

Red meat consumption: Emphasis on chronic diseases or sticking to nutrient deficiency?

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In a manuscript in this issue of the journal, entitled "Determination of the Causes of Tendency toward Red Meat and Meat Products in the West of Iran", Falahi et al.^[1] concluded that the amount of red meat (beef or lamb) and red meat products (such as sausages and hamburgers) intake was approximately high among the population of western Iran (594.6 ± 956.2 g/week for red meat and 132.5 ± 251.1 g/week for red meat products). Although correct for western Iran, such a finding cannot be generalized to the whole Iranian population. They suggested the most important factors of tendency towards red meat consumption to be delectability, palatability, accessibility, cultural and traditional beliefs, lack of food diversity, animal husbandry, nomadic life, and hospitality in this part of Iran. Cautious recommendations regarding red meat consumption should be provided as some reports showed that red meat consumption was associated with the prevalence of metabolic syndrome among Iranians.^[2] In fact, increased red meat intake was cross-sectionally related to higher level of inflammation among Iranian population.^[2] Inflammation is in turn related with increased risk of chronic diseases.^[2] The same results have also been mentioned in other studies on different populations.^[3,4] Previous studies have also reported the relationship between red meat intake and other chronic diseases such as type 2 diabetes and cardiovascular diseases.^[5,6] The saturated fat content, animal protein, and high iron contents of red meat, especially heme iron, could be responsible for this association.^[2] Heme and non-heme iron have been shown to differently affect diabetes and cardiovascular risks. Heme iron from red meat has been suggested to differ from other sources of iron in affecting human health. However, the exact mechanism is not clear yet.^[2] Even a recent research in this field showed that dietary intakes of zinc and heme iron from red meat, but not from other sources, are associated with greater risk of metabolic syndrome and cardiovascular disease.^[3]

Falahi et al. reported high levels of both red meat and red meat products consumption.^[1] Some researchers believe that processed red meat intake, not the unprocessed red meat, is responsible for increased chronic disease risks.^[5] Nowadays, increased amounts of fast food consumption due to nutrition transition provides large amount of processed red meat consumption in the diets.^[7] Therefore, more prospective studies are required to clarify the different effects of red meat or processed red meat consumption.

Besides the evidence regarding chronic diseases, the prevalence of anemia, zinc deficiency and malnutrition is still reported among Iranians.^[8,9] Recommendations to consume red meat are needed especially for vulnerable groups such as children, adolescents, and women. Since red meat is a rich dietary source of zinc, iron, vitamins B6 and B12, and protein,^[2] it should be considered as a part of dietary recommendation especially among Iranian children and women. According to the evidence, dairy consumption is also lower than the optimal level in Iran^[10] which shows the importance of paying attention to the animal source of protein. Consumption of legumes, as a part of healthy diet and good source of vegetable protein, is reduced among Iranians due to nutrition transition and increased amounts of processed red meat (rich in saturated and trans fatty acids) intake in this population.^[11]

Fish and poultry are suitable substitutes for red meat consumption. Although poultry intake is common in Iranian diet, Iranians do not use an optimal amount of fish. Therefore, the society needs to receive more nutritional education in this regard. Falahi et al. also suggested that it is necessary for policymakers to adopt effective strategies to advocate the use of fish and poultry.^[1]

Although western guidelines emphasize on reduced

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amount of red meat intake, the recommendations should be localized based on regional health problems. It seems that a diet with high amounts of fruits, vegetables, whole grains, legumes, and low-fat dairy products is a healthy pattern for Iranian population. However, age, sex, and health status of subjects should be considered when providing recommendations toward red meat consumption.

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