

3rd Symposium of Young Researchers on Pharmacognosy



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BOOK OF ABSTRACTS



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Dangerous and potentially dangerous components of weight loss products

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Based on the signals recorded in the RASFF (Rapid Alert System for Food and Feed), *Acacia rigidula* is a repeatedly emerging unauthorized ingredient in weight loss dietary supplements in the European Union [1,2]. The safety and potential efficacy of this plant has not been assessed scientifically [3]. In our work we presented the first systematic overview of the phytochemical and pharmacological data reported on safety and efficacy of *A. rigidula*, and the major issues which resulted in unauthorization of this taxon.

The analysis of RASFF data also revealed that DNP (2,4-dinitrophenol) was one of the major adulterants of weight loss products in the United Kingdom [1]. Our goal was to examine supplements potentially containing DNP marketed in Hungary. After a risk assessment process, we analyzed 17 samples of highly suspicious weight loss dietary supplements with HPLC, focusing on DNP content. Based on our observations there were no detectable DNP in the suspected 17 samples. However, a still unidentified compound was found in one sample, which will be further analyzed by NMR-spectroscopy.

As part of our comprehensive analysis on weight loss products, we aimed to prepare a systematic review and meta-analysis of synephrine, a common component of slimming products [4]. Synephrine is a pharmacologically similar substance to ephedrine, with less side effects, but there is no proper knowledge on its efficacy and safety based on human clinical studies [5,6]. We aimed to analyze the most relevant outcomes of efficacy and safety in a meta-analysis. The analyzed outcomes include cardiovascular effects, mean VO_2 , energy expenditure, Respiratory Exchange Ratio (RER), weight loss, changes in fat oxidation and carbohydrate utilization and ratings of perceived exertion.

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