

Editorial

Dietary Interventions for Human General and Oral Health and Disease Reduction

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According to the World Health Organization (WHO), “a healthy diet is essential for good health and nutrition.” [1]. This Special Issue is dedicated to enhancing the understanding of nutrition as a critical component of human well-being, particularly in relation to various systemic and oral diseases. The aim is to approach diet from the perspective of healthcare professionals, highlighting the significance of maintaining their own health in busy and stressful working environments. This Special Issue, which is comprised of ten papers, underlines the profound impact of nutritional and dietary interventions on disease reduction and overall oral and systemic health improvement.

In this context, the first contribution deals with diabetes, a widespread metabolic disease, and shows the linkage of nutritional recommendations with affected patients with type 2 diabetes mellitus (T2DM), illustrating how nutritional recommendations can substantially benefit these patients. Similarly, the third contribution explores obesity and the ketogenic diet, emphasizing the importance of reducing the intake of sweet and salty snacks for effective weight management. The second contribution presents innovative technological solutions, demonstrating the positive effects of incorporating probiotics, prebiotics, and various gelling agents into mulberry jellies.

Weight management and disease control during the COVID-19 pandemic are the focus of the fourth contribution, which examines the use of Clinical Decision Support Systems (CDSSs) for patients aiming to lose weight. Dietary supplementation is further explored in the fifth and sixth contributions, which assess the benefits of hydroxytyrosol from olive oil by-products for hypercholesterolemic individuals and the combined use of black garlic and pomegranate to regulate blood pressure, respectively. The eighth contribution discusses the role of mushrooms as functional foods in managing Ménière’s disease. Additionally, the tenth paper investigates drug-food interactions within the Mediterranean diet, highlighting its relevance in disease management.

This Special Issue also addresses dental and oral health. The seventh contribution examines the impact of mental health, legal status, and discrimination on dental health among migrants and refugees in ten European countries, as well as the frequency of dental service utilization. Finally, the ninth contribution explores the relationship between vitamin D deficiency and the risk of dental caries in adults.

Oral health is a vital component of overall health, significantly impacting both quality of life and systemic health [2,3]. Poor oral health is linked to numerous systemic conditions, including cardiovascular disease, diabetes, respiratory infections, and adverse pregnancy outcomes [4,5]. Despite its importance, oral health is often neglected, particularly among underprivileged populations who face barriers to accessing dental care [6]. This neglect exacerbates health disparities and leads to a cycle of poor health outcomes [7]. Research on the link between oral health and systemic health in underprivileged populations is crucial for several reasons. First, it helps to identify specific risk factors and health behaviors that contribute to poor oral health in these communities [8,9]. Understanding these factors



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can inform targeted interventions and public health strategies designed to improve access to dental care and promote healthy practices [10]. Second, such research can illuminate the broader health implications of poor oral health, emphasizing the need for integrated healthcare approaches that address both dental and systemic health [11].

Overall, the importance of this Special Issue lies in its comprehensive exploration of how nutrition intersects with various health conditions and the above-mentioned concerns. Highlighting evidence-based dietary interventions and their effects on disease management and prevention as mentioned by all authors, this collection of papers reinforces the critical role of nutrition in enhancing overall health and well-being.

Conflicts of Interest: The authors declare no conflicts of interest.

List of Contributions

1. Gortzi, O.; Dimopoulou, M.; Androutsos, O.; Vraka, A.; Gousia, H.; Bargiota, A. Effectiveness of a Nutrition Education Program for Patients with Type 2 Diabetes Mellitus. *Appl. Sci.* **2024**, *14*, 2114. <https://doi.org/10.3390/app14052114>.
2. Szydłowska, A.; Zielińska, D.; Sionek, B.; Kołożyn-Krajewska, D. The Mulberry Juice Fermented by *Lactiplantibacillus plantarum* O21: The Functional Ingredient in the Formulations of Fruity Jellies Based on Different Gelling Agents. *Appl. Sci.* **2023**, *13*, 12780. <https://doi.org/10.3390/app132312780>.
3. Markovikj, G.; Knights, V.; Gajdoš Kljusurić, J. Body Weight Loss Efficiency in Overweight and Obese Adults in the Ketogenic Reduction Diet Program—Case Study. *Appl. Sci.* **2023**, *13*, 10704. <https://doi.org/10.3390/app131910704>.
4. Detopoulou, P.; Papandreou, P.; Papadopoulou, L.; Skouroliakou, M. Implementation of a Nutrition-Oriented Clinical Decision Support System (CDSS) for Weight Loss during the COVID-19 Epidemic in a Hospital Outpatient Clinic: A 3-Month Controlled Intervention Study. *Appl. Sci.* **2023**, *13*, 9448. <https://doi.org/10.3390/app13169448>.
5. Cicero, A.F.G.; Fogacci, F.; Di Micoli, A.; Veronesi, M.; Grandi, E.; Borghi, C. Hydroxytyrosol-Rich Olive Extract for Plasma Cholesterol Control. *Appl. Sci.* **2022**, *12*, 10086. <https://doi.org/10.3390/app121910086>.
6. Fogacci, F.; Di Micoli, A.; Grandi, E.; Fiorini, G.; Borghi, C.; Cicero, A.F.G. Black Garlic and Pomegranate Standardized Extracts for Blood Pressure Improvement: A Non-Randomized Diet-Controlled Study. *Appl. Sci.* **2022**, *12*, 9673. <https://doi.org/10.3390/app12199673>.
7. Karnaki, P.; Katsas, K.; Diamantis, D.V.; Riza, E.; Rosen, M.S.; Antoniadou, M.; Gil-Salmerón, A.; Grabovac, I.; Linou, A. Dental Health, Caries Perception and Sense of Discrimination among Migrants and Refugees in Europe: Results from the Mig-HealthCare Project. *Appl. Sci.* **2022**, *12*, 9294. <https://doi.org/10.3390/app12189294>.
8. Bell, V.; Fernandes, T.H. Mushrooms as Functional Foods for Ménière's Disease. *Appl. Sci.* **2023**, *13*, 12348. <https://doi.org/10.3390/app132212348>.
9. Peponis, M.; Antoniadou, M.; Pappa, E.; Rahiotis, C.; Varzakas, T. Vitamin D and Vitamin D Receptor Polymorphisms Relationship to Risk Level of Dental Caries. *Appl. Sci.* **2023**, *13*, 6014. <https://doi.org/10.3390/app13106014>.
10. Spanakis, M.; Patelarou, E.; Patelarou, A. Drug-Food Interactions with a Focus on Mediterranean Diet. *Appl. Sci.* **2022**, *12*, 10207. <https://doi.org/10.3390/app122010207>.

References

1. WHO Healthy Diet. Available online: <https://www.who.int/initiatives/behealthy/healthy-diet#:~:text=A%20healthy%20diet%20is%20essential,are%20essential%20for%20healthy%20diet> (accessed on 27 May 2024).
2. Oral Health in America: Advances and Challenges [Internet]. National Institute of Dental and Craniofacial Research: Bethesda, MD, USA, 2021 Dec. Section 1, Effect of Oral Health on the Community, Overall Well-Being, and the Economy. Available online: <https://www.ncbi.nlm.nih.gov/books/NBK578297/> (accessed on 27 May 2024).
3. Baiju, R.M.; Peter, E.; Varghese, N.O.; Sivaram, R. Oral Health and Quality of Life: Current Concepts. *J. Clin. Diagn. Res.* **2017**, *11*, ZE21–ZE26. [[CrossRef](#)] [[PubMed](#)]
4. Cho, G.J.; Kim, S.Y.; Lee, H.C.; Kim, H.Y.; Lee, K.M.; Han, S.W.; Oh, M.J. Association between dental caries and adverse pregnancy outcomes. *Sci. Rep.* **2020**, *10*, 5309. [[CrossRef](#)] [[PubMed](#)]
5. Botelho, J.; Mascarenhas, P.; Viana, J.; Proença, L.; Orlandi, M.; Leira, Y.; Chambrone, L.; Mendes, J.J.; Machado, V. An umbrella review of the evidence linking oral health and systemic noncommunicable diseases. *Nat. Commun.* **2022**, *13*, 7614. [[CrossRef](#)] [[PubMed](#)]

6. Ghanbarzadegan, A.; Balasubramanian, M.; Luzzi, L.; Brennan, D.; Bastani, P. Inequality in dental services: A scoping review on the role of access toward achieving universal health coverage in oral health. *BMC Oral Health* **2021**, *21*, 404. [[CrossRef](#)] [[PubMed](#)]
7. National Academies of Sciences, Engineering, and Medicine; Health and Medicine Division; Board on Population Health and Public Health Practice; Committee on Community-Based Solutions to Promote Health Equity in the United States. The Root Causes of Health Inequity. In *Communities in Action: Pathways to Health Equity*; Weinstein, J.N., Geller, A., Negussie, Y., Baciu, A., Eds.; National Academies Press: Washington, DC, USA, 2017. Available online: <https://www.ncbi.nlm.nih.gov/books/NBK425845/> (accessed on 27 May 2024).
8. Nazir, M.A.; Izhar, F.; Akhtar, K.; Almas, K. Dentists' awareness about the link between oral and systemic health. *J. Family Community Med.* **2019**, *26*, 206–212. [[CrossRef](#)] [[PubMed](#)]
9. Schwarz, C.; Hajdu, A.I.; Dumitrescu, R.; Sava-Rosianu, R.; Bolchis, V.; Anusca, D.; Hanghichel, A.; Fratila, A.D.; Oancea, R.; Jumanca, D.; et al. Link between Oral Health, Periodontal Disease, Smoking, and Systemic Diseases in Romanian Patients. *Healthcare* **2023**, *11*, 2354. [[CrossRef](#)] [[PubMed](#)]
10. de Abreu, M.H.N.G.; Cruz, A.J.S.; Borges-Oliveira, A.C.; Martins, R.C.; Mattos, F.F. Perspectives on Social and Environmental Determinants of Oral Health. *Int. J. Environ. Res. Public Health* **2021**, *18*, 13429. [[CrossRef](#)] [[PubMed](#)]
11. Nakre, P.D.; Harikiran, A.G. Effectiveness of oral health education programs: A systematic review. *J. Int. Soc. Prev. Community Dent.* **2013**, *3*, 103–115. [[CrossRef](#)] [[PubMed](#)]

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