** Dietary supplements concentrated sources of nutrients or other substances with a beneficial nutritional or physiological effect intended to supplement a normal diet. They can be sold as capsules, dragees, tablets, sachets or in bottles. Certain dietary supplements can cause multiple side effects, such as: impaired platelet function by decreased platelet aggregation, gastrointestinal side effects (diarrhea, vomiting), decreased wound healing/epithelialization, bacterial or fungal sepsis, most common in patients older. Probiotics that can cause human sepsis, generally in elderly patients and those suffering from chronic diseases, are *Lactobacilli* (strains of *L. rhamnensis*, due to its high translocation potential), *Lactobacillus sp.* bacteremia which is sometimes fatal, infectious endocarditis caused by *L. rhamnensis*, *L. casei*, *L. acidophilus*, *L. jensenii*, *L. plantarum* and *L. paracasei*. They can cause anaphylactic response in patients who have undergone cardiovascular surgery or localized infection in diabetes associated with old age and liver transplantation. Side effects have also been found with mineral supplements, omega 3 / fish oil, soy protein, soy protein, plant nutrients, antioxidants, anti-inflammatory, supplements for weight loss or bodybuilding, various botanical supplements. Multi-skeletal distortion, fatigue, pain and gastrointestinal symptoms and hepatic adverse events have been reported with the nutraceutical ingredient RYR (red rice yeast) at the doses recommended by EFSA (European Food Safety Authority). With the exception of "classic" foods (hazelnuts, nuts, eggs, etc.) known to cause certain side effects such as allergies, the development of the food industry has led to the emergence of foods eaten especially by teenagers, such as energy drinks. Frequent consumption of this type of drink was significantly associated with asthma, allergic rhinitis and atopic dermatitis, high stress, lack of sleep, poor school performance and suicide attempts in Korean adolescents.

**Conclusions.** It is imperative to legislate the reporting of adverse reactions caused by food supplements, including their interaction with food or medicine. The veracity of the practical applicability of the legislation and the existence of an educational program of the population, make this action not to become null and void. Using the algorithms applied to analyze the severity - causality of adverse reactions caused by drugs, in Romania, nutrivi-gence can be implemented for the health and safety of the population.