



## Abstract

# Nutritional and Anthropometric Status of Serbian Adults 10–74 Years Old: Results from European Food Safety Authority (EFSA) EU Menu Food Consumption Survey 2017–2021<sup>†</sup>

Jelena Milešević \*<sup>ID</sup>, Milica Zeković <sup>ID</sup>, Ivana Šarac <sup>ID</sup>, Marija Knez, Marija Takić, Jasmina Debeljak and Mirjana Gurinović

Centre of Research Excellence in Nutrition and Metabolism, Institute for Medical Research, National Institute of Republic of Serbia, University of Belgrade, 11000 Belgrade, Serbia; zekovicmilica@gmail.com (M.Z.); ivanasarac@yahoo.com (I.Š.); marijaknez186@gmail.com (M.K.); marijapo2001@gmail.com (M.T.); jasmina.martacic@imi.bg.ac.rs (J.D.); mirjana.gurinovic@gmail.com (M.G.)

\* Correspondence: jelena.milesevic@gmail.com

<sup>†</sup> Presented at the 14th European Nutrition Conference FENS 2023, Belgrade, Serbia, 14–17 November 2023.

**Abstract:** The Serbian National Food Consumption Survey on adults from 10 to 74 years old, including pregnant women and vegetarians, was conducted in compliance with the EFSA EU Menu project support and guidance from 2017 to 2022. Valid data were collected from a total of 3018 participants with 856 adolescents aged 10 to 17 years, 1155 adults aged 18 to 64, 581 elderly subjects aged 65 to 74 years, 145 pregnant women, and 281 persons following a vegetarian diet. Data collection was conducted using a national Survey Pack designed for the project, including the following: a general questionnaire, an age-appropriate Food Propensity Questionnaire, an International Physical Activity Questionnaire, and 24 h dietary recall. The advanced nutritional platform Diet Assess and Plan (DAP) was applied for data storage, processing, and the creation of the final dataset for transfer to EFSA. The Serbian food composition database was used and updated during the project as a resource of food information for all foods and recipes that were consumed by the study cohort. Regardless of age and gender category, the majority (56%) of adults had normal weight according to the Body Mass Index, while 21% were overweight, and 15.5% were underweight. The average daily energy intake was 2178.72 kcal, while overall contributions of carbohydrates, protein, and fat to the total energy intake were 43.37%, 15.47%, and 41.16%, respectively. The proportions of macronutrient intake deviated from the dietary reference values, particularly for fat, which was often too high, where sunflower oil was the major source of fat in diets. Out of the 3018 participants, 98% had breakfast, 99% had lunch, and 95% had dinner, while approx. 80% had snacks between main meals. The highest energy intake was recorded during lunch, 706.5 kcal (32% TE). The survey results provide valuable insight into the nutritional status and dietary habits of adults from 10 to 74 years old living in Serbia. The Serbian food consumption database serves as an evidence platform for decision-making processes in public health nutrition policies and strategies, diet monitoring, exposure risk assessments, and interventions targeting identified nutritional challenges in particular population groups. Harmonized data are part of the EFSA comprehensive food consumption database.

**Keywords:** food consumption; dietary assessment; nutritional status; body mass index; EFSA EU Menu



**Citation:** Milešević, J.; Zeković, M.; Šarac, I.; Knez, M.; Takić, M.; Debeljak, J.; Gurinović, M.

Nutritional and Anthropometric Status of Serbian Adults 10–74 Years Old: Results from European Food Safety Authority (EFSA) EU Menu Food Consumption Survey 2017–2021. *Proceedings* **2023**, *91*, 15. <https://doi.org/10.3390/proceedings2023091015>

Academic Editors: Sladjana Sobajic and Philip Calder

Published: 14 November 2023



**Copyright:** © 2023 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

**Author Contributions:** Writing and conceptualization: J.M. and M.G.; methodology: M.G.; investigation and data collection: J.M., M.Z., I.Š., M.T., J.D. and M.K.; validation: I.Š., M.Z. and M.T.; formal analysis: J.M.; writing—review and editing: I.Š., J.M. and M.G.; supervision: M.G.; project administration: M.G., J.M. and M.Z.; funding acquisition: M.G. All authors have read and agreed to the published version of the manuscript.

**Funding:** This study was supported by the Ministry of Science, Technological Development and Innovation, Republic of Serbia, Grant No. 451-03-47/2023-01/200015 from 3 February 2023.

**Institutional Review Board Statement:** The study was conducted in accordance with the guidelines laid down in the Declaration of Helsinki and all procedures involving human subjects were approved by the Institute for Medical Research Ethics Committee in Serbia on 8 December 2017 (EO 123/2017).

**Informed Consent Statement:** Informed consent was obtained from all subjects involved in the study.

**Data Availability Statement:** Results attained in this study are included in the manuscript. Individual data are not available due to official legal, organizational and data security policies, and ethical restrictions.

**Conflicts of Interest:** The authors declare no conflict of interest.

**Disclaimer/Publisher's Note:** The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.