

## Diet and bone health in postmenopausal women: a roadmap to the future policies

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In this issue of the Journal, a cross-sectional study Mirzaei et al., found a positive association between adherence to the Mediterranean diet and bone density in postmenopausal women. They also reported an inverse association between the Western dietary pattern which is high in oil and butter, refined grain, organ meat, sugar, pickles, legume and soy, potato, salt and flavor, high fat dairy and starchy vegetables and bone density in postmenopausal women (1). It must be kept in mind that this study was in postmenopausal women. The result cannot be generalized to other population.

Considering the population pyramid in Iran (2), it seems that it is changing from the young population to old people. Therefore, age-related diseases will be a major concern in the country over the next few years. Amongst age-related disease are bone-related disorders. Due to their huge burden to the healthcare system, as well as possible disabilities associated with these conditions, prevention of age-related bone disorders is of great importance, in particular in Iran which has increasing old populations. To achieve this, dietary intakes of Iranians, especially during their adolescence to adulthood, should be taken into account. In terms of dietary investigations in this field, nutritional epidemiologists offer the application of dietary pattern approach to identify diet-disease relations. In the above-mentioned study, Mirzaei et al., have used this approach to find the association between diet and bone density. The results are interesting in terms of focusing on bone health using the

dietary pattern approach. The notable finding was that adherence to the Mediterranean diet is positively associated with bone density. Although this finding is not novel, limited data are available suggesting the beneficial effects of Mediterranean diet in non-Mediterranean countries. The effects of the Mediterranean diet on human health have been shown in numerous studies. Adherence to the Mediterranean diet was associated with reduced risk of several chronic diseases including obesity, cardiovascular disease, and some cancers (3,4). It has also been associated with better quality of life (5). A recent meta-analysis showed that adherence to Mediterranean diet was associated with a reduced risk of fractures and with a higher mean bone mass density (BMD) (6). Besides Mediterranean diet, the authors have also reported an inverse relationship between Western diet and bone mass density. Consumption of foods greatly loaded in the western dietary pattern has previously been shown in relation to bone health (7). Almost all publications in this regard have consistently indicated the detrimental effects of western dietary patterns on bone health. This might be attributed to the increased acidity of urine they cause by their ingredients (8). By the way this phrase is not usually used in a scientific text, policy makers in the countries should be aware of the relationship of several foods and dietary patterns with age-related disorders and apply findings from these investigations in their policy making process. Based on findings of the mentioned study, it seems that consumption of Mediterranean dietary pattern should be encouraged in Iran and greater efforts should be

done to make people aware of the detrimental effects of western dietary pattern on bone health.

In conclusion, it is suggested to design large-scale prospective studies focusing on dietary determinants of bone health in Iran. Although small studies, including the one we discussed, are available, no nationwide investigation is available in the country indicating the effect of environmental factors, including diet, on bone health.

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