

Improving Wellness through Fighting Overweight: Towards an Efficient Social Strategy

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Abstract

Fighting obesity and overweight is a challenge facing people and healthcare professionals in many countries. In order to resolve this public health issue, several strategies and actions have been implemented, especially in the context of social marketing, but their impact and effectiveness are still limited. In this paper we propose a research integrating barriers and motivations to fight obesity in low- and middle-income countries. This research presents different individual and environmental factors influencing the fight against this health problem. Using qualitative research methodology, we could better understand the perception of overweight and obesity, multiple barriers and facilitators have been identified which help to improve the effectiveness of programs implemented in order to fight this bane of the society and optimize individual's behavioral change. This work ends up with some final conclusions and implications related to the social environment which is very important to support weight loss plans (children, family, colleagues). Furthermore, we have to pay attention to the role of decision makers and health authorities which is very important, but their efforts remain limited till now. Besides, it is important to focus on family-oriented communication and privilege social media. Children have been also identified as important influencers for the family.

Keywords: *Obesity; Strategies; Social Marketing; Barriers; Facilitators*

Overweight: A universal public health problematic

Excessive weight which appears in humans as overweight or obesity is a condition considered to be a chronic progressive disease [1], which results into a real public health problem in most world countries. Overweight and obesity are defined as an abnormal or excessive accumulation of body fat that represents a health risk.

According to the World Health Organization (WHO), overweight and obesity are major risk factors for several chronic diseases such as: cardiovascular disease; diabetes; musculoskeletal disorders (osteoarthritis); some cancers (endometrium, breast, ovary, prostate, liver, gallbladder, kidney and colon) [2,3]. It has been shown that the risk of contracting non-communicable diseases increases with the Body Mass Index (BMI). Finally, childhood obesity is associated with an increased risk of premature death and disability in adulthood. But, in addition to these risks for the future, obese children may have difficulty breathing, increased risk of fractures, high blood pressure, appearance of the first markers of cardiovascular disease, insulin resistance and psychological problems [4-6].

Nowadays, overweight and obesity are deadlier in the world than underweight due to poor nutrition. Obesity no longer affects only developed countries, but it affects more and more low- and middle-income countries and also non-industrialized rich countries (oil-pro-

ducing countries), especially in urban areas. For example, the WHO data show that, globally, the number of cases of obesity has doubled since 1980. In 2014, over 1.9 billion adults (39%) had overweight, of whom more than 600 million were obese (13%) and 41 million children under 5 had overweight or were obese. In low- and middle-income countries, the figures for overweight and obesity are as alarming as those worldwide.

In fact, the metabolic diseases (diabetes and CVD) result in a considerable overweight increase with adults in the Eastern Mediterranean (EM) countries and in Africa; the two WHO regional divisions which contain the largest number of low- and middle-income countries or rich developing countries (Gulf countries).

Data for adults aged 15 and over in 16 countries in the EM region show the highest rates of overweight and obesity in Saudi Arabia, Bahrain, Egypt, the United Arab Emirates, Jordan, and Kuwait. The prevalence of overweight and obesity in these countries ranges from 74% to 86% for women and 69% to 77% for men. These data indicate a much higher prevalence of obesity for adult women, while overweight is more spread among adult men. The rising levels of overweight and obesity in children and teenagers are particularly worrying, given the recent data which link childhood obesity to teenage and the increased risk of obesity and morbidity in adulthood.

Africa is experiencing an upward trend in the prevalence of overweight and obesity. In several countries in Africa, for example, obesity has reached epidemic proportions and levels of over 30% among adults. In some African countries such as Mauritania, Swazil and Seychelles and Cameroon overweight levels reach alarming levels above 50% [7].

Tunisia is not an exception when it comes to the increase of the prevalence of excessive weight (overweight and obesity), it can even be noted, without exaggeration, that this country is one of the most poorly ranked EMRO countries in terms of prevalence of obesity and overweight. The evolution of these aspects of prevalence has been increasing in Tunisia too since 1980. These aspects have rapidly increased in a period of 25 years; they have more than doubled for overweight and have multiplied by 4 for obesity. For women, the prevalence of obesity has always been nearly 3 times higher than of men and almost 1.5 times higher for overweight. This situation is observed all over the world for metabolic and biological reasons that differ between men and women.

This state of the rapid evolution in the prevalence of obesity has required global, regional and national strategies to combat obesity.

Moreover, the problem of obesity and overweight has been addressed by a multitude of authors from various disciplines such as biomedical and nutritional researchers, sociologists, economists, public health managers and social marketers [8]. Without claiming completeness and therefore a marketing approach, it is possible to sum up the (non-genetic) explanatory factors of obesity developed in the literature into 3 categories of factors:

- Socio-demographic factors: gender, income, SPC, urbanization.
- Behavioral factors: changes in eating behavior, sedentary lifestyle and physical activity.
- Psychographic factors: representations and beliefs, body images.

Fighting overweight and obesity has become a real international priority since 2004 and this has only begun to take form in a real public health strategy in Tunisia since 2012, the National Institute of Nutrition and Food Technology (NINFT) has set up a strategy for the prevention and fight against obesity.

Social marketing: An approach to understand and fight overweight problems and obesity

Social marketing emerged in the early sixties as an extension of commercial marketing. In the early decades, it was used in family planning programs in the United States to expand later on into a larger problematic such as nutrition, road safety, environmental protection. In addition, this specific approach of marketing has emerged to solve crucial problems related to public health, social conditions of peoples and preservation of a safe and clean environment. Thus, social marketing provides a well-defined framework for the development of innovative solutions that are well-adapted to social problems which have, for a long time, embarrassed individuals and governments [9,20].

The conception of social marketing has changed over time and it has shifted from a traditional approach of adaptation based on promotion of ideas and application of the principles of marketing [10] to a global approach which targets social change through the development of innovative marketing tools and techniques, the aim of which is to orient attitudes and behaviors towards well-being and healthy habits [11]. In addition, Weinreich [12] suggested a pragmatic definition of social marketing and argued that it is: “the use of commercial marketing tools to promote the adoption of a behavior that improves health or the well-being of the target audience or society as a whole”. Thus, through the advance of this definition, this researcher highlights the understanding of expectations, demands, motivations and barriers related to individuals, as well as behavioral analysis at the heart of the social marketing approach. However, French., *et al.* [13] have argued that social marketing is not limited to a purely social dimension but also to the traditional commercial dimension in order to improve the efficiency of the actions carried out. These different conceptions have been criticized and there have been attempts to give social marketing a more realistic definition which contributes to its societal objectives. So, researchers from different global organizations interested in social marketing have tried to come up with a definition that relies on the development and integration of marketing concepts and techniques [11] to serve the target population through the change of behaviors and habits.

Thus, it has to do with an approach that has a social impact through applying concepts and marketing techniques for social problems. In addition, social marketing is a process that causes individuals to change their behavior with respect to public health and environmental problems and aims to help people change unhealthy behaviors through healthy behaviors [14]. This is an approach that aims to unravel behavior through the understanding of barriers and levers. It should be noted that this approach is not a theory of behavioral change, but rather a systematic way of thinking and solving the social problems which today’s society is facing [10]. Indeed, it can be a very efficient tool which has a real impact on the change of behavior, once it is appropriately used.

The role of social marketing in solving health problems

Social marketing has been widely used in solving public health problems [15] such as smoking, AIDS, family planning, domestic violence, obesity [10]. This approach aims to enable health professionals to set up efficient programs to solve existing problems. As a result, tackling the problem of obesity is one of the biggest public health challenges which most countries around the world are facing [16,17]. Social marketing is developed as a designated approach to promote campaigns and events to encourage individuals to eat healthy food and to practice sport [18], but this approach is very limited and has not brought effective results in terms of improving the current situation with regard to obesity which is worsening [16]. Thus, social marketing aims, through its various tactics, to persuade individuals to change their individual behavior and should not be limited to education and simple information [11] and this is done to improve their states of health and well-being. The goals of social marketing are usually accomplished through communication campaigns to increase people’s awareness of the problem and to try to change their unhealthy attitudes and behaviors [9]. In addition to communication, Wymer [14], in his research works, has argued that social marketing also aims to provide products/services to help individuals replace unhealthy behaviors with healthy ones. However, before taking action and proposing means and strategies to deal with this scourge which is invading our societies, it is essential to dissect the behavior of the target population and try to understand very deeply the motivations of these individuals and the barriers that face them which can be individual or environmental [14]. Indeed, social marketing can help prevent overweight and offer corrective measures to fight obesity through well-defined programs and strategies [15,19].

In addition, a study conducted by Italians, in the same context, made it possible to point out the importance of taking advantage of new purchasing habits via food vending machines. These researchers have suggested providing healthy food through these machines with reasonable prices and easily recognizable product identities [19]. On the other hand, several researchers around the world have stressed the importance of highlighting social networks and new information technologies in order to strengthen campaigns against public health problems such as obesity, AIDS and smoking [20-22].

Thus, communicating, convincing and changing unhealthy behaviors and habits, all of this is becoming a universal concern. Several countries have taken the initiative to join programs to fight obesity and introduce rules of healthy lifestyle. In fact, this reflection may

include, in this context, the National Health Nutrition Program of France via the website “Manger Bouger” (English meaning: Eat Move). The latter has been launched to improve people’s knowledge of the problem of obesity, to offer healthy lifestyles and habits such as a good balanced diet “Manger Mieux” (Eng: Eat better) and regular physical activity “Bouger plus” (Eng: Move More). Thus, the objectives of public health programs are translated into simple and applicable proposals by the general public regardless of their social or intellectual level such as “Walk with friends or family, in your neighborhood, in the forest.” or “Go to the market, to children’s school or to work on foot or by bike”. But the efficiency of the actions carried out through these campaigns was considered insufficient [23] and the prevalence of obesity continues to increase and this is seen more importantly in women than in men [16].

Social marketing: A new dimension to understand and analyze behaviors

In 1981, Bloom and Novelli suggested that social marketing represents the conception, the implementation and monitoring of programs to increase the acceptability of an idea or a social practice in a target group. Therefore, social marketers need to correctly understand the causes of a social problem and unpack individual behavior in order to achieve more efficient solutions, and it is in this context that several researchers have criticized the efficiency of social marketing programs and have proposed ways to improve it [14]. Moreover, today there is a switch from a definition of social marketing based on the widespread adaptation of the means and the techniques of marketing to a very specific discipline requiring a new “human” and social direction to achieve specific behavior objectives, for the social well-being of individuals. This is not to adapt ideas to the expectations and needs of the target population, but rather to put it (population) at the heart of marketing work and promote social change [14] through the detailed analysis of behavior for the purpose of influencing them and orienting them towards the well-being of society [11]. Thus, increasing the efficiency of marketing strategies through analysis and deep understanding of the behaviors, the barriers and the levers, becomes vital.

Barriers to fight obesity: Literature review

According to several studies there has been a focus on strategies to combat obesity and overweight [1,14,18]. Any strategy deals with several barriers both at the individual and at the environmental levels. This distinction in 2 categories was the result of the work of Wymer [14] which presents a hierarchy in the form of a pyramid of the 4 main barriers which constitute 2 groups of barriers: environmental barriers and individual barriers:

- Environmental barriers that include deprivation factors related to an absence or lack of basic equipment or infrastructure to promote well-being or to improve health and pathogenic agents that correspond to the presence of elements that cause an unhealthy state.
- Individual barriers include the ignorance factors which are related to the lack of knowledge of the health problems by the individuals who will not take corrective action and motivational factors that consist of an individual assessment of the perceived costs with regards to the benefits of future healthy behavior which are compared to perceived costs versus current unhealthy behavior.

The research of Wymer [14] has certainly made it possible to propose a typology of the barriers, nevertheless, other researchers have thought about the barriers and the motivations of the strategies of fighting a societal and health problems. The following passage will present the main barriers according to Wymer’s typology, but it is enriched by a literature review.

Barriers related to the environment

Gullstrand Edbring, *et al.* [24] stated that people’s views on environmental and societal challenges play a major role in shaping their attitudes towards social and environmental issues. In addition, Mauro, *et al.* [1] in 2008 stated that a person’s social and cultural background has a very important influence on lifestyles and beliefs related to physical activity and nutrition that are directly related to health problems. According to these same researchers, there are many environmental barriers that affect the efficiency of social marketing strategies, notably the fight against obesity.

These are:

- Time constraints: Musaiger [25] considers that the time constraint is the most important factor leading to inactivity, it is also an barrier for the preparation of balanced dishes [1].
- Close saboteurs: The environment of close family and friends can constitute a real barrier to a good diet, a physical activity plan or any slimming program.
- Drugs for some anti-morbidities generate weight gain and may reduce weight loss or its maintaining efforts [1].

At the end of a survey performed with pharmacists to identify and analyze barriers to the orientation of obese patients, O'Donnell, Brown and Dastani [26] find three main barriers which are: lack of time (76.8%), lack of demand or expectations (55.8%) of patients, and lack of refunding/compensation (49.3%). We can consider the last barrier as environmental.

Lagerros and Rössner [27] have made a list of 5 main barriers to weight loss. According to these researchers, there are three environmental barriers to an efficient fight against obesity: cultural norms of how to perceive body image; lack of convenience stores (lack of supermarkets specialized in dietetic products or of good quality, availability of low quality food distributors); and the negative perception of the loved ones of a person.

Individual barriers

The individuals live in a complex environment where multiple internal and external factors influence their behavior [18]; these individual and environmental factors [14] can be further subdivided into motivations and barriers that affect human behavior. Wymer [14] identified two types of individual barriers to the fight against obesity. Indeed, many individuals may lack knowledge or they may have an incorrect knowledge related to the health problems that touch them and this especially concerns chronic obesity [1]. Hence, the fight against this nuisance is not limited to weight loss but it is a long-term treatment. The second type of barriers is caused by a lack of interest in behavioral change or a decision-making that can improve the health status of the concerned individuals. Wymer [14] pointed out that each category of these barriers may contain several variables, depending on the circumstances and the relevant problem, but this has not been developed sufficiently to improve the understanding of the problem of lack of efficiency of social marketing strategies. Mauro., *et al.* [1] suggested in a study conducted in 2008 that there are several types of brakes related to overweight behavior. Thus, these researchers have identified individual factors that have a direct or indirect impact on fighting obesity such as taking drugs related to the presence of a chronic disease namely respiratory diseases, insomnia, problems of digestion, heart disease, endocrine problems. The socio-professional class can also be a major barrier to the fight against obesity as the cost of certain healthy diets is high [1]. Time shortage is also one of the most common barriers to joining programs to fight obesity. In addition, alcohol consumption is a proof of overweight and obesity because of its high content of calories [28].

Mauro., *et al.* [1] have developed several individual barriers, including:

- Lack of recognizing obesity as a chronic disease: obesity was officially recognized by WHO as a disease in 1948. However, only in 1995 have the WHO and health professionals, after several reports and studies around the world, discovered that there are more health overweight-related problems than those related to underweight.
- Low socio-economic status: the prevalence of obesity was significantly associated with the following features: age, sex (higher among women), sedentary lifestyle, socio-professional category, modest level of education, life in a couple and the country of origin (in multi-ethnic or multicultural countries). In a study conducted in Paris suburbs [29], the risk of obesity increased in low-income and low-educated individuals, as well as among the inactive population. Musaiger [25] considers that, unlike European and North American societies, the prevalence of obesity in the Eastern Mediterranean region is higher among women, in urban areas and among high socio-economic class groups. This has also been proven for the case of Tunisia.

- Time constraints can be considered as individual barriers when they are linked to individual mismanagement of leisure time. Thus, according to Musaigher [25], 53.5% of Saudi men have no physical activity (aged over 19).
- A wide range of morbidities: certain morbidities do not favor the loss or the stability of weight [1].

Lagerros and Rössner [27] propose 2 individual barriers to weight loss that are: unrealistic expectations of success and high drop-out rates.

We can summarize in the following table the main barriers to the fight against overweight or the factors favoring it (OW) by distinguishing the environmental barriers from the individual ones.

	Content of barriers/factors of overweight	Authors
Environmental Barriers	Time constraints	Musaiger, 2004; Mauro., <i>et al.</i> 2008; O'Donell, Brown, and Dastani, 2006
	Close saboteurs	Mauro., <i>et al.</i> 2008
	Some anti-morbidity drugs	Mauro., <i>et al.</i> 2008
	Absence of refunding / compensation	O'Donell, Brown, and Dastani, 2006
	Cultural Norms of perceiving body image	Lagerros and Rössner, 2013
	Shortage of convenience stores	Lagerros and Rössner, 2013
	Negative perception of the close persons/loved ones.	Lagerros and Rössner, 2013
Individual Barriers	Time constraints	Musaiger, 2004; Mauro., <i>et al.</i> 2008; O'Donell, Brown, and Dastani, 2006
	No recognition of obesity as a chronic disease or incorrect recognition	Mauro., <i>et al.</i> 2008
	Absence of demand or expectations of combating overweight	O'Donell, Brown, and Dastani, 2006
	Low socio-economic status	Mauro., <i>et al.</i> 2008 ; La Rosa., <i>et al.</i> 2003
	Wide range of morbidity	Mauro., <i>et al.</i> 2008
	Unrealistic expectations of success	Lagerros and Rössner, 2013
	and rates of drop-outs	Lagerros and Rössner, 2013
Alcohol consumption	Prentice, 1995	

Table 1: Summary of environmental and individual barriers to overweight.

Factors for strengthening and motivating an anti-obesity strategy

Content analysis

Researchers who analyzed motivational factors and strengthening strategies to combat overweight and obesity are not as numerous as those who are concerned with barriers and hindering factors, moreover, the cultural and economic context is different in low- and middle-income countries. For this reason, a qualitative survey has been opted to identify these first factors.

Research Methodology

The aim of this research was to better understand the facilitators and barriers related to the fight against obesity in low- and middle-income countries, in order to enhance the adhesion to the national and international programs to fight this scourge and to improve the efficiency of the actions carried out in this frame. Thus, it has been essential to conduct a qualitative study and provide a clear and

precise schema in terms of perceptions of obesity, the levers and barriers related to the fight against this social evil, in order to optimize the quality of life, efficiency of marketing actions and strategies in this context of analysis. Semi-structured interviews were conducted with a snowball sample of women and men in Tunisia concerned with the problem of overweight and obesity [30]. The collected data were transcribed again, and an analysis grid was constructed from the main analysis units of the study. This analysis allowed identifying the most relevant categories. The interviews were double coded by two authors and subjected to thematic analysis. The qualitative data analysis allowed revealing key ideas related to decision-making with a view to improving the efficiency of marketing techniques and governmental measures.

Results

The analysis of the qualitative data resulting from the semi-directive interviews, allowed revealing important categories related to the main topics of this research. These categories will be presented and analyzed thanks to a thematic content analysis of the collected data. The presentation of the results is organized around the perception of obesity, solutions proposed to fight obesity, barriers and motivations to a healthy diet. A last topic dealt with is the means of communication adapted to this type of health problems.

Perception of obesity and overweight

This research allowed the focus on the perception of obesity and overweight. The results of the qualitative study show that obesity is largely associated with a disease, a health problem or a disability. It is perceived as a psychological problem in itself but also it can constitute a favorable ground for the development of the state of evil being. In addition, obesity is a disease according to the interviewees but also a risk factor, which can give rise to another health problem (diabetes, hypertension, cardiovascular diseases). It should be noted that most of the verbatim about perception is directed toward health issues and that respondents place a special emphasis on psychological health. But despite a negative perception of overweight by society and the family and viewed as a sign of aging and meanness by respondents, this phenomenon has continued to worsen and to reach alarming rates.

Analysis Unit	Verbatim	Frequency
Disease and health problems, handicap	“A real health problem”, “Obesity is a disease, while overweight is a state of food abuse”	19
Psychological Problem, Ill feeling	“Obesity means ill feeling, disease”, “obesity is a problem that bothers the persons themselves on a psychological level”, “Obesity or overweight is depressing”.	10
Risk factor	“A risk factor for several cardiovascular diseases”.	8
Aesthetic, ugly	“Yes, it is an aesthetic problem”, “to look ugly and older”.	7
Negative perception of obesity within the society and the family	“There is no obese person in the family, so we will feel like an alien among them if we ever have a significant overweight”, “the society rejects the obese people, so it is better to avoid obesity”.	7
Age and aging	“To look ugly and older”, “ill feeling, looking old”.	4

Table 2: Perception of obesity and overweight.

Solutions to fight overweight

Concerning the means of fighting this public health problem, the interviewees focused a lot on the nutrition which must be balanced and limited to a certain quality but also well divided during the day. The natural and organic aspect is associated with the diet that can help fight obesity. In addition, perceived as a psychological problem, the improvement of the mental state of the involved person and the control of the stress is declared to be important for the respondents to fight this health problem. Moreover, physical activity is also seen as another way to fight this social evil alongside a healthy lifestyle. The role of the government was not omitted, and respondents reported that health authorities have to inform people and enhance awareness of this type of health problem.

Analysis unit	Verbatim	Frequency
Balanced, and organized diet of good quality	“By maintaining a diet based on fruits and vegetables and moving away from abuse of sugar, salt and white bread”.	28
Improve the psychological state, control your stress,	“Obesity may be due to psychological problems such as stress, occupational burnout, anxiety”.	13
Physical activity	“To encourage the consumption of natural foods and physical activity”.	10
Health promotion	“To have good health promotion”, “in fact, it is health promotion”.	6
Use of natural and organic products	“Favoring organic foods, “use of natural products, fruits, vegetables, olive oil”.	5
Raising awareness and informing people	“Provide information to consumers about the food they buy and consume: transparency”.	5

Table 3: The means to fight obesity and overweight.

Barriers and motivations for adopting a healthy diet

At this stage the respondents have been guided to reflect and give their opinions on the hindering and facilitator factors for a healthy diet and the practice of a physical activity. These 2 strategies are considered as the most suitable to mitigate the overweight of the individuals everywhere in the world.

Most respondents ascribe the barriers to healthy diet to the poor quality of food prepared by restaurants close to the living area (work and home), they consider that they do not have much choice in front of the weak diversity of catering services closer to their living areas and they do not have much trust in the quality of the dishes they serve. We can also note in a large number of verbatim confirmations that preparing meals at home is a good motivation to consume healthy food; however, lack of time is a barrier to this solution.

As far as the practice of a physical activity is concerned, a large part of the corpus made it possible to give a preference to the walk in a fitness trail, a park or even in the street, however, 2 main barriers were picked out, which are the proximity of the park or gym, and the family and social influence that discourages physical activity.

Most of the corpuses release social and cultural barriers to ideal weight, because society and the family support are having and doing overweight food or activities respectively rather than food and activities that balance the weight. Despite these barriers, there is a negative perception of obesity and overweight within society and the families of respondents.

As far as adherence to a program to fight overweight is concerned, the main barriers identified by respondents are in the following order of importance: cost, time constraints, lack of flexibility and proximity. As for facilitators, we have noted that group influence has been indicated in several verbatim. Indeed, whether one evokes a healthy food or the practice of a physical activity, most of the respondents insist on sharing experiences for food and organizing groups for walking. A regular follow-up by specialists (nutritionist and coach) was also considered a motivation to follow a good program.

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Analysis unit	Verbatim	Frequency
poor and unbalanced quality close to living areas	“Because the majority of restaurants are of fast food type”, “most of the sold dishes are full of fat and sugar”, “no salad or soup bar nearby”.	11
Home-made meals (motivation)	“Getting used to preparing a sandwich for oneself with lots of salads in it”, “bring your lunch with you”, “lunch box prepared at home”.	11
Lack/diversity of choices	“I do not have a balanced diet because there is no great choice”, “I have a balanced diet because there are choices”.	10
Effort and arrangement to get healthy food	“It requires efforts and motivation”, “where there’s a will, there’s a way, but it is difficult”.	7
Lack of trust at the restaurants’ services	“Even if they tell me it is healthy, I, personally, do not trust them”.	5
Time constraints	“I am very busy during my workdays and I eat anything in the canteen or in the nearest restaurant”.	5
Influence of relatives, group effect	“I am surrounded by people who are fond of eating”.	3

Table 4: Barriers and motivations for a healthy diet.

Analysis unit	Verbatim	Frequency
Walking or jogging in a fitness trail, park, on the sidewalk, along the beach	“Walking is the best physical activity”.	23
Proximity to a gym or to a park	“A next-door gym”, “the nearest fitness trail or park, a 15 minute drive”.	9
Influence or social constraints	“I am a housewife and mother of two daughters”, “most of my relatives and loved ones do not practice sport, they rather prefer to spend their leisure time in activities that are not very useful (cafe, restaurant, ...)”.	5

Table 5: Barriers and motivations for an adapted physical activity.

As far as the practice of a physical activity is concerned, a large part of the corpus made it possible to give a preference to the walk in a fitness trail, a park or even in the street, however, 2 main obstacles were picked out, which are the proximity of the park or gym, and the family and social influence that discourages physical activity.

Analysis unit	Verbatim	Frequency
Close social and family environment	“To go shopping by bike is seen as socially inappropriate”, “My friends and family environment pushes me to eat and drink well”. “A meal must be served for the whole family however the children need pasta and sweets”.	15
Culture and food habits	“The culture of Tunisian people does involve too much healthy diet or physical activity”, “Gastronomic culture favors pasta and sweets”, “The problem is that the Tunisians love to eat their cuisine because it is highly varied”.	10
Negative Perception of obesity within the society and the family	“There is no obese person in the family, so we will feel like an alien among them if we ever have a significant overweight”, “society rejects obese people, so it is better to avoid it”.	7

Table 6: Barriers and motivations for an ideal weight.

Most of the corpuses release social and cultural barriers to ideal weight, because society and the family support are having and doing overweight food or activities respectively rather than food and activities that balance the weight. Despite these barriers, there is a negative perception of obesity and overweight within society and the families of respondents.

Analysis unit	Verbatim	Frequency
Price	“Healthy foods are more expensive”, “There are very few places where to practice physical activities, unless you pay a lot to practice them and dietary food is very expensive”.	19
Time constraints, stress, flexibility, difficulty	“Without constraints and without too much deprivation”, “I do not like constraints”, “Flexibility of time”, “finding time for physical activity is a must”.	17
Social influence and group effect	“It allows the exchange of ideas and mutual encouragement”, “in a group a person is more motivated”, “organizing walking groups”.	13
Follow-up of specialists and adaptation to the state of the person	“There are programs adapted to each state of health”, “a follow-up by a nutritionist and a coach”.	12
Proximity	“Near one’s house ”	5

Table 7: Barriers and motivations for joining a program to fight overweight.

As far as adherence to a program to fight overweight is concerned, the main obstacles identified in the corpuses are in the following order of importance: cost, time constraints, lack of flexibility and proximity. As for the motivational elements it is noted that group effect has been indicated in several verbatim. Indeed, whether one evokes a healthy food or the practice of a physical activity, most of the respondents insist on sharing experiences for food and organizing groups for walking. A regular follow-up by specialists (nutritionist and coach) was also considered a motivation to follow a good program.

Communication tools for fighting overweight and obesity

The qualitative study also has dealt with the means of communication set up for fighting obesity. Interviewees found that social media are the most important in terms of communication most of them have mentioned “Facebook”. These networks seem to be encouraging people adherence to a program against overweight through the group effect. In addition, television is also important especially in terms of awareness and information. In addition, following this research, children seem to be a communication target that must be integrated into marketing strategies to change eating habits and lifestyle, since their younger age.

Discussion and Implications

Researches on social marketing focusing on fighting obesity and overweight have highlighted environmental and individual barriers. The research in hand allowed to have a complete framework by integrating hindering factors, perceptions, motivations and expectations. It helps to propose corrective measures, in order to improve the quality of marketing programs with reference to our qualitative results. Thus, this research has revealed that individuals are aware of the danger of this health problem, but it is rather the means that allow them to fight against this scourge that are problematic. In fact, the public, private and associative institutions involved in fighting overweight ecosystem must take corrective measures and improve this situation in order to limit the spread of this phenomenon of society. Following the analysis of the results of this research, it is essential to consider the programs of care for overweight and obese people by focusing on behavioral food therapies but also a consideration of psychological aspects as it has been revealed by the qualitative survey.

A considerable effort must also be made to reduce the prices of the products proposed for the fight against obesity by companies and even to plan financial or logistical support by the public institutions which are responsible for this problem by targeting people who are at risk, that is to say, those who have overweight, given the perception of individuals with regard to these prices. Indeed, the qualitative study

conducted during this research has shown that the majority considers the prices of dietetic and healthy foods as well as physical activity plans expensive and not affordable, which presents a significant barrier especially among low-income countries.

On the other hand, healthy food is associated with “home-made meals” and the unhealthy is associated with fast foods, restaurants. People prefer to eat meals prepared by themselves or made at home because there is a problem of trust that emerges in everything that is prepared outside the home.

Nevertheless, the time constraints and the efforts made constitute a barrier to this preference. Thus, it seems interesting to encourage investment in catering projects “salad bar, indoor grilling”, here the consumer can choose the ingredients and can prepare himself or be assisted by a chef his sandwiches or salads and grills, to remedy this problem of lack of trust and reproduce the effect “homemade”. From a sale point of view, proximity turns out to be an barrier in the fight against obesity, and as such, it is necessary to provide consumers with products and services that help them adhere to the fight against obesity. It would be appropriate to multiply and reconcile pre-cooked or pre-manufactured food by products consisting of the preparation of the ingredients of the prepared meals. Launching, distributing and communicating this type of products, on a large scale, allows the popularization and availability of these products to all consumers (prepared vegetables, prepared and/or precooked pasta, etc). Businesses need to be closer to the consumer and optimize the choice of their delivering channels to cover as many geographical areas as possible.

In addition, to encourage the consumption of home-made meals, it is necessary to set up an obligation for businesses, to provide a space for employees where they can have lunch and heat their food in the workplace.

In turn, the public authorities have a great deal of work to do with the development of suitable space, the creation of fitness trails, parks, to encourage the practice of sport, physical activities and walking specifically which is perceived as the ideal activity to fight obesity. Thus, it was necessary to remedy the problem of proximity and price which hinders individuals to adhere to these physical programs through a good infrastructure which encourages the practice of sport (sidewalks, parks).

In this sense, the ministry of sport must intervene with gym centers that should make an effort to review their prices and offer adapted and flexible services over time.

On the other hand, the social environment is remarkably influential on behavior of the fight against obesity, and the group effect acts as a catalyst for adherence to a health and nutrition program and physical activity. Thus, it is important to focus on family-oriented communication in the first place and other groups of belonging (colleagues) in the second place and privilege social networks in terms of awareness and information through creating groups dedicated to sharing advice, knowledge, experiences, dietetic recipes. In this sense the institution in charge of nutrition and food technology in Tunisia, does not have an official active and interactive Facebook page.

In addition, children may be chosen as the target of communication, to encourage adherence to overweight programs as it influences the choice of the family. In addition, substantive work needs to be done on future generations in order to create a “healthy” culture and change the consumption habits and lifestyles that influence choices and guide the decisions through a strategy that must address education of the society starting from a young age (raising awareness of the children in the school, the kindergartens). Targeting the segment of children requires a deeper analysis because these categories of consumers are subject to other influences, have other motivations, attend other places (schools, kindergartens, clubs) and are interested in other hobbies. This is a future channel of research on this category of consumers [31-36].

Conclusion

Facing overweight and obesity issues in many countries, many governments have proposed measures in order to limit these health problems, as obesity is the most significant contributor to ill health. However, many people resist to adhere to weight loss programs. The

research in hand draw an integrative qualitative framework combining barriers, facilitators for adopting a healthy diet and perception of obesity. This research was conducted in Tunisia, the available data lead to the conclusion that the social environment is very important to support weight loss plans (children, family, colleagues). Furthermore, the role of decision makers and health authorities is very important, but their efforts remain limited till now. Public authorities have to support weight loss adherence by improving infrastructure in order to encourage people to practice physical activities and specifically walking which is perceived as the ideal activity to fight obesity. Besides, it is important to focus on family-oriented communication and privilege social media such as Facebook by creating groups dedicated to sharing advice, knowledge, experiences, dietetic recipes.

Finally, this work opens many possibilities for future research. Thus, many questions were opened on targeting the segment of children as they are important influencers for the family.

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