

POLICY AND PRACTICE

Regulatory measures to improve nutrition policy towards a better food environment for prevention of obesity and associated morbidity in Israel

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ABSTRACT

Background: Obesity and related chronic diseases, including diabetes, cardiovascular diseases and some cancers, are the leading causes of mortality and morbidity in Israel with dramatic increases in prevalence in recent years. In the last 50 years, the food supply and eating habits have moved from basic, home-cooked, wholesome foods towards ultra-processed and processed foods, with high levels of salt, sugar and fats. This trend is contributing to obesity and its associated morbidity and mortality.

Objective: To counter the obesity challenge in Israel, the Ministry of Health has set up a Regulatory Committee to propose and enact nutrition policy legislation, in order to achieve a better food environment.

Methods: The Committee met with local and international nutrition and epidemiology experts, conducted several focus groups with selected population groups, and invited the public, via a dedicated website, to express their views as to steps the Ministry should take.

Results: Nine key areas of action were identified, and the following legislative steps initiated:

- front-of-pack labelling, indicating foods high in sodium/sugar/saturated fats (negative), or category-specific best choices (positive);
- economic measures, price controls;
- restrictions on marketing and advertising of harmful foods to children;
- formal nutrition education in all school years;
- nutrition promotion in all health settings;
- nutrition education for the public;
- reformulation of processed foods;
- more nutritious foods offered at workplaces, schools, etc.; and
- changes in food store layouts.

Conclusions: Development of a comprehensive, far-reaching nutrition policy designed to improve the nation's nutrition and health status is central to the Ministry of Health's mission statements and action plans. The Ministry is committed to implementing changes where needed, to carry out research and evaluation to assess the impact of the innovative programs, and to work in conjunction with other ministries, nongovernment organizations (NGOs) and other relevant bodies.

Keywords: NUTRITION POLICY, FOOD ENVIRONMENT, OBESITY, NUTRITION REGULATION, FOOD LABELLING

INTRODUCTION

Being obese or overweight and the related chronic diseases it can cause, including diabetes, cardiovascular disease and some cancers, are the leading causes of mortality and morbidity in Israel. In recent years, there has been a dramatic increase in incidences of obesity (1). About 30% of children and 60% of adults are overweight or obese. The Israeli population is divided into four main groups: secular Jews (33%), Arabs (25%),

ultraorthodox (25%) and the national religious (17%). Within the Arab adolescent population, 20% are overweight and 20% are obese, while within the Jewish adolescent population 15% are overweight and 15% are obese. Arab women have a particularly high prevalence of being overweight (40%) or obese (40%), and a very high prevalence of diabetes, and ultraorthodox women suffer from a high prevalence of obesity (2). Almost 10% of the Israeli population has diabetes and among the poor the rate increases to 25%. Unhealthy diet and physical inactivity are

known risk factors for these chronic diseases. Only 33% of the general Israeli population engages in regular physical activity and among the Arab adult female population the rate is only 18% (3).

Many changes have taken place in recent years which have contributed to these increases. These changes are found in the food supply, food marketing strategies and in the so-called built environment – all these being key determinants of how people eat and how much exercise they get – which, in turn, have been proven indisputably to be strongly correlated with obesity and chronic disease prevalence (4, 5, 6, 7).

During the last 50 years, food composition and texture have changed towards more ultra-processed and processed foods. Many of these foods have low nutritional quality and a very high calorie density – foods such as sweet and salty snacks, fast foods and sugar-sweetened beverages (8). The combination of the high availability of processed foods combined with their aggressive marketing has contributed to changes in eating patterns. There have been concomitant increases in caloric intake and excessive intake of sugar, sodium, and saturated fats – all proven risk factors for cardiovascular disease and other forms of morbidity (9). In addition, as a result of the industrialization process, certain foods have lost significant portions of their nutritional value, such as dietary fiber, vitamins and minerals (10, 11).

In general, past efforts to combat these chronic disease epidemics, worldwide and in Israel, have focused on education, information transfer, and treatment – to enable and encourage people to eat in healthier ways and to exercise. In many countries, there have been attempts to develop nutrition policies to combat the obesity epidemic with positive and optimistic results (12, 13, 14). There have been only limited and sporadic attempts to use legislation to force these changes in Israel. There is now a growing awareness that it is time to change the paradigm.

Many countries around the world have decided to change the food environment so that it is easier for the population to make healthy food choices (15). Israel has taken upon itself this challenge through the design and implementation of a national program: “Healthy is possible” (16). This program is jointly carried out by three government ministries, the Ministry of Health, the Ministry of Education, and the Ministry of Sport and Culture. The program commenced some four years ago, and has recorded some significant achievements, particularly with regards to reduction of sodium levels in processed foods. The reduction in salt was achieved through voluntary collaborations between the Ministry of Health and the food industry. The Ministry employed a nutritionist and food technologists

specifically for this purpose, and they worked hand-in-hand with the food industry. This involved a mutually agreed upon stepwise process to gradually reduce sodium content in widely consumed foods within categories identified as being major contributors to high sodium intakes. Overall, to date, a 22% reduction in sodium content has been achieved in some leading food categories, which include: bread, white cheese, certain processed meat products and hummus (chickpea) salad. However, in 2016 the Ministry of Health decided that more forceful steps were required and the Minister of Health ordered the appointment of the Regulatory Committee (the Committee). Its prime focus was to determine what actions – achieved through changes in the built food environment – would be the most effective and far-reaching, in order to deal with the unacceptably high prevalence of obesity and chronic diseases.

RATIONALE FOR ACTION

The food environment (food choice architecture) is the State’s responsibility and changes have the potential to be useful in reducing and even preventing the morbidity and mortality resultant from eating unhealthy food. The Committee has established guidelines and suggested legislation for dietary regulation, so as to promote healthy nutrition.

The Ministry of Health in Israel is perceived by the general public to be a reliable and authoritative source of information. This was borne witness recently by the very strong negative impact on the sale and consumption of processed meats, following the Ministry’s adoption and publication of the International Agency for Research on Cancer’s (IARC’s) warning regarding the cancer risk associated with consumption of processed and red meats. Consumption of these meats dropped very rapidly by about 30%, and consumption has remained low (17, 18).

The objectives and aims of the Committee dovetailed in with those specified in the multiyear master plan for a Healthy Israel 2020 (19), namely:

- i. Improve the nutrition environment to enable easier and healthier food choices for the population;
2. lower the obesity prevalence especially in young children;
3. lower sugar and salt consumption by 10 percent;
4. promote the use of whole wheat and whole grains instead of refined grains in all products;
5. change the norms of drinking sugar-sweetened drinks and eating salty snacks especially among the young population including at birthday parties and other events and celebrations.

METHODS

In order to generate improvement in rates of obesity and nutrition-related chronic diseases, the Ministry decided to act in parallel on two main fronts: legislation and education. In order to enable progress on both these fronts, the Regulatory Committee, chaired by the Director-General of the Ministry of Health, was set up to include representatives of various ministries including the Ministries of Finance, Economy, Education, Religious Services, Health, Industry, Trade and Labor, and representatives of academia, nutritionists, physicians (including diabetes specialists), epidemiologists, economics experts, representatives of the food industry and the public. The Committee's mandate was to define some clear actions which would, when implemented, lead to important and significant changes in food production and consumption patterns, and improved knowledge of, and attitudes to, what constitutes optimal nutrition. The Committee met 13 times over a period of several months, and initiated other activities so as to ensure optimal and widespread input in the deliberations process. Local and international experts in the field of nutrition, food legislation, food production, nutrition epidemiology and other areas, were invited to present their views, studies, experience and the current literature at Committee meetings. The industry presented its views and brought experts from Israel and from the McKinsey economic counselling agency.

As part of the commitment to promote open dialogue with the public for review and recommendations, six focus groups were scheduled which included representatives of the populations with high prevalence of obesity and chronic diseases (Arab and women, Arab men, Jewish parents, Jewish teenagers with low socioeconomic status, ultraorthodox Jewish women, women with low socioeconomic status). Each focus group had 20–25 participants. The aim of the focus groups was to hear their suggestions for risk reduction and better nutrition and improvements to the built and food environments. A dedicated website was created, and members of the public were invited to express their views and/or send via electronic mail their answers and comments on the question, “What would you like the Ministry of Health to do to improve the nutrition environment?”

All the comments from the focus groups and the dedicated internet site for public response were combined and main themes identified.

In order to further include the public in these initiatives, the Ministry of Health, for the first time, filmed the Committee's discussions and broadcast them. Committee meetings were open to journalists, who reported live from the discussions,

using means such as Twitter and Facebook. Proceedings of the meetings were available to the public on the Ministry of Health website (20). An economic cost-benefit analysis was done to evaluate the costs of introducing the new recommendations including front-of-pack labelling and back-of-pack changes, and the influence of the proposed moves on the cost of living.

RESULTS

Using the dedicated website, 1108 people answered and commented on the question, “What would you like the Ministry of Health to do to improve the nutrition environment?”

After collection and integration of all responses and views from the website and the focus groups, nine main themes/insights were identified (21):

1. labelling of foods to enable informed and healthier choices;
2. ensuring physical and economic accessibility to healthy food, and taxing of unhealthy foods;
3. imposing limitations on marketing and advertising of unhealthy food to children;
4. including nutritionists/dietitians in the staff of all health clinics;
5. the need for nutrition education at each grade level within the school system;
6. more nutrition education for the general public;
7. reformulation of processed goods, and enabling small enterprises to produce healthier foods;
8. improving the nutritional quality of food served in workplaces; and
9. changing internal layouts and design of retail food stores to increase visibility and accessibility to healthier foods.

The website was designed for anonymous replies, thus making it impossible to identify which themes were favored according to population subgroups.

Table 1 shows the response pattern to the question asked, and the development of themes.

There was a need to prioritize the actions to be taken, and it was decided to commence with the steps needed for implementation of front-of-pack labelling. This required the greatest input of the Ministry's resources (primarily staff time), as well as significant amounts of legislation to be prepared, and a large amount of change within the food industry and acquaintance with Chilean legislation. The other themes are being moved forward at the same time, but at a somewhat slower pace.

TABLE 1. RESPONSES TO THEMES IDENTIFIED

Theme no.	Theme	No. of responders
1	Front-of-pack labelling	188
2	Use of economic measures including taxing of unhealthy foods	398
3	Prevention of advertising of harmful food to children	56
4	Nutrition promotion within the health system	41
5	Improvement of nutrition education within the education system	192
6	Increased nutrition education of the public	90
7	Reformulation of processed foods including assistance to small enterprises for this purpose	138
8	Improvements in food served in places of work	3
9	Changes in design of stores selling food	71

Legislation is currently being prepared to ensure implementation of these themes, including:

1. limitations, in all media, on advertising aimed at children of harmful foods;
2. immediate introduction of mandatory negative front-of-pack labelling of packaged foods, with easily identifiable icons, to clearly indicate foods with high levels of sodium, sugar and saturated fats, modeled after the system successfully introduced and implemented in Chile (22).

Israel has now adopted the Chilean front-of-pack labelling system, including its criteria, for sugar, sodium and saturated fat. The Chilean system also includes labelling for high levels of calories, out of concern for the possibility of encouraging eating disorders this was not incorporated in Israel. The reason for adoption of the Chilean front-of-pack system was that this system has proved successful in helping reduce obesity levels. Following lengthy consultations between the Director of the Nutrition Division (Israel Ministry of Health), an international nutrition expert (Professor Barry Popkin), and Chilean colleagues, including a visit to Israel by the relevant Chilean expert, it was decided that this system would best suit the Israeli environment.

The three proposed icons are as shown, and their size will be in accordance with the size of the food package. The selection of colors and graphic design was done so as to ensure optimal visibility, including for those with limited literacy or vision.



Translation of the icons (left to right): sugar in a high amount, sodium in a high amount, saturated fat in a high amount.

3. Positive front-of-pack labelling of packaged foods, with an easily identifiable icon, to indicate which foods are recommended as being healthiest, using category-specific criteria similar to those in widespread use in systems such as the Nordic Keyhole labelling system (23), with criteria adjustment according to the Israeli dietary patterns as identified in the Israeli MABAT (Nutrition and Health Status surveys not yet published). An independent scientific committee has been appointed to recommend category-specific criteria. The relevant legislation will be introduced by the end of 2017 with implementation scheduled for mid-2018.



The icon to be added to indicate category-specific best choices.

Following implementation of the required legislation, an evaluation will be carried out to assess the impact on food consumption, sales and attitudes, etc. Evaluation of health impacts will also be carried out in the longer term.

4. Mandatory labelling of total sugar content, including by amount in teaspoons (one teaspoon equals four grams of sugar). After consultation with Israeli diabetes experts (members of the Regulatory Committee), this will be included in the revised nutrition labelling laws, which include the front-of-pack provisions, to be implemented by 2018.
5. Mandatory teaching of nutrition in the school system, as a stand-alone subject, at all grade levels, to be taught by a nutritionist/dietitian (24, 25, 26, 27). The syllabus is now being developed by specialists in the Nutrition Division in the Ministry of Health and the Science Teaching Division in the Ministry of Education. It is expected that this will gradually be introduced beginning in the

school year of 2018. It will be jointly funded (materials, salaries) by the two ministries. The recommendation is that at the kindergarten and primary (elementary) school level nutrition will be taught by class teachers who will be required to undergo a nutrition education seminar, involving specialized training designed to update them in this field and properly equip them for teaching nutrition. In secondary (high) schools the courses will be taught by registered dietitians with educational qualifications.

6. Calorie listing on all foods served in chain restaurants as is done in some countries. The legislation has been prepared, but has met with significant opposition from restaurant owners. It is proposed that a survey will soon be carried out with a number of chain restaurants to evaluate public acceptability, and then to proceed with the legislation.
7. Enacting a law for supplying healthy foods in schools with the help of the Minister of Education. This law was presented last year to the Knesset (Israeli parliament) and most schools are now implementing the recommended changes. There has been some opposition from the ultraorthodox schools, mainly for economic reasons; these schools are claiming that they cannot finance the added costs of healthier foods (28).
8. Enacting a law for the supply of healthy foods in after-school programs where lunch is provided. This law was passed with the invaluable assistance of a few Knesset members who have children attending these programs. This law became mandatory in September 2017 (29).
9. Enacting a law mandating the supply of healthy foods in summer camps (in the development stage).
10. Enabling small enterprises to produce healthier foods. The Ministry of Health, together with the Israel Innovation Authority (of the Economy Ministry) has pledged 6 million NIS (approximately €1.5 million) for health initiatives, and these funds are intended for the development of new healthy foods and improvements to the reformulation of existing foods.

In addition to these legislative steps, some of which have already commenced, several other initiatives have been suggested and are in various stages of implementation:

- Assistance to the food industry to carry out reformulation of processed foods so as to reduce levels of sodium, sugar and saturated fats in selected foods (30, 31, 32, 33).

- Promoting healthy eating in large workplaces where food is provided by the state (for example, armed forces, prisons, government offices). A committee to oversee these changes was nominated and has commenced its work.
- Encouraging the Ministries of Trade and Industry, of Health and of Agriculture and Rural Development to analyze manufactured food products and fresh produce in Israel for nutritional values. Many meetings were held between the head of the Nutrition Division, the scientific board of the Ministry of Agriculture, and representatives of academia, resulting in a call for better nutritional values of agricultural products. A new project, “Noah’s Ark”, is directed towards the production of healthier foods, and improved nutrient content of existing products.
- Providing subsidies and incentives to encourage research grants for healthy food production through collaboration between scientists from various ministries.
- Regulation of the cost to the consumer of whole grain bread (at present, it is expensive as compared to non-whole grain bread). The Economy Ministry recently published a tender for a bakery/bakeries to manufacture whole grain bread at reduced prices, with the financial aid of the Ministry.
- Creation of a healthy food basket at affordable and reduced prices. This is an initiative which has involved extensive work by the Taub Center.

These initiatives involve interdisciplinary planning and implementation. Where necessary, budgets will need to be appropriated. The Committee has appointed several subcommittees, whose ongoing tasks include provision of professional expertise, direction of activities and monitoring progress. These include:

- a committee to regulate advertising of harmful foods to children;
- a scientific committee to determine criteria for positive front-of-pack labelling;
- a committee to continue developing and implementing guidelines regarding reduction of residual salt in poultry and beef prepared according to Jewish ritual law;
- a committee to direct and oversee reformulation of foods, within the food industry;

- a committee promoting healthy eating in large workplaces;
- a committee to oversee nutrition education in schools; and
- a committee to develop guidelines, including dietary advice by nutritionists, to improve the health of young families with their first child.

In addition to the work of the Regulatory Committee, over the past two years several new guidelines for healthy eating have been developed and published (including position papers by the Nutrition Division of the Ministry of Health), as it was recognized that there was a need to offer positive dietary guidelines in addition to the regulatory steps. A major shift in guidelines for the general population is being introduced, to align with solid, current scientific evidence of the benefits in terms of optimal health and chronic disease prevention. The new recommendation for healthy eating in Israel is the adoption of the Mediterranean diet (34). To promote this pattern of eating, the Nutrition Division has held professional and public meetings, and is currently developing new graphics, educational materials and campaigns.

In addition, these position papers have been published:

- Soya consumption (35);
- Nutrition for premature babies (being finalized);
- Nutrition for pregnant women (36); and
- Nutrition for vegetarian and vegan children and adolescents (37).

Several campaigns have been conducted, and these include: preparation of video clips dealing with sugar-sweetened beverages; use of whole wheat bread for sandwiches; and reduction in use of high fat, high sugar snacks (38, 39, 40).

All these actions are fully transparent and have been closely followed and documented by journalists. A lot of support for the proposed initiatives has been shown, both by the public and by a number of NGOs promoting healthy nutrition and sustainability. At the same time, there has been opposition from the food industry and importers, especially those manufacturing or importing confectioneries and other foods very high in the nutrients chosen for negative front-of-pack labelling.

In the coming year, it will be possible to evaluate the impact on the public's eating patterns of all of these legislative moves and

other initiatives. Early evaluation, based on checkout data from supermarkets, has noted a 16% reduction in the consumption of white, non-whole grain bread, with a corresponding increase in consumption of whole grain breads.

The results of the economic cost-benefit analysis showed that there was an overall saving rather than an increase in the cost of living.

Assuming an expected linear reduction of 30% over a decade in the consumption of harmful nutrients, the intended reform will prevent 22 000 cases of mortality and will enable a cumulative saving of 6 billion NIS (approximately €1.5 billion), equivalent to 2200 cases or 600 million NIS in an average year.

A more conservative estimate, with a reduction of 20% over a decade in the consumption of harmful nutrients, will prevent 16 300 cases of mortality and will enable a cumulative saving of 4.5 billion NIS (approximately €1 billion) over a decade, equivalent to 1630 cases and 450 million NIS in an average year.

It is clear that these reductions in mortality impact directly on productivity and economic growth in Israel.

DISCUSSION

Nutrition policy-making in a modern country like Israel has many implementation challenges. The food industry is very powerful and has a lot of influence over policy-makers especially within the Economy Ministry and the Ministry of Finance. The food importers also have a lot of influence, especially in a country like Israel where more than 70% of food products are imported. Nowadays the economic burden on the Israeli population (which includes food costs) is high and the Knesset (parliament) is very keen to lower the economic pressure and cost of living. Any nutrition policy that seems to impact directly or indirectly on the cost of living has been criticized. Therefore, there was a need for intensive lobbying of ministers and ministry directors-general by the nutrition experts. This lobbying was necessary in order to convince them that the cost of diseases, whose causation is influenced by poor dietary habits and consumption of unhealthy foods (those high in nutrients such as sugar, salt, and saturated fats), is higher than the small cost associated with the nutrition policy change needed to help the people choose foods with better nutrient profiles.

The participation of representatives from the Economy Ministry and the Finance Ministry in the Regulatory Committee convinced them of the need for change, and they became very

strong advocates of the program. Initially, they were opposed because of their need to lower the cost of living, and their belief that the proposed changes would in fact achieve the opposite effect. Their change of opinion came as a result of the cost analysis carried out by the Ministry of Health which showed that label changes of food packaging would involve a very small amount of money, with a minimal rise in food costs, and that this was far less than the huge potential benefit to public health.

The positions taken by the food industry and food importers posed significant challenges. In order to address their concerns, and initial opposition, they were invited to participate in all the meetings, during which they learned of the necessity and urgency of carrying out major changes in food production. Considering that most of the food consumed in Israel is produced by the food industry or imported by food importers, it was recognized that there was a need to work together for agreement on the steps needed. Reaching a consensus was not easy, because of a lot of pressure, but in the end there was agreement on the steps recommended by the Scientific Committee, which the food industry agreed to adopt.

The huge public response (more than 1100 responders) to the survey on what the Ministry of Health should do for a better nutrition built environment lent support to the Ministry's belief that there is significant popular support for our actions. The Director-General of the Ministry of Health has also addressed the population via social media (for example on Facebook) and the majority of journalists and the public have supported the new nutrition policy.

Consultations were also held with international experts on economic behavior (requested by other ministries). These ministries were initially very skeptical about our actions especially regarding the front-of-pack labelling. However, in the end, they were convinced to participate in the new nutrition policy actions.

Much has been done and achieved so far, but there are still many steps needed to change the food environment to a more nutritious one in order to help improve the health of the nation. By sharing our experience with other countries, we trust that we shed some light on the steps needed to improve the quality of the food environment.

We have learned much from other countries including during meetings and consultations with the WHO and with other experts, such as from those involved with the Nordic Keyhole nutritional labelling system and Choices International and we have tried to adopt the regulations that Israel can implement (41).

We understand that there is a need for many steps and many aspects of regulation and that in order to make changes with lasting and widespread impact, regulation is needed and voluntary actions in our country are not enough.

CONCLUSIONS

Development of a comprehensive, far-reaching nutrition policy designed to improve the nation's nutrition and health status is central to the Ministry of Health's mission statements and action plans. Supported by the public, who were exposed to an extensive campaign about the dangers of consuming unhealthy food and to the activity of the Regulatory Committee, the Ministry is committed to implementing changes where needed, to carry out research and evaluation to assess the impact of the innovative programs and to work in conjunction with other ministries, NGOs and relevant bodies.

Sources of funding: All involved in preparing the manuscript are employees of the Ministry of Health. No external funding was received.

Conflicts of interest: None declared.

Disclaimer: The views expressed in this publication are those of the authors alone, and do not necessarily represent the decisions or policies of World Health Organization.

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