


Abstract

Dietary Habits as Acne Trigger [†]

Esma Karahmet Farhat ^{1,*}, Ines Banjari ¹  and Tamara Jovović Sadiković ²

¹ Department of Food and Nutrition Research, Faculty of Food Technology, Josip Juraj Strossmayer University of Osijek, F. Kuhaca 18, 31000 Osijek, Croatia; inesbanjari@gmail.com

² Department of Dermatology, Sarajevo School of Science and Technology, 71000 Sarajevo, Bosnia and Herzegovina; dr.tamarajovovic@gmail.com

* Correspondence: esmakarahmet1@gmail.com

[†] Presented at the 14th European Nutrition Conference FENS 2023, Belgrade, Serbia, 14–17 November 2023.

Abstract: Acne is the most common skin disease in the world and reason to visit a dermatologist. It affects more than 95% of adolescents, 3% of men and 12% of adult women. Exposure to stress, fast lifestyles, hormonal imbalances, gut dysbiosis, associated diseases, and eating habits can significantly contribute to the worsening of acne. The modern concept of acne treatment is holistic, and pays significantly more attention to the human microbiota than before. A properly balanced diet provides nutrients that the human body needs to function and reduces the appearance of acne. Significant differences between adults and adolescents have been observed in the daily intake of PUFAs and calcium, and nearly significant differences have been reported for vitamin B intake. Adults consume a more balanced diet compared to adolescents. Subjects and methods: Using a questionnaire, data were collected (anthropometry, general health status, comorbidities, use of medicines and supplements, dietary and lifestyle habits; additional data on women and the menstrual cycle) from 60 dermatological patients of both genders, aged 15–46 years, from Sarajevo. A significance level of 0.05 was used. Analysis was performed using Statistica software (version 14.0, StatSoft Inc., Tulsa, OK, USA). The research aimed to determine whether and how dietary habits influence the severity, etiology, and incidence of acne in both genders. Results and Discussion: The average BMI of the patients was 22.4 ± 3.4 kg/m². It was found that men have less acne, but a more severe form. In total, 53% of patients had a positive family history of acne. The majority of acne has an unknown etiology (41.7%), followed by bacterial (30%) and hormonal (28.3%) causes. Hormonal acne was present exclusively in women. The average compliance of the patient's diet with the principles of the Paleo diet was 54%, and the respondents most rarely consumed fish, and very often sweets, salty and fast food. Significant differences between the adults and adolescents were found in the daily intake of PUFAs ($p = 0.023$) and calcium ($p = 0.049$), and nearly significant differences in vitamin B intake (pvit B9 = 0.059). Supplements were taken daily by 82% of the respondents, most often including herbal teas (67%), vitamin C (40%), and vitamin D (38%). Whey protein was consumed by 10% of the patients, and it has been confirmed that this can be a trigger for the appearance of acne. Conclusions: A positive correlation was found between the number of meals and the severity of acne. Patients with fewer meals per day had a mild form of acne.

Keywords: acne; adolescents; adults; dietary habits; supplements



Citation: Karahmet Farhat, E.; Banjari, I.; Jovović Sadiković, T. Dietary Habits as Acne Trigger. *Proceedings* **2023**, *91*, 340. <https://doi.org/10.3390/proceedings2023091340>

Academic Editors: Sladjana Sobajic and Philip Calder

Published: 19 February 2024



Copyright: © 2024 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: Conceptualization, methodology, software, validation, formal analysis, I.B. and E.K.F.; investigation, T.J.S.; resources, data curation, writing—original draft preparation, E.K.F.; writing—review and editing, I.B.; visualization, E.K.F.; supervision, project administration, I.B. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: The study was conducted in accordance with the Declaration of Helsinki, and approved by the Ethics committee for human research of the Faculty of Food Technology Osijek (opinion no. 006-06/21).

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

Data Availability Statement: The data presented in this study are available on request from the corresponding author.

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.