

Impact of Mediterranean Diet on Immunity

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Editorial

It is generally recognised that, among other external influencing variables, the diet, also known as the exposome, plays an important role in the prevention and management of various diseases. The nutritional and non-nutritive bioactive compounds (BC) included in dietary patterns have a direct influence on the individual (first on the intestinal epithelial barrier and later on distant tissues), on the microbiota (composition and functionality), and on the immune system (the intestinal immunity and also the systemic). The Mediterranean diet (MD) has the most scientific data supporting a good influence on health and outlining the mechanisms involved among the many western diets. So far, a search on scientific platforms for "Mediterranean Diet AND Health" has yielded over 5,000 publications, whereas searches focused on the overall mechanisms involved, such as "Mediterranean Diet AND Microbiota" or "Mediterranean Diet AND Immunity".

The MD is a plant-based eating pattern that was common in pre-globalized food systems in nations like Greece, Spain, and Italy, and is linked to improved health due to the regular consumption of cereals, legumes, vegetables, fruits, olive oil, and nuts, among other foods. These meals contain prebiotic fibre, polyunsaturated fatty acids with anti-inflammatory qualities, a range of BC with antioxidative properties such as polyphenols, and adequate amounts of vitamins and minerals. The appropriate control of the microbiota and activation of the host (immunity) responses involved in health promotion and disease prevention are dependent on a good balance of these components. In this regard, Nutrients released two intriguing review studies this year: the first on the MD's interaction with the gut microbiota and immunity, and the second on the processes involved in these effects by flavanols, a subset of flavonoids.

The structure, diversity, and dynamics of the gut microbiota as they relate to eubiosis and dysbiosis in health and disease. They ingeniously integrated both systems and explored deeper into the mechanisms involved, focusing on the receptors and pathways triggered by the different microbial communities and their products, after analysing gut immunobiology. They also emphasised the activation of pattern recognition receptors (PRRs), the balance of T cell populations (Th17 vs. Treg), and the exact interaction of key bacterial metabolites with host receptors, such as short-chain fatty acids (SCFA). They accurately compiled the role of dietary components (monounsaturated and polyunsaturated fatty acids, fruits and vegetables rich in polyphenols, dietary fibre, vitamins and trace elements) abundant in MD on the gut microbiota, immune system, and intestinal barrier, as well as the impact at the systemic

level, after introducing the MD main components. Finally, the authors discussed the Western diet's impact as a model of unhealthy eating, particularly in terms of refined carbs, harmful fats, excessive meat and fast-food consumption, salt, and additives.

In general, both publications presented an overview of the mechanisms involved in diet-induced microbiota and immune system modification. In summary, numerous non-digestible dietary components like polyphenols and fibre can act as prebiotics or alter microbiota or host functions after microbial metabolism (microbiota-dependent mechanisms). In addition, nutritional substances produce host advantages through microbial-independent pathways, such as direct contact with epithelial barrier receptors or gut immune cells. Dietary components have also been suggested to have direct anti-infective actions [1-5].

There are some strong evidence for the multidirectional interaction of dietary components with the microbiota and immunology, illustrating how all three systems interact and influence one other's actions. As a result, while researching a subject's immunological or inflammatory condition, more attention should be paid to food and microbiota composition. The MD appears to be a solid option among the numerous therapies to control this complicated interplay.

References

1. De Onis, Mercedes, Monika Blössner, and Elaine Borghi. "Global prevalence and trends of overweight and obesity among preschool children." *Am J Clin Nutr* 92 (2010): 1257-1264.
2. Lavie, Carl J, Paul A. McAuley, Timothy S. Church, Richard V. Milani, and et al. "Obesity and cardiovascular diseases: Implications regarding fitness, fatness, and severity in the obesity paradox." *J Am Coll Cardiol* 63 (2014): 1345-1354.
3. Cabrera, S. García, N. Herrera Fernández, C. Rodríguez Hernández, Mariela Nissensohn, and et al. "KIDMED test;Prevalence of Low Adherence To the Mediterranean Diet in Children and Young; a Systematic Review." *Nutr Hosp* 32 (2015): 2390-2399.
4. Grosso, Giuseppe, Antonio Mistretta, Stefano Marventano, Agata Purrello, and et al. "Beneficial effects of the Mediterranean diet on metabolic syndrome." *Curr Pharm Des* 20 (2014): 5039-5044.
5. Guyenet, Stephan J. "Impact of Whole, Fresh Fruit Consumption on Energy Intake and Adiposity: A Systematic Review." *Front Nutr* 6(2019): 66.

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