



Abstract

Multi-Faceted Nutritional Science Demonstrated through the Prism of Sugar—A Scoping Review on Sugar Intake Associated with Quality of Life in Children and Adolescents [†]

Stefania Noerman ^{1,*}, Ute Nöthlings ², Danijela Ristic-Medic ³, Bryndís Eva Birgisdóttir ⁴, Inge Tetens ⁵

- Food and Nutrition Science Division, Department of Life Sciences, Chalmers University of Technology, 41258 Gothenburg, Sweden
- Institute of Nutrition and Food Science, Nutritional Epidemiology, Rheinische-Friedrich-Wilhelms University Bonn, 53115 Bonn, Germany; noethlings@uni-bonn.de
- Group of Nutritional Biochemistry and Dietology, Centre of Research Excellence in Nutrition and Metabolism, Institute for Medical Research, National Institute of Republic Serbia, University of Belgrade, 11000 Belgrade, Serbia; danijelar@imi.bg.ac.rs
- ⁴ Unit for Nutrition Research, Faculty of Food Science and Nutrition, University of Iceland and Landspitali University Hospital, 102 Reykjavík, Iceland; beb@hi.is
- Department of Nutrition, Exercise, and Sports, University of Copenhagen, 2200 Copenhagen N, Denmark; ite@nexs.ku.dk
- Institute of Public Health and Clinical Nutrition, University of Eastern Finland, 70210 Kuopio, Finland; marjukka.kolehmainen@uef.fi
- * Correspondence: noerman@chalmers.se
- [†] Presented at the 14th European Nutrition Conference FENS 2023, Belgrade, Serbia, 14–17 November 2023.

Abstract: Given our current knowledge and insights into the nature of nutrition, a simplistic approach to understanding the role of nutrition in relation to health outcomes appears insufficient as a scientific base for setting nutrition policies. To raise this issue, we performed a scoping review to evaluate the relationship between sugar intake, quality of life (QoL), and well-being in children and adolescents. Sugar was selected as it is an essential part of many different foods and dietary patterns. Its consumption is motivated by various aspects, such as social relationships, economic status, individual habits, and taste preferences. Childhood and adolescence are important periods in the life span influencing individual dietary habits and taste preferences but have been overlooked. We developed a framework and performed a structured literature search for articles published in English between 2001 and 2023 in three databases (Pubmed, Scopus, and Web of Science). This search resulted in 21 full-text eligible papers with highly heterogeneous exposure and outcome measures. Most studies found a negative association between the intake of sugar, sugar-sweetened beverages, or sweets, and various QoL outcomes, including food insecurity, sleep and sleep-related outcomes, and (oral) health-related QoL. This scoping review showed that the inclusion of more varied endpoints than only non-communicable diseases or caries could add more dimensions to the evidence underlying the association between sugar and health. The application of interdisciplinary approaches considering more aspects of sugar intake could give a more holistic view of nutrition when considering dietary recommendations or developing dietary policies, especially for children.

Keywords: nutrition; methodology; quality of life; dietary guidelines; well-being

Author Contributions: Conceptualization and methodology, all authors; literature search, title screening, S.N.; abstract and full-text screening, U.N., D.R.-M., B.E.B., I.T. and M.K.; writing—original draft preparation and visualization, S.N.; writing—review and editing, U.N., D.R.-M., B.E.B., I.T. and M.K. All authors have read and agreed to the published version of the manuscript.



Citation: Noerman, S.; Nöthlings, U.; Ristic-Medic, D.; Birgisdóttir, B.E.; Tetens, I.; Kolehmainen, M. Multi-Faceted Nutritional Science Demonstrated through the Prism of Sugar—A Scoping Review on Sugar Intake Associated with Quality of Life in Children and Adolescents. *Proceedings* 2023, 91, 81. https://doi.org/10.3390/proceedings2023091081

Academic Editors: Sladjana Sobajic and Philip Calder

Published: 24 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/).

Proceedings **2023**, 91, 81 2 of 2

Funding: S.N. has received funding from Formas (Dnr: 2019-02201) under the umbrella of the European Joint Programming Initiative "A Healthy Diet for a Healthy Life" (JPI HDHL) and of the ERA-NET Cofund HDHL INTIMIC (GA N° 727565 of the EU Horizon 2020 Research and Innovation Programme).

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: All included articles are publicly available.

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.