SERBIAN NUTRITION SOCIETY

Book of abstracts
15th INTERNATIONAL CONGRESS ON NUTRITION
"Food, nutrition, and health within the framework of sustainable development"
www.conu2024.com

20-22nd November 2024
Hotel M, Bulevar Oslobodenja 56a, Belgrade

Supported by
Ministry of Science, Technological Development and Innovation of the Republic Serbia

Accredited by
The Health Council of the Ministry of Health
of the Republic Serbia

DRUŠTVO ZA ISHRANU SRBIJE

Knjiga apstrakata
15. KONGRES ISHRANE:
"Hrana, ishrana i zdravlje u okviru održivog razvoja"
www.conu2024.com

20.-22. novembar 2024
Hotel M, Bulevar Oslobođenja 56a, Beograd

Podržan od strane
Ministarstvo nauke, tehnološkog razvoja i inovacija

Akreditovan od strane
Zdravstvenog saveta Ministarstva zdravlja Republike Srbije

SCIENTIFIC COMMITTEE

Ljiljana Trajković Pavlović, Serbian Nutrition Soviety, Serbia, co-president

Slađana Šobajić, Faculty of Pharmacy, University of Belgrade, Serbia, co-president

Bato Korać, Faculty of Biology, University of Belgrade, Serbia

Bojana Vidović, Faculty of Pharmacy, University of Belgrade, Serbia

Brigita Đorđević, Faculty of Pharmacy, University of Belgrade, Serbia

Budimka Novaković, Faculty of Medicine, University of Novi Sad, Serbia

Danijela Ristić Medić, Institute for Medical Research, University of Belgrade, Serbia

Dasha Mihaylova, Food Technology University Plovdiv, Bulgaria

Dragan Milićević, Institute of Meat Hygiene and Technology, Belgrade, Serbia

Dušica Stojanović, Faculty of Medicine, University of Niš, Serbia

Evgene Benedik, University Medical Centre Ljubljana, Slovenija.

Ferenc Bagi, Faculty of Agriculture, University of Novi Sad, Serbia

Franceska Menniti Ippolito, National Institute of Health, Rome, Italy

Igor Spiroski, Faculty of Medicine, University of Skopje, North Macedonia

Ivana Beara, Faculty of Science, University of Novi Sad, Serbia

Jacques Delarue, Faculty of Medicine, Brest, France

Jelka Pleadin, Croatian Veterinary Institute, Zagreb, Croatia

Joanna Bajerska, Faculty of Food Science and Nutrition, Poznan, Poland

Ljilja Torović, Faculty of Medicine, University of Novi Sad, Serbia

Marijana Ćurčić, Faculty of Pharmacy, University of Belgrade, Serbia

Mirjana Pešić, Faculty of Agriculture, University of Belgrade, Serbia

Miloš Maksimović, Faculty of Medicine, University of Belgrade, Serbia

Miomir Nikšić, Faculty of Agriculture, University of Belgrade, Serbia

Nađa Vasiljević, Faculty of Medicine, University of Belgrade, Serbia

Nela Đonović, Faculty of Medicine, University of Kragujevac, Serbia

Philip Calder, Faculty of Medicine, University of Southampton, Southampton, Great Britain

Sanja Mazić, Faculty of Medicine, University of Belgrade, Serbia

Sandra Šipetić Grujičić, Faculty of Medicine, University of Belgrade, Serbia

Slađana Žilić, Maize Research Institute Zemun Polje, Belgrade, Serbia

Slavica Rađen, Medical faculty VMA, University of Defence ,Serbia

Vera Katić, Faculty of Veterinary Medicine, University of Belgrade (retired), Serbia

Viktor Nedović, Faculty of Agriculture, University of Belgrade, Serbia

CIP - Каталогизација у публикацији
Народна библиотека Србије, Београд

613.2(048)
663/664(048)

КОНГРЕС исхране “Храна, исхрана и здравље у оквиру одрживог развоја” (15 ; 2024 ; Београд)
Book of abstracts / 15th International Congress on Nutrition “Food, nutrition, and health within the framework of sustainable development”, 20-22 nd November 2024, Belgrade ; [organizer] Serbian Nutrition Society = Knjiga apstrakata / 15. Kongres ishrane “Hrana, ishrana i zdravlje u okviru održivog razvoja”, 20.-22. novembar 2024, Beograd ; [organizator] Društvo za ishranu Srbije ; [urednici Ljiljana Trajković Pavlović, Slađana Šobajić, Božidar Udovički]. - Beograd : Društvo za ishranu Srbije, 2024 (Beograd : Ton plus). - 196 str. ; 30 cm

Tiraž 120.

ISBN 978-86-909633-7-9

а) Исхрана -- Апстракти б) Храна -- Апстракти

COBISS.SR-ID 156606473

dients, prohibited or presented in doses higher than allowed (18%), chemical contaminants (18%), pharmacologically active substances (14%), nutrients and physiologically active ingredients, unauthorized or presented in non-allowed content (10%), while the rest were related to unauthorized additives and processing aids, microbiological and physical contaminants, and others. Some notifications included more than one reason for the notification. Regarding the risk decision, more than 40% of all notifications were classified as a serious risk. The United States was the most frequently notified origin country, followed by the United Kingdom, Netherlands, India and Germany. Overall, increasing RASFF notifications indicate the need for more harmonized legislation on food supplements and continuous monitoring of compliance with these products on the market by governing authorities.

Acknowledgements: This research was funded by the Ministry of Science, Technological Development and Innovation of the Republic of Serbia, Contract No. 451-03-65/2024-03/ 200161.

Risk and benefit of omega-3 fatty acids food supplements for pregnant and breastfeeding women

Jelena Banović Fuentes[1], Milan Jovanović[2], Danijela Lukić[2], Ljilja Torović[1,2]

[1]University of Novi Sad Faculty of Medicine Department of Pharmacy, Novi Sad, Serbia; [2]Institute of Public Health of Vojvodina, Novi Sad, Serbia

The well-being of pregnant and breastfeeding women and their offspring is extremely important, both for themselves and for society as a whole. And well-being is not possible without quality nutrition, which ensures the intake of all the necessary nutrients through food that is safe regarding the presence of hazardous compounds. However, modern diet is often depleted of omega-3 fatty acids (ω-3-FA), especially eicosapentaenoic (EPA) and docosahexaenoic (DHA). Considering that foods rich in these nutrients, such as fish (salmon, mackerel, herring, sardines, tuna, cod, krill, etc.) and algae, are not so common on our tables, use of the ω-3-FA food supplements can be seen as a simple yet effective way for their intake. The health benefits of ω-3-FA are summarized in authorized health claims - DHA maternal intake contributes to: the normal brain / eye development of the foetus and breastfed infants / the normal visual development of infants up to 12 months of age. On the other hand, associated health concerns could not be neglected, especially in case of methylmercury, a potential contaminant of fish oil, responsible for developmental neurotoxicity. Considering that recent survey conducted in the Republic of Serbia and the Republic of Srpska showed that the use of ω-3-FA via supplements was reported by nearly half of pregnant and breastfeeding women, this study was undertaken to explore the capacity of the ω-3-FA supplements intended for them and available on these markets to fulfil the nutritional requirements as well as pose health risk. A total of 11 ω-3-FA supplements, containing fish (10) or algae oil (1), were subjected to GC-FID analysis of their FA profiles and DMA analysis of mercury contamination. The intake of EPA and DHA, assessed taking into account daily doses of supplements recommended on their labels, significantly contributed to the current nutritional recommendation for daily intake of EPA+DHA of 250mg and additional DHA intake of 100-200mg. Very low amounts of mercury found in fish oil supplements led to a practically negligible contribution of 0,03±0,04% to the oral reference dose or 0,02±0,02% to the tollerable weekly intake, corresponding to an increase of the usual dietary intake of mercury of 0.01%. In case of inorganic mercury, expected in algal oil, the contribution was even lower. In conclusion, the study findings indicate an excellent ratio of benefit obtained through intake of ω-3-FA and risk attributed to mercury contamination of the ω-3-FA food supplements for pregnant and breastfeeding women.

Acknowledgement: This work was financed by the AP Vojvodina Provincial Secretariat for Higher Education and Scientific Research –Grant No. 142-451-312/2023-01/1.