

Mapping public policy options responding to obesity: The case of Morocco

 Abdelhakim Yahyane¹, Delpeuch Francis²,  Btihad Al Ibrahim^{1*}, Oumaima EL housni¹, Abdellatif Bour¹

¹Laboratory of Biology and Health, Team of Nutritional Sciences, Food and Health, Department of Biology, Faculty of Sciences, University Ibn Tofail, FSK-Kenitra, Morocco; ahakimdoc@yahoo.fr (A.Y.) ibtihaje2178@gmail.com (B.A.I.) oum.elhousni96@gmail.com (O.E.H.) abdellatif.bour@uit.ac.ma (A.B.)

²IRD, UMR 266 MolSA. 911 Avenue Agropolis 34090 Montpellier, France; francis.delpuch@ird.fr (D.F.).

Abstract: Obesity is considered a chronic, progressive disease whose various factors can have serious consequences for metabolic and psychosocial health. The aim of this study was to map the viewpoints of stakeholders representing different sectors of activity on options for action by exploring concordances and divergences. We used multi-criteria mapping methodology during a structured interview with 33 stakeholders and defined five groups of options to address the problem of obesity. Four options stood out from all the others: the three options in the group of measures relating to education and training (in particular, reinforcing nutrition in the school curriculum and educating the public about health) and reinforcing physical activity in schools. With the exception of the agri-food sector for the training of health professionals and for physical activity in schools, all categories of stakeholders placed them at the top of their list of preferred measures in both optimistic and pessimistic scenarios. The study shows that there is broad agreement that only the implementation of a wide range of measures will be able to reverse the general trend towards rising obesity, even though measures aimed at changing behavior through education were ranked higher than those aimed at changing people's environment.

Keywords: Multi-criteria mapping, Morocco, Obesity, Policy options, Stakeholder.

1. Introduction

“Overweight and obesity are defined as an abnormal or excessive accumulation of fat that presents a health risk” [1]. It is considered to be a chronic, progressive disease whose various factors can have serious consequences for metabolic and psychosocial health [2]. Obesity is diagnosed by measuring a person's weight and height and calculating the body mass index (BMI): weight (kg)/height² (m²). For adults, the WHO defines obesity as a BMI ≥ 30 kg/m² and for children, the definition takes age into account [3].

According to WHO estimates, by 2022 around 16% of adults aged 18 and over worldwide will be obese [3]. The global prevalence of obesity more than doubled between 1990 and 2022. In addition, the prevalence of obese children and adolescents aged 5 to 19 has increased from 2% in 1990 to 8% in 2022 (160 million young people). In Morocco, an estimated 55.1% of the population is overweight and 21.7% obese [4].

Overweight and obesity are the result of an imbalance between energy intake (diet) and energy expenditure. In most cases, obesity is a multifactorial disease caused by obesogenic environments, psychosocial factors and genetic variants [2, 5]. Obesity has numerous adverse health consequences, including cardiovascular disease, respiratory disease and diabetes, and is associated with a higher risk of certain cancers [6, 7]. In the wider context of preventing non-communicable diseases, particularly nutrition-related diseases such as obesity, the traditional approach has been to gain a better understanding of risk factors and health outcomes in order to develop targeted public health strategies and policies [6].

The aim of this study was to map the viewpoints of stakeholders representing different sectors of activity on options for action, by exploring concordances and divergences.

2. Materials and Methods

The Multi-Criteria Mapping (MCM) methodology was used: quantitative and qualitative data were collected from 33 key stakeholders during structured interviews, computer-assisted using 'MC Mapper' software. The interview sessions took place in 2009 and 2010. A wide range of business sectors was selected to ensure that the range of views gathered was as comprehensive as possible. These sectors are divided into 7 broad categories: A. Government; B. Agri-food; C. Health Professionals; D. Education; E. Communications-Media; F NGOs-Associations; G Multilateral Partners.

During the interviews, which lasted between two and three hours, the interviewees were asked to give their opinions on a series of twelve selected options for action. As shown in Table 1, these twelve options were grouped into five clusters: 1 - Actions to promote exercise and physical activity; 2 - Changes in food supply and demand; 3 - Measures to provide food and nutritional information; 4 - Measures to provide education; 5 - Institutional reforms (Table 1).

Table 1.
Policy options.

Option cluster	Policy options
1-Actions to promote exercise and physical activity	-improve the availability, access and use of community sports facilities. -promote physical activity through changes in planning and transportation policies. -strengthen the integration of physical activity in schools.
2- Modifying the supply of, and demand for, foodstuffs,	-develop nutritional standards and recommendations, and encourage food service professionals to provide healthier menus. -encourage improvement in food composition. -control the supply and sale of snacks, sweets and sugary drinks in schools
3-Measures concerning food and nutritional information	-provide nutrition labelling for all processed and packaged foods, as proposed in the codex recommendations. -control food and beverage advertising and promotional messages, particularly those targeting children
4-Measures related to education	-improve training of health professionals in obesity prevention, diagnosis and counseling for those at risk. -improve health education to enable people to make informed choices. -strengthen and revise food and nutrition topics in the school curriculum.
5-Institutional reforms	-reform agricultural policies to make them consistent with prevention and health promotion policies.

The MCM methodology has a simple 4-step structure: 1- Definition of the stock options; 2- Selection of a set of criteria representing the factors deemed most important by the interviewee in assessing the performance of the options; 3- Assessment of the performance of the options according to each criterion selected, using a numerical rating system (the higher the rating, the more optimistic one is about the performance of the option in question); 4- Assignment of a weighting coefficient to each criterion in order to reflect its relative importance in relation to the other assessment factors. Finally, using a simple formula, the scores for each option are multiplied, for each criterion, by the weighting coefficient; they thus give an overall ranking of the options which takes into account the optimistic and pessimistic judgement of the performance of each option.

2.1. Ethical Considerations

All precautions according to the Declaration of Helsinki were taken to protect the privacy and confidentiality of the personal information of those involved in the research. Informed consent was obtained from the participants, who were properly informed of the objectives and methods.

3. Results

3.1. Ranking of the main options for the government sector

The government sector (A) gave the most favorable scores to the group of actions relating to education and training, to the group of actions aimed at promoting physical exercise and activity, and to the reform of agricultural policies. The options in the two groups dealing with nutritional information and food supply and demand received the lowest scores in both the optimistic and pessimistic scenarios (Table 2).

Table 2.

Ranking of the main options in the 'optimistic' or 'neutral' scenarios according to their score for the government sector.

Rank	Option	Group of options
Performance in "optimistic" scenario		
1	Reinforcing the integration of physical activity at school	Actions to improve physical activity
2	Improve health education to enable people to make informed choices	Educational measures
3	Reinforce and revise food and nutrition topics in the school curriculum	Educational measures
4	Improve training for healthcare professionals in obesity prevention, diagnosis and advice for people at risk	Educational measures
5	Improve the availability, access and use of sports and leisure facilities	Actions to improve physical activity
6	Reform agricultural policies to bring them into line with prevention and health promotion policies	Institutional reforms
7	Promote physical activity through changes in planning and transport policies	Actions to improve physical activity
8	Provide nutritional labeling for all processed and packaged foods, as proposed in the codex recommendations	Food and nutritional information
9	Encourage improvements in food composition	Changes in supply and demand
10	Control the supply and sale of snacks, confectionery and sugary drinks in schools	Changes in supply and demand
11	Develop nutritional standards and recommendations, encourage catering professionals to provide healthier menus	Changes in supply and demand
12	Control food and drink advertising and promotional messages, particularly those targeting children	Food and nutritional information

Table 2. Continue...

Performance in "neutral" conditions		
1	Reinforcing the integration of physical activity at school	Actions to improve physical activity
2	Reinforce and revise food and nutrition topics in the school curriculum	Educational measures
3	Improve health education to enable people to make informed choices	Educational measures
4	Improve training for healthcare professionals in obesity prevention, diagnosis and advice for people at risk	Educational measures
5	Improve the availability, access and use and sports and leisure facilities	Actions to improve physical activity
6	Reform agricultural policies to bring them into line with prevention and health promotion policies	Institutional reforms
7	Promote physical activity through changes in planning and transport policies	Actions to improve physical activity
8	Provide nutritional labeling for all processed and packaged foods, as proposed in the codex recommendations	Food and nutritional information
9	Control the supply and sale of snacks, confectionery and sugary drinks in schools	Changes in supply and demand
10	Encourage improvements in food composition	Changes in supply and demand
11	Develop nutritional standards and recommendations, encourage catering professionals to provide healthier menus	Changes in supply and demand
12	Control food and drink advertising and promotional messages, particularly those targeting children	Food and nutritional information

3.2. Ranking of the main options for the Agri-food sector

The agri-food sector (B) gave very high scores to strengthening nutrition in the school curriculum, and also good scores to health education, improving the composition of food and controlling advertising (table 3).

Table 3.

Ranking of the main options in the 'optimistic' or 'neutral' scenarios according to their score for the Agri-food sector.

Rank	Option	Group of options
Performance in "optimistic" scenario		
1	Reinforce and revise food and nutrition topics in the school curriculum	Educational measures
2	Improve health education to enable people to make informed choices	Educational measures
3	Encourage improvements in food composition	Changes in supply and demand
4	Control food and drink advertising and promotional messages, particularly those targeting children	Food and nutritional information
5	Provide nutritional labeling for all processed and packaged foods, as proposed in the codex recommendations	Food and nutritional information
6	Reinforcing the integration of physical activity at school	Actions to improve physical activity
7	Improve training for healthcare professionals in obesity prevention, diagnosis and advice for people at risk	Educational measures
8	Reform agricultural policies to bring them into line with prevention and health promotion policies	Institutional reforms
9	Improve the availability, access and use and sports and leisure facilities	Actions to improve physical activity
10	Develop nutritional standards and recommendations, encourage catering professionals to provide healthier menus	Changes in supply and demand
11	Promote physical activity through changes in planning and transport policies	Actions to improve physical activity
12	Control the supply and sale of snacks, confectionery and sugary drinks in schools	Changes in supply and demand
Performance in "neutral" conditions		
1	Reinforce and revise food and nutrition topics in the school curriculum	Educational measures
2	Improve health education to enable people to make informed choices	Educational measures
3	Encourage improvements in food composition	Changes in supply and demand
4	Control food and drink advertising and promotional messages, particularly those targeting children	Food and nutritional information
5	Reinforcing the integration of physical activity at school	Actions to improve physical activity
6	Provide nutritional labeling for all processed and packaged foods, as proposed in the codex recommendations	Food and nutritional information
7	Improve training for healthcare professionals in obesity prevention, diagnosis and advice for people at risk	Educational measures
8	Reform agricultural policies to bring them into line with prevention and health promotion policies	Institutional reforms
9	Improve the availability, access and use and sports and leisure facilities	Actions to improve physical activity
10	Control the supply and sale of snacks, confectionery and sugary drinks in schools	Changes in supply and demand
11	Develop nutritional standards and recommendations, encourage catering	Changes in supply and demand

	professionals to provide healthier menus	
12	Promote physical activity through changes in planning and transport policies	Actions to improve physical activity

3.3. Ranking of Main Options for Healthcare Professionals

The category of health professionals (C) gave the most favorable scores to the three measures relating to education, including training for health professionals, and to physical activity in schools; but also very high scores to the control of sales in schools, and to the two measures relating to nutritional information (control of advertising and labelling). Changing planning and transport policies is the lowest-ranked option in both the optimistic and pessimistic scenarios (table 4).

Table 4.

Ranking of the main options in the 'optimistic' or 'neutral' scenarios according to their score for healthcare professionals.

Rank	Option	Group of options
Performance in "optimistic" scenario		
1	Reinforce and revise food and nutrition topics in the school curriculum	Educational measures
2	Improve training for healthcare professionals in obesity prevention, diagnosis and advice for people at risk	Educational measures
3	Improve health education to enable people to make informed choices	Educational measures
4	Reinforcing the integration of physical activity at school	Actions to improve physical activity
5	Control food and drink advertising and promotional messages, particularly those targeting children	Food and nutritional information
6	Control the supply and sale of snacks, confectionery and sugary drinks in schools	Changes in supply and demand
7	Provide nutritional labeling for all processed and packaged foods, as proposed in the codex recommendations	Food and nutritional information
8	Reform agricultural policies to bring them into line with prevention and health promotion policies	Institutional reforms
9	Improve the availability, access and use of sports and leisure facilities	Actions to improve physical activity
10	Encourage improvements in food composition	Changes in supply and demand
11	Develop nutritional standards and recommendations, encourage catering professionals to provide healthier menus	Changes in supply and demand
12	Promote physical activity through changes in planning and transport policies	Actions to improve physical activity
Performance in "neutral" conditions		
1	Reinforce and revise food and nutrition topics in the school curriculum	Educational measures
2	Improve training for healthcare professionals in obesity prevention, diagnosis and advice for people at risk	Educational measures
3	Improve health education to enable people to make informed choices	Educational measures
4	Reinforcing the integration of physical activity at school	Actions to improve physical activity
5	Control food and drink advertising and promotional messages, particularly those targeting children	Food and nutritional information
6	Reform agricultural policies to bring them into line with prevention and health promotion policies	Institutional reforms
7	Control the supply and sale of snacks, confectionery and sugary drinks in schools	Changes in supply and demand
8	Provide nutritional labeling for all processed and packaged foods, as proposed in the codex recommendations	Food and nutritional information
9	Improve the availability, access and use of sports and leisure facilities	Actions to improve physical activity
10	Encourage improvements in food composition	Changes in supply and demand
11	Develop nutritional standards and recommendations, encourage catering professionals to provide healthier menus	Changes in supply and demand

12	Promote physical activity through changes in planning and transport policies	Actions to improve physical activity
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3.4. Ranking of the main options for the education sector

The education sector (D) provided evaluations very similar to those of the health professionals: very high scores for the three options in the group dealing with education and physical activity at school; but also good scores for controlling the sale of food in schools and for the two measures dealing with nutritional information. Changes to planning and transport policies scored worst in both scenarios (table 5).

Table 5.

Ranking of the main options in the 'optimistic' or 'neutral' scenarios according to their score for the education sector.

Rank	Option	Group of options
Performance in "optimistic" scenario		
1	Reinforce and revise food and nutrition topics in the school curriculum	Educational measures
2	Reinforcing the integration of physical activity at school	Actions to improve physical activity
3	Improve training for healthcare professionals in obesity prevention, diagnosis and advice for people at risk	Educational measures
4	Improve health education to enable people to make informed choices	Educational measures
5	Control the supply and sale of snacks, confectionery and sugary drinks in schools	Changes in supply and demand
6	Control food and drink advertising and promotional messages, particularly those targeting children	Food and nutritional information
7	Provide nutritional labeling for all processed and packaged foods, as proposed in the codex recommendations	Food and nutritional information
8	Reform agricultural policies to bring them into line with prevention and health promotion policies	Institutional reforms
9	Improve the availability, access and use of sports and leisure facilities	Actions to improve physical activity
10	Develop nutritional standards and recommendations, encourage catering professionals to provide healthier menus	Changes in supply and demand
11	Encourage improvements in food composition	Changes in supply and demand
12	Promote physical activity through changes in planning and transport policies	Actions to improve physical activity
Performance in "neutral" conditions		
1	Reinforce and revise food and nutrition topics in the school curriculum	Educational measures
2	Reinforcing the integration of physical activity at school	Actions to improve physical activity
3	Improve training for healthcare professionals in obesity prevention, diagnosis and advice for people at risk	Educational measures
4	Improve health education to enable people to make informed choices	Educational measures
5	Control the supply and sale of snacks, confectionery and sugary drinks in schools	Changes in supply and demand
6	Provide nutritional labeling for all processed and packaged foods, as proposed in the codex recommendations	Food and nutritional information

7	Reform agricultural policies to bring them into line with prevention and health promotion policies	Institutional reforms
8	Control food and drink advertising and promotional messages, particularly those targeting children	Food and nutritional information
9	Improve the availability, access and use and sports and leisure facilities	Actions to improve physical activity
10	Develop nutritional standards and recommendations, encourage catering professionals to provide healthier menus	Changes in supply and demand
11	Encourage improvements in food composition	Changes in supply and demand
12	Promote physical activity through changes in planning and transport policies	Actions to improve physical activity

3.5. Ranking of the main options for the communications and media sector

The Communications and Media category (E) gave very high scores to two educational options - General Health Education; Strengthening Nutrition in the School Curriculum and Physical Activity in Schools. Changes to planning and transport policies received the lowest scores in both scenarios (table 6).

Table 6.

Ranking of the main options in the 'optimistic' or 'neutral' scenarios according to their score for the communications and media sector.

Rank	Group	Group of options
Performance in "optimistic" scenario		
1	Reinforce and revise food and nutrition topics in the school curriculum	Educational measures
2	Improve health education to enable people to make informed choices	Educational measures
3	Reinforcing the integration of physical activity at school	Educational measures
4	Improve training for healthcare professionals in obesity prevention, diagnosis and advice for people at risk	Educational measures
5	Improve the availability, access and use and sports and leisure facilities	Actions to improve physical activity
6	Develop nutritional standards and recommendations, encourage catering professionals to provide healthier menus	Changes in supply and demand
7	Reform agricultural policies to bring them into line with prevention and health promotion policies	Institutional reforms
8	Control food and drink advertising and promotional messages, particularly those targeting children	Food and nutritional information
9	Encourage improvements in food composition	Changes in supply and demand
10	Provide nutritional labeling for all processed and packaged foods, as proposed in the codex recommendations	Food and nutritional information
11	Control the supply and sale of snacks, confectionery and sugary drinks in schools	Changes in supply and demand
12	Promote physical activity through changes in planning and transport policies	Actions to improve physical activity
Performance in "neutral" conditions		
1	Reinforce and revise food and nutrition topics in the school curriculum	Educational measures
2	Improve health education to enable people to make informed choices	Educational measures
3	Reinforcing the integration of physical activity at school	Educational measures
4	Improve training for healthcare professionals in obesity prevention, diagnosis and advice for people at risk	Educational measures
5	Develop nutritional standards and recommendations, encourage	Changes in supply and demand

	catering professionals to provide healthier menus	
6	Reform agricultural policies to bring them into line with prevention and health promotion policies	Institutional reforms
7	Encourage improvements in food composition	Changes in supply and demand
8	Improve the availability, access and use of sports and leisure facilities	Actions to improve physical activity
9	Control food and drink advertising and promotional messages, particularly those targeting children	Food and nutritional information
10	Control the supply and sale of snacks, confectionery and sugary drinks in schools	Changes in supply and demand
11	Provide nutritional labeling for all processed and packaged foods, as proposed in the codex recommendations	Food and nutritional information
12	Promote physical activity through changes in planning and transport policies	Actions to improve physical activity

3.6. Ranking of the main options for NGOs and Associations

NGOs and associations (F) gave very high scores to several options: the three measures relating to education, physical activity at school, but also control of advertising and control of the sale of food in schools (table 7).

Table 7.

Ranking of the main options in the 'optimistic' or 'neutral' scenarios according to their score for NGOs and Associations.

Rank	Group	Group of options
Performance in "optimistic" scenario		
1	Reinforce and revise food and nutrition topics in the school curriculum	Educational measures
2	Improve health education to enable people to make informed choices	Educational measures
3	Reinforcing the integration of physical activity at school	Actions to improve physical activity
4	Control food and drink advertising and promotional messages, particularly those targeting children	Food and nutritional information
5	Improve training for healthcare professionals in obesity prevention, diagnosis and advice for people at risk	Educational measures
6	Control the supply and sale of snacks, confectionery and sugary drinks in schools	Changes in supply and demand
7	Improve the availability, access and use of sports and leisure facilities	Actions to improve physical activity
8	Reform agricultural policies to bring them into line with prevention and health promotion policies	Institutional reforms
9	Provide nutritional labeling for all processed and packaged foods, as proposed in the codex recommendations	Food and nutritional information
10	Promote physical activity through changes in planning and transport policies	Actions to improve physical activity
11	Develop nutritional standards and recommendations, encourage catering professionals to provide healthier menus	Changes in supply and demand
12	Encourage improvements in food composition	Changes in supply and demand
Performance in "neutral" conditions		
1	Reinforce and revise food and nutrition topics in the school curriculum	Educational measures

2	Improve health education to enable people to make informed choices	Educational measures
3	Improve training for healthcare professionals in obesity prevention, diagnosis and advice for people at risk	Educational measures
4	Reinforcing the integration of physical activity at school	Actions to improve physical activity
5	Control food and drink advertising and promotional messages, particularly those targeting children	Food and nutritional information
6	Control the supply and sale of snacks, confectionery and sugary drinks in schools	Changes in supply and demand
7	Improve the availability, access and use of sports and leisure facilities	Actions to improve physical activity
8	Reform agricultural policies to bring them into line with prevention and health promotion policies	Institutional reforms
9	Provide nutritional labeling for all processed and packaged foods, as proposed in the codex recommendations	Food and nutritional information
10	Promote physical activity through changes in planning and transport policies	Actions to improve physical activity
11	Develop nutritional standards and recommendations, encourage catering professionals to provide healthier menus	Changes in supply and demand
12	Encourage improvements in food composition	Changes in supply and demand

3.7. Ranking of the main options for Multilateral Partners

Multilateral partners (G) highlighted the three measures relating to education, but also physical activity at school, nutritional recommendations and incentives for catering, and improving food composition (table 8).

Table 8.

Ranking of the main options in the 'optimistic' or 'neutral' scenarios according to their score for the Multilateral Partners.

Rank	Group	Group of options
Performance in "optimistic" scenario		
1	Improve health education to enable people to make informed choices	Educational measures
2	Improve training for healthcare professionals in obesity prevention, diagnosis and advice for people at risk	Educational measures
3	Reinforce and revise food and nutrition topics in the school curriculum	Educational measures
4	Develop nutritional standards and recommendations, encourage catering professionals to provide healthier menus	Changes in supply and demand
5	Reinforcing the integration of physical activity at school	Actions to improve physical activity
6	Encourage improvements in food composition	Changes in supply and demand
7	Provide nutritional labeling for all processed and packaged foods, as proposed in the codex recommendations	Food and nutritional information
8	Improve the availability, access and use of sports and leisure facilities	Actions to improve physical activity
9	Promote physical activity through changes in planning and transport policies	Actions to improve physical activity
10	Control the supply and sale of snacks, confectionery and sugary drinks in schools	Changes in supply and demand
11	Control food and drink advertising and promotional messages, particularly those targeting children	Food and nutritional information

12	Reform agricultural policies to bring them into line with prevention and health promotion policies	Institutional reforms
Performance in "neutral" conditions		
1	Improve health education to enable people to make informed choices	Educational measures
2	Improve training for healthcare professionals in obesity prevention, diagnosis and advice for people at risk	Educational measures
3	Reinforce and revise food and nutrition topics in the school curriculum	Educational measures
4	Reinforcing the integration of physical activity at school	Actions to improve physical activity
5	Develop nutritional standards and recommendations, encourage catering professionals to provide healthier menus	Changes in supply and demand
6	Encourage improvements in food composition	Changes in supply and demand
7	Provide nutritional labeling for all processed and packaged foods, as proposed in the codex recommendations	Food and nutritional information
8	Improve the availability, access and use of sports and leisure facilities	Actions to improve physical activity
9	Promote physical activity through changes in planning and transport policies	Actions to improve physical activity
10	Control the supply and sale of snacks, confectionery and sugary drinks in schools	Changes in supply and demand
11	Control food and drink advertising and promotional messages, particularly those targeting children	Food and nutritional information
12	Reform agricultural policies to bring them into line with prevention and health promotion policies	Institutional reforms

4. Discussion

The purpose of these tables is to provide a list of the options preferred by the participants, according to their overall ranking; firstly on the basis of the 'optimistic' score, and secondly on the basis of the average of the two scores for each option; in the latter case, the two scenarios, optimistic and pessimistic, are 'neutralized', which is why we will speak of a ranking under neutral conditions. The aim is to highlight the measures that are likely to generate the broadest consensus and the least resistance. Four options stood out from all the others: the three options in the group of measures relating to education and training (in particular reinforcing nutrition in the school curriculum and educating the public about health) and reinforcing physical activity in schools. With the exception of the agri-food sector for the training of health professionals and for physical activity in schools, all categories of stakeholders placed them at the top of their list of preferred measures, in both optimistic and pessimistic scenarios.

All the other options in the groups of measures aimed at modifying the environment of individuals, namely those relating to (i) exercise and physical activity, (ii) food supply and demand, and (iii) food and nutritional information, received good or fairly good scores in optimistic scenarios; from this point of view, no option is rejected. However, as the evaluations are marked by a high degree of uncertainty, all these options score poorly or very poorly in the pessimistic scenarios.

Most of the disagreements between key players and categories of player concern the relative importance to be attached to these groups of options, and the relative advantages of the different options for action within these groups.

A study conducted in Greece showed that participants generally agreed that no single policy option was sufficient to combat obesity and that a combination of policies should be considered. According to the interviewees' responses, the policy options relating to educational measures, followed by some options aimed at encouraging physical activity and some information-related options, acquired consistently high rankings overall. The educational option was seen as the starting point for all other options, with initiatives targeting young people through nutrition and health education in schools being particularly favored. Mandatory nutrition labelling and controls on the advertising of food and drink to

children were seen as relatively weak by representatives of the food and advertising industries, but other participants were more optimistic [8].

In the UK, the top three obesity policy options supported by the stakeholders interviewed were education and research initiatives, followed by encouraging exercise and physical activity and providing and regulating information. The group of options aimed at influencing food supply and demand received mixed reviews from interviewees, as did the options related to institutional reforms [9].

5. Conclusion

With this in mind, the results of this study lead to the conclusion that policy-makers could initially consider the measures relating to education on which there is consensus, and the options for action which have met with the most support in each other group, and which could therefore have the best chance of being successfully implemented in Morocco. Legislative measures will also be essential to ensure effective application of the measures envisaged. In this context, consideration should be given as soon as possible to actions that could be targeted as a priority at women, by far the population group most affected by overweight and obesity.

Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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