

Physical activity and diet: the two pillars of hercules for health and wellbeing

News by the World Health Organization over the past few days claimed that eating too much red meat has been related to health adverse events including shorter lifespan, cardiovascular disease, and cancers. Remembering Paracelso aphorism: "*Sola dosis fecit venenum*", and without generate alarmism, moderate meat consumption can be part of a balanced diet contributing with relevant nutrients that are beneficial to health. In any case, the highly antioxidant Mediterranean diet (MeD), among different dietary habits, is characterized by a high vegetable and fruit intake, consumption of fish and extravirgin olive oil, low intake dairy derivatives, moderate red wine use. Interestingly, red meat consumption is relegated to 1-2 times/week in this dietary pattern, which characterized for centuries the habits and culture of population living around the Mediterranean sea. At now, many different data suggest that an high adherence to MeD is associated with longevity and reduced risk of developing chronic diseases, including cancer, metabolic syndrome, depression and cardiovascular and neurodegenerative diseases. Nonetheless, MeD go well beyond the simple consumption of food, and at now is recognized not only a way of eating but a cluster of social habits and cultural traditions transmitted between generations through history. More specifically, the MeD includes different products for seasoning, with the ability to combine these components into a concert of smell and taste. MeD is conviviality, thus not merely nutrition but the choice to utilize it for our own pleasure and other satisfaction.



For these reasons, the MeD has been proclaimed "*Intangible Heritage of Humanity*" by UNESCO in 2010, exalting conviviality, sensory stimulation, socialization, frugality biodiversity and seasonality which can reinforce MeD beneficial effects on health. In particular, physical activity has been considered critical components of the agricultural and rural Mediterranean model. Definitely, diet and exercise represent two close connected basic necessities to ensure the survival during humans and animals evolution. In particular, when our progenitors were hunter-gatherers in "wild" environment, physical activity was obligatory for food supply, whereas exercise was reciprocally necessary for survival. At now, a regular practice of physical activity (at least 30 min/day, depending on age, sex and personal characteristics) is recommended together with dietary advices

by experts of Mediterranean Diet Foundation Group. Moreover, some clinical and experimental data suggested that combination of MeD, and moderate regular physical activity is associated with a lower rate of mortality and higher beneficial health effects than each factor alone.

Nonetheless, the relationship between physical activity and sports and health benefits is very complex, depending on the modality, intensity, and duration of exercise. In athletes, most studies focus on the use of nutritional supplements rather than on foods or complete dietary patterns. Moreover, many position papers on basic athlete nutrition have been proposed, although a satisfying solution has not yet reached. In fact, although a well-balanced nutritional intake is essential for athletic performance to help athletes reaching their full potential, nutrition requirement in athletes is influenced by individual characteristics (sex, aging, hormonal changes in women, etc) in addition to the type of exercise and the training status. Thus, more data related to adoption of MeD and its effects in combination with exercise in terms of performance enhancement, and pathological risk in professional athletes are needed.

In conclusion, the Med concept is enlarged to a more wider pattern of synergies between factors within the *Mediterranean "life-style"*, which has not yet been evaluated in relation to health. We advocate to assess these cluster of factors to add further insights on their overall role not only to obtain a longer lifespan, but -even more important- as an attractive tool to promote wellbeing, quality of life, and health across all the phases of life.

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Publication

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Nutrition. 2015 Jul-Aug