Editorial

Fast foods and risk of chronic diseases

Leila Azadbakht, Ahmad Esmaillzadeh**

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Two media reports have been published in the last recent issues of the Journal regarding fast foods [1, 2], discussing a movie named "Super size me"[1] and a book entitled "Fast food nation"[2]. In "super size me" a 30-day fast food diet increased weight by 25 pounds and resulted in a higher blood cholesterol level. Actually this provocative film emphasizes on the "toxic environment" that is produced by the fast food restaurants [1]. The book "Fast food nation" discussed the diseases transmitted via the meat processing techniques and also the flavors and aromas which had been added to the fast foods for increasing the taste by the fast food industry. These natural or artificial flavor oils both are toxic.

Higher consumption of fast foods has been associated with the risk of many chronic diseases. Recently, the link between fast food intakes and prevalence of obesity has been considered mostly. Fast foods have an extremely high energy density. Previous investigations have shown that humans have a weak innate ability to recognize foods with a high energy density and to appropriately down-regulate the bulk of food consumed to maintain energy balance. It is estimated that at a typical fast food restaurant the average energy density of a entire menu is approximately 1100 KJ/100 g which is more than twice the energy density of a healthy menu [3]. Two commonly eaten fast foods i.e. French-fries and hotdogs have been found to be associated with risk of obesity and weight gain [4, 5]. A cross-sectional study in the United States showed that secular increases in the fast food availability may contribute to high prevalence of obesity [6]. Furthermore, it has been demonstrated that high energy density foods are less costly per calorie and are cheaper than healthy ones. The low energy density foods such as vegetables, fruits, whole grains, low-fat dairies are more expensive. This might be the reason for wide use of fast foods. This could also explain, to some extent, the highest prevalence of obesity among the low income groups [7].

Obesity is the core of other non-communicable diseases such as hypertension, hyperlipidemia, hypercholesterolemia, cardiovascular diseases, metabolic syndrome and type 2 diabetes. So, fast food intakes might also be correlated with the mentioned non-communicable diseases. Besides the high energy density of the fast foods, their content of *trans* fatty acids should also be taken into account. The *trans* fat content of fast foods from two international fast food chains in 20 countries showed a high range of trans fats in their products in different countries [8]. Higher consumption of *trans* fats have been reported as a

* Department of Nutrition, School of Public Health and Food Security and Nutrition Research Center, Isfahan University of Medical Sciences, Isfahan, Iran.
Correspondence to: Leila Azadbakht, PhD, Department of Nutrition, School of Public Health, Isfahan University of Medical Sciences, Isfahan, Iran. e-mail: Azadbakht@hlth.mui.ac.ir

possible reason for increasing prevalence of the metabolic syndrome [9]; as little as 5 gram intakes of *trans* fats per day increasing the risk of ischemic heart disease by 25 % [10].

Another detrimental component of fast foods is carcinogenic heterocyclic amines (HAS) which are present with a high variability in different kinds of fast foods, particularly in cooked meat dishes like hamburgers [11]. Therefore, fast foods intake could be considered in terms of their contribution to the cancer epidemic.

Dietary intake is the consequence of a complex range of individual and environmental factors. The availability of fast food restaurants everywhere can contribute to the high consumption of these unhealthy foods. An effective strategy to reduce fast food consumption might be making healthy foods more available. Another choice is the reviewing of fast food menus by a nutritionist to substitute more healthy foods for high-fat high-calorie items. Suggesting the vegetable pizza with low amount of cheeses instead of some kinds with sausages is one of the examples of this strategy. By the way fast food restaurants are the gift of the industrial life-style which can increase the prevalence of chronic diseases worldwide that needs more careful interventions.

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