

Food Safety And Regulatory Measures

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The level of food safety knowledge and food handling practices among Serbian university students

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Statement of the Problem: The final consumers present an important link in the food chain, as their knowledge and safe food purchase, preparation, cooking and handling practice at home are very important for the prevention of sporadic outbreaks, which count for 95% of all food-borne poisonings. Literature data indicated that there are many gaps in food safety knowledge and often poor hygiene practice among final consumers. Even more, some groups of food handlers, such as young adults (18-29 years old), men and individuals with education further than high school, believe that they know how to safely handle food, but their self-reported food handling behaviors do not support this assumption. Therefore it was the aim of this study to evaluate food safety knowledge and food handling practices among students of the final year of undergraduate studies of different educational backgrounds, who are studying at two Universities in the Republic of Serbia.

Methodology & Theoretical Orientation: A structured, self-administrative questionnaire was designed and used to assess the level of food safety knowledge and hygiene practices among Serbian students. Food handling practices section included 14 questions, while the food safety knowledge section included 24 questions. In total, 240 students were involved in this study. For each participant, the food safety knowledge score and food handling practices score was calculated. Additionally, major knowledge gaps in food safety knowledge were identified.

Findings: The average food safety knowledge score for all participants was 56%. The knowledge score

among students was significantly associated with the education and students of Veterinary, Technology and Medical Faculty obtained significantly better scores (65%, 65% and 62%, respectively) compared to students of Agriculture, Economy and Faculty of Languages (53%, 50% and 43%, respectively $p < 0.05$). Nevertheless, the self-reported food handling practices were significantly lower and the average value for all participants was 46%. Again, students of Veterinary, Technology and Medical Faculty obtained significantly better scores (56%, 54% and 47%, respectively) than students of Agriculture, Economy and Faculty of Languages (40%, 38% and 43%, respectively $p < 0.05$). The results indicated that 95% of respondents apply good practice of hand hygiene before preparing food, while only 8.7% of respondents knew the correct procedure of handling food, when there is a cut on their hands. Only 12.5% of students knew that food contaminated with food poisoning bacteria cannot be recognized by visual, olfactory or taste checks. The students showed the best knowledge in the field of food storage conditions, with 69.1% of correct answers, while the lowest percentage of correct answers, being 35.3% was determined in the field of food preparation.

Conclusion & Significance: The results obtained in this study indicated that students' food safety knowledge and more important food handling practices should be seriously improved. To increase the level of knowledge and awareness of young people about food safety, additional training and educational programs should be conducted and the effectiveness of these trainings should be verified.

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Recent Publications

1. Miloradovic Z, Smigic N, Djekic I, Tomasevic I, Kljajevic N, Nedeljkovic A and Miocinovic J (2018) The influence of NaCl concentration of brine and different packaging on goat white brined cheese characteristics. *International Dairy Journal* 79:24-32.
2. Rajkovic A, Smigic N, Djekic I, Popovic D, Tomic N, Krupcevic N, Uyttendaele M and Jacxsens L (2017) The performance of food safety management systems in the raspberries chain. *Food Control* 80:151-161.
3. Smigic N, Djekic I, Tomasevic I, Stanisic N, Nedeljkovic A, Lukovic V and Miocinovic J (2017) Organic and conventional milk—insight on potential differences. *British Food Journal* 119 (2):366-376.
4. Smigic N, Djekic I, Martins M L, Rocha A, Sidiropoulou N and Kalogianni E P (2016) The level of food safety knowledge in food establishments in three European countries. *Food Control* 63:187-194.
5. Smigic N, Antic D, Blagojevic B, Tomasevic I and Djekic I (2016) The level of food safety knowledge among meat handlers. *British Food Journal* 118(1):9-25.

Biography

Nada Smigic has obtained her PhD degree in Food Microbiology in the Faculty of Bioscience Engineering at the University of Ghent, Belgium. Currently, she is working as an Associate Professor in the Department of Food Safety and Quality Management, Faculty of Agriculture at University of Belgrade, Republic of Serbia. Her research interest is in the field of food microbiology, food safety, food hazards control and elimination from the food chain, food legislation and food safety management systems. She has published over 40 articles in international journals and has been serving as a Reviewer for a number of international journals.

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