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Abstract

Background: Diet plays an important role in the risk of noncommunicable diseases. In the Islamic Republic of Iran, national activities were started after release of the World Health Organization's (WHO) action plan on prevention and control of noncommunicable diseases.

Aims: This study describes national food policies implemented by the government in order to

reduce noncommunicable diseases in the country in line with WHO action plan.

Methods: Newly adopted food standards and regulations linked to noncommunicable diseases from 2013 to 2018 were reviewed and the maximum permitted levels of salt and trans and saturated fats were compared in the old and new standards. Nutritional traffic light labelling to raise public awareness of healthy diets was evaluated.

Results: Fifteen food standards associated with eight food items that make up a large share of the daily Iranian food basket and three that make up a small share were evaluated. Policies on salt included reduction in maximum permitted percentage in bread, cheese and doogh (a fermented drink) to 1%, 3% and 0.8%, respectively. For trans and saturated fats, maximum permitted percentages were set as 2–5% and 30–65% of edible oils and fats, respectively. Nutritional traffic light labelling, which indicates the content of salt, sugar, fat and trans fat in foods, has been mandatory for all foods since 2016.

Conclusions: In view of the polices implemented to reduce the salt and fat/oil content of foods, significant decreases in noncommunicable diseases are expected in coming years in the country. However, further studies are needed to show the effectiveness of the interventions.

Keywords: diet, nutrition policy, noncommunicable diseases, Iran

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Introduction

Noncommunicable diseases (NCDs) are chronic disorders caused by non-infectious agents. NCDs kill 41 million people annually, which represents 71% of all deaths worldwide (1). Based on World Health Organization (WHO) reports, annual deaths from NCDs are mostly linked to cardiovascular diseases (44%), cancers (22%), respiratory diseases (10%) and diabetes (4%) (1). NCDs are an important health concern in the Islamic Republic of Iran; the annual death rate from NCDs represents about 82% of the total mortality in the country (2). National studies show a 14.5% increase in deaths from NCDs in the past 20 years (3). This is of concern, especially as the population is ageing.

Several factors should be considered when developing and implementing strategies to reduce NCDs. For example, diet, and preparation and consumption of foods vary in different societies and according to demographic, cultural and socioeconomic characteristics (4,5). Therefore, one of the main global challenges in designing strategies to control and manage NCDs in large countries such as the Islamic Republic of Iran is modification of food traditions. Practical recommendations to follow a healthy lifestyle are regularly published by WHO. In 2013, WHO made a global call for a 25% decrease in premature deaths from NCDs in people aged 30–70 years by 2025 (6). Furthermore, Member States of WHO endorsed the 2013–2020 action plan that focuses on four behavioural risk factors for NCDs: unhealthy diet, harmful use of alcohol, insufficient physical activity and tobacco use. The action plan describes 25 indicators classified under nine targets (3,6) to help countries develop their national strategies for decreasing NCDs. To respond to this call and the action plan, The Ministry of Health and Medical Education of Iran established the national NCD committee in 2015 with the aim of integrating all decisions and activities on the prevention and control of NCDs at the national level in line with the WHO global call. Because NCD mortality from other causes not included in WHO nine targets is high in the country, four further targets were added to the list by the health ministry. These targets were: zero trans fatty acids in all manufactured food products, reduced traffic injuries, reduced drug abuse and access to treatment for mental diseases.

Similar to other countries, dietary risk factors are significant contributors to NCDs in the Islamic Republic of Iran, and their assessment and management are fundamental to preventing NCDs (3,7,8). Thus, close collaboration between the public sector, private health associations and the food industry is needed to establish healthy food policies to achieve national and international targets. In the Islamic Republic of Iran, the Food and Drug Administration is responsible for national food safety and, as a member of the national NCD committee, works closely with other key players in food and nutrition fields to improve the effectiveness of food policies and strategies linked to NCDs. Many interventions and factors have important roles in the prevention of NCDs, including food reformulation, labelling, monitoring, and public awareness and marketing (7). For example, socioeconomic factors, such as incentives to choose larger packages through advertisements and price encouragements, may negatively affect dietary

patterns (9). To minimize the adverse effects of diet on the prevalence of NCDs in the Islamic Republic of Iran, international guidelines and recommendations on food intake were studied by stakeholders including regulatory experts such as risk managers and academic staff. As a result, the maximum permitted levels of salt and saturated and trans fatty acids in food in the national regulations were modified based on Iranian dietary patterns. These modifications were used for staple foods such as bread, dairy products and oil products. In parallel, to increase consumer awareness and its contribution to preventive mechanisms, a new graphical feature was designed and used on all food packaging – a nutritional traffic light.

In this study, policies and interventions adopted in the Islamic Republic of Iran to decrease NCDs following the WHO action plan were reviewed. As the Islamic Republic of Iran is a pioneer in the region in adopting measures to reduce NCDs, especially for trans fatty acids and nutritional traffic lights, we aimed to share our experiences in NCD control with other countries in the region.

Methods

In this study, a comprehensive review was carried out on newly adopted food standards and regulations by the Iran Food and Drug Administration and the Iran National Standards Organization which addressed the WHO target of a 25% decrease in premature deaths from NCDs by 2025. First, food products associated to NCD policies were identified. Then, all relevant standards and regulations, including newly adopted or modified versions, were extracted from the official websites of the Iran Food and Drug Administration and Iranian National Standards Organization. Furthermore, the maximum permitted levels of salt, and trans and saturated fats in old and revised standards were compared. The activities of the Iran Food and Drug Administration to raise public awareness about healthy food consumption were also assessed.

Since one of the nine NCD targets introduced by WHO is salt reduction and several national policies have been put in place to decrease and control daily salt consumption, the population attributable risk of the percentage of the incidence of disease that is due to salt was calculated using the following equation:

$$\text{Population attributable risk \%} = Pe \times (RR - 1)/[Pe \times (RR - 1) + 1]$$

where, Pe is the proportion of the population exposed to the risk factor (salt in this case) and RR is the relative risk of the risk factor (salt).

Results

Several interventions such as modifications of existing standards or adoption of new standards have been implemented in the country based on the international recommendations of daily intakes of: