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Parents' and Stakeholders' Perspectives on Strategies to Reduce Fast Food Consumption Among Iranian Adolescents: A Qualitative Study

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Abstract

Background: Many people are concerned with the problems and side effects caused by increased levels of fast food (FF) consumption, especially among adolescents. Several studies have assessed the problems of FF consumption particularly weight gain and obesity. However, few address the methods, strategies, and policies needed to reduce this issue.
Objectives: This study aims to explore parent and stakeholder views and perspectives on the means to reduce adolescent FF consumption.
Patients and Methods: The present paper is based on original research conducted from June to December 2012. In this study, 19 participants were selected using purposive sampling. Their experiences and perspectives were explored using in-depth semi-structured interviews; a thematic content analysis with a conventional approach was conducted to analyze the data. Using this approach, the transcripts were coded openly, and subcategories and categories were chosen based on similarities. Subsequently, themes were defined at a more abstract level.
Results: Three main themes were identified as approaches and strategies suggested by parents and stakeholders to reduce FF consumption. These included culture building, supporting healthy eating styles, and controlling and supervising healthy eating styles.
Conclusions: Based on the extracted themes, some interventions can be suggested to reduce FF consumption among young people. A holistic approach that incorporates a change of culture, social support, and supervision is promising. Further quantitative studies are also recommended.

Keywords: Fast Food, Adolescent, Parents, Qualitative Research

1. Background

Fast food (FF) consumption has increased in recent years, especially among children and adolescents (1). It is believed that FF intake is affected by different external factors, such as access and personal preferences (2). In addition, some researchers believe that there are some elements, other than taste or nutritional factors, that can affect food consumption habits, including nutritious value, health awareness, price, budget allocation, and time (3).

Some studies researched the concentration of FF restaurants in neighborhoods in which schools are located (4, 5). A neighborhood can have a dual social and physical role and can affect eating behaviors. According to one study, proximity to different types of food sources, which is a feature of physical neighborhoods, and the dietary intake of neighbors, which is a characteristic of the social environment, can affect dietary intake (2).

Increased FF consumption is associated with more energy and dietary fat intake as well as less consumption of fruits, vegetables, and healthy food among children, adolescents, and adults (6, 7). As a result, frequent FF consumption is associated with poorer nutritional quality, weight gain (8, 9), diabetes (9), hypertension (10), and an increased risk of cardiovascular disease (11). Thus, there is a need to take action, establish measures, and implement policies to limit the burden of problems associated with FF intake (12).

FF consumption has also drastically increased among Iranians (13). Iran has recently been affected by the world's nutritional transition (14). The available data show a growing tendency of Iranian children and young adults toward

FF consumption (15). Hence, it is necessary to focus on promoting health activities and community involvement (16). Qualitative methods can be utilized to conduct studies aimed at designing effective interventions (17).

Some research has focused on FF consumption among children and adolescents (18), which identified the determinants of FF consumption (10, 19, 20). Most current studies, however, have concentrated on the impact of eating habits on weight and obesity in western communities (21).

Information about the consumption of FF in Iran is limited, and the collected data is sometimes contradictory (13, 22). To our knowledge, there is no published research to date examining parents' and stakeholders' perspectives on FF intake prevention programs.

2. Objectives

This study aimed to explore Iranian parent and stakeholder views regarding measures to reduce FF consumption in adolescents.

3. Patients and Methods

This research was part of a study conducted via a content analysis from June to December 2012. To analyze the data, we used a content analysis method, which is a research approach used to make replicable and valid inferences. It is employed to provide knowledge, form new insights, represent facts, and as a practical guide to action (23).

In this study, participants were selected using the purposive sampling method (24). We only included parents whose children used to eat FF. Additionally, we only included experts and stakeholders involved in the field of FF consumption, production, or health. Failure to continue participating in the study and presenting irrelevant answers were the exclusion criteria. Nineteen participants were selected using purposive sampling. Participant demographic data is shown in Table 1.

The study's aims were explained in detail to the participants. They were ensured of the following: the voluntary nature of participation; their privacy rights; anonymity; confidentiality; and their right to withdraw from the study at any time without penalty. Participants then provided written informed consent, and explicit permissions were sought for audio taping.

The required data was collected using in-depth semi-structured interviews, which is one of the main sources of information in qualitative research (25). A series of six semi-structured questions were developed. Probe questions were utilized when needed, and participants were also asked about their socio-demographic information.

The first author, who had good communication skills and previous interview experience, conducted the interviews. The interviewer was a PhD candidate in health who had excellent knowledge of FF consumption and was fully familiar with the topic. To start the interviews, the interviewer began with a predetermined, standard set of questions. He played a neutral role and acted casual and friendly. He did not involve his opinion in the interview, but he did have the opportunity to probe or ask follow-up questions. Each interview lasted 30 to 90 minutes. Interviewing was stopped when data saturation occurred; this is when no more code was identified through the last interview and when the emerged categories were believed to be coherent. All interviews were recorded using a digital voice recorder and transcribed into a Microsoft Word file. Once the transcripts were finalized, MAXQDA 10 software was used to classify and analyze codes.

In this study, a content analysis method with a conventional approach was applied. Classes were extracted directly from the text; this method helps researchers gain a deeper understanding of a phenomenon (26). In this study, the data collection and analysis were carried out simultaneously. The data analysis was conducted based on the Graneheim and Lundman method (27). Accordingly, all recorded interviews were transcribed into a Microsoft Word file. These were thoroughly studied to achieve a full understanding of the data. According to the content and context, the interviewees' sentences and paragraphs as units of analysis were condensed—i.e., they were abstracted and labeled with codes. The codes were then arranged into subcategories and categories by comparing their similarities and differences. Finally, a theme was obtained that expressed the text's latent content (27).

To ensure the accuracy and consistency of the data, we utilized the criteria of validity, credibility, confirmability, and transferability as proposed by Lincoln (28). The Research Council and Ethics Committee of the Iran University of Medical Sciences approved the study (registered under grant 17896; dated 05/17/2012).

4. Results

All parents and stakeholders believed that significant changes occurred in the behavior of households and adolescents, particularly during the past decade. The changes highlight the need for higher levels of attention on people's dietary habits. The approaches and strategies suggested by parents and stakeholders were classified into three main themes: culture building, supporting a healthy eating styles, and controlling and supervising healthy eating styles. These are described in detail below.

Table 1. Participant Demographics (Parents and Stakeholders) in Semi-Structured Interviews

Participant's No.	Sex	Age	Occupation	Experience, y	Number of children
P1 - 4 (Stakeholders)					
P1	Male	60	President of the union of fast food sellers	35	-
P2	Male	50	President of the union of restaurant owners	30	-
P3	Male	60	President of the Assembly of the Union	40	-
P4	Male	70	President of the Unions Council	50	-
P5 - 8 (Specialists)					
P5	Male	40	Nutritionist (assistance professor)	12	-
P6	Female	55	Nutritionist (professor)	30	-
P7	Male	47	Assistance professor of health education and promotion	17	-
P8	Female	50	Professor of health education and promotion	22	-
P9 - 19 (Parents)					
P9	Female	47	GED diploma/house wife	-	2
P10	Female	30	BSc/employee	-	1
P11	Female	34	College degree/employee	-	2
P12	Female	49	BSc/high school principal	-	3
P13	Female	50	BSc/retired teacher	-	2
P14	Female	44	10th grade/house wife	-	2
P15	Male	52	8th grade/house wife	-	4
P16	Male	55	BSc/retired director of teacher's university	-	3
P17	Male	43	GED diploma/self employed	-	3
P18	Male	50	BSc/employee	-	3
P19	Male	58	PhD/faculty member	-	2

4.1. Culture Building

The first solution offered by parents and stakeholders was to build a culture of healthy eating styles. This can be done by informing adolescents about the negative effects of FF and changing attitudes and beliefs. Box 1 presents the participants' views about culture building.

Participants believed several activities could be performed at different family, school, and community levels to raise awareness about the side effects of FF. In the family, the main focus should be on mothers, who are the backbone of the family's health and nutrition. Participants highlighted the need for information regarding nutritional facts and the side effects of FFs: "The Ministry of Health does not take any action to inform the public about the non-standard FFs which are delivered to people. So, first of all, we must start from the family; the family should be informed" (P4). One of the mothers said her daughter previously used to eat FF and, because of excessive FF intake, was affected by obesity, ovarian cysts, and a fatty liver. The mother said that: "Parents need to teach the kids more and give them less money. Parents are more responsible. When kids have nothing to eat in their homes, they have to eat a sandwich. Since sandwiches are delicious, they get used to it" (P9).

According to participants' views, schools can be used to transfer information: "School authorities are often oblivious about their students' diets" (P16). A dietitian further highlighted the important role of custodian and school buffet owners: "Custodians and school buffet owners produce, prepare, and sell food to students. Hence they should be trained about nutritional information and healthy snacks and must become familiar with the side effects of FFs" (P5).

Creating an independent health care course in schools is suggested to discuss various health topics for students, like healthy eating and the hazards of snacks and FF: "As there is a health course taught in universities, there should be a similar course in schools to raise different health issues. It should be aimed to increase adolescents' knowledge and skills in various aspects of health, including

Box 1. Parents and Stakeholders' Views About Culture Building to Reduce FF Consumption[a]

Category and Sub-Categories' Main Code
Raising awareness about the side effects of FF
Family
Special training for mothers
Training adolescents
School
Training teachers and school officials
Training employees and servants
Creating a health course in schools
Community
Raising awareness through the ministry of health
Raising awareness through the media
Improving and changing attitudes and beliefs
Community
Not advertising FF in the media
Promoting the preparation of food at home
Exhibiting traditional and healthy foods
Family
The importance of eating meals at home together with family members
Motivating families to prepare traditional and healthy meals at home
Adolescents
Putting more emphasis on maintaining personal health
Considering the health consequences of any type of food
Empowering adolescents to decline FF

[a] Theme = Culture building.

proper nutrition and healthy snacks" (P7).

Some parents believe western food culture is becoming prevalent in the country. They pointed to the media's role in the occurrence of such a phenomenon. One of the mothers said: "TV has some programs about the problems associated with drug addiction or traffic; it is also better TV produces some programs to show the complications of eating FF" (P10). Another parent said: "the media can show some documentaries about how to prepare and make unhealthy FFs and their bad effects" (P17).

The participants suggested healthy food festivals as a way to inform students: "It is better to have some exhibitions of traditional and healthy foods, since they can contribute to the promotion of healthy foods" (P11). Several participants emphasized the positive role of eating at home: "Families, especially mothers, must understand the importance of interaction and dialogue between family members at mealtime" (P18).

Descriptive social norms also play an important role in modifying individuals' attitudes and beliefs. These are defined as tendencies to cope with the other members of a community when making decisions or taking actions. A number of participants declared that teenagers mistakenly believe that since most people eat FF, it is okay for them: "I think many young people believe that since all eat FF around the world, it is also okay for them to eat FF too. Such false beliefs need to be amended" (P7). Teenagers must be able to decline when offered FF: "The schools have to hold some life skills classes, especially to teach students how to say no" (P12).

4.2. Social Support for Healthy Eating Styles

Social factors affecting behavior, which are often not attainable for most health systems, are stronger than training and more effective in changing behaviors. Family, organizational, and environmental support are more impor-

tant in this field. Box 2 presents the participants' views about social support for healthy eating styles.

According to participants, family or parental support is one of the main ways to promote healthy eating. Parents' lifestyles, including their diets, preparing dishes to suit teenagers' tastes, preparing good foods for adolescents to take to school, and eliminating or reducing FF consumption can play a significant role in adolescent dietary habits. Participants highlighted the importance of preparing foods at home that are favored by teenagers: "When an adolescent is sure that good foods are always available at home, the food is always prepared, he can eat his favorite food, then he or she does not think of eating FF" (P4).

Other participants (especially mothers) stressed the need to prepare good food to take to school: "Families should prepare more traditional dishes and motivate their children to take such foods to school. Mothers should take time to prepare delicious foods" (P13). Furthermore, some parents have faulty incentive mechanisms: "Nowadays when families want to give a reward to their kids, they promise them to eat out; it has become a way of entertainment. It is not good at all" (P19).

Organizations can also support healthy eating through legislation and codes of conduct designed for support and cooperation. Schools can adopt policies prohibiting the sale of junk foods and establish a healthy eating buffet. Parents suggested the following ways to reduce FF consumption among adolescents: ban FF sales in schools, provide healthy traditional foods cheaper than FFs, increase the working hours of traditional restaurants, and prohibit the proliferation of FF restaurants. Concerning the problem of FF sale at schools, one of the participants stated: "My daughter says in their schools sausages and falafel are sold in large quantities, her friends buy FF and she likes as well to buy the same foods; why doesn't the government ban the sale of FF at schools?" (P9).

A number of stakeholders underlined the need to facilitate the establishment of traditional restaurants, grade FF stores by their quality, install nutritional value tags, and license the schools' buffet owners. They believe: "FF stores are increasing in number, since it is easier to establish them" (P2). It was also mentioned that: "FF stores should install the tags of the nutritional value of foods so that their customers know what they have chosen" (P6).

Stakeholders said there must be intersectoral collaboration among public and private sectors to develop health centered policies. For any decision or policy, the long- or short-term effects on the population's health must be considered: "Currently, health is a main topic in all policies all around the world. All our policies should concentrate on the physical, psychosocial, and spiritual dimensions of people, and take them as their responsibility and consider them in all of their policies" (P8).

Participants also showed concerns about the efforts to promote healthy eating and healthy foods in the community. They said that the presence of many canteens around schools attracts adolescents to FF: "We tried to keep them away of FFs in schools, but it was useless since there are many canteens and FF stores around schools." (P12).

4.3. Monitoring and Controlling Healthy Eating Styles

Monitoring and controlling was also introduced as a means of reducing FF consumption. Monitoring can include two aspects: organizational and family control. Box 3 presents the ideas and methods suggested by participants with regard to this theme.

According to participants, parents should control their children's diet so they are less affected by FF and gradually develop personal, internal control over their food consumption habits. Adolescents' food intake and their pocket money should be supervised: "Parents should be careful and make sure that their children do not eat FF at school; my daughter always took money to buy mobile phone credit, while she was used to buy sandwich at school" (P9).

In addition to family, organizational supervision and control is needed: "We have to enhance the supervision and make it more continuous. If incentives are needed, we should provide them; if punishments are needed, we have to punish the wrong doings. The leverages should be more. We must guarantee the safety of foods which they want to consume" (P1).

Some participants believed that authorities do not take serious actions to control FF consumption. They can, however, carry out some basic actions that prevent the further growth of FF consumption especially among adolescents. For example, authorities can control FF promotion via advertisements: "There is a need for serious oversight on any FF advertisement. Now, there are so many non-authorized promotion campaigns and advertisements." (P12).

5. Discussion

The findings of this study suggest that parents, authorities, and organizations can play a major role in reducing FF consumption. Three main categories were suggested: culture building, social support, and supervision.

Building and changing culture was one of the main strategies. As Phulkerd et al. said in their study, to reduce FF consumption, it is important to change the culture of FF consumption which has recently became more prevalent (4). The results of several studies, such as a study by

Box 2. Parents and Stakeholders' Views Regarding Social Support for Healthy Eating Styles to Reduce FF Consumption[a]

Category and Sub-Categories' Main Code
The role of family (parents)
Preparing the dishes favored by adolescents
Preparing colorful dishes
Preparing delicious and healthy dishes
Paying attention to adolescents' tastes
Preparing the dishes on time
Making various foods for different mealtimes
Adolescent participation in preparation and cooking
Preparing FFs using healthy raw material alternatives
Preparing appropriate foods to be eaten at schools
Not preparing FF to be eaten at schools
Preparing traditional foods like FF
Encouraging adolescents not to consume FF at school
Eliminating or reducing FF consumption
Not choosing FF restaurants
Eliminating or reducing the purchase of FF raw materials
Not ordering FF to eat at home
Organizing support for healthy eating
Developing support laws and standards
Banning FF sales in schools
Making healthy foods cheaper than FF
Increasing the working hours of traditional restaurants
Prohibiting the proliferation of FF chain restaurants
Facilitating the creation of traditional restaurants
Making it obligatory to get a license for any food advertisement
Rating FF store quality
Making it obligatory to include the nutritional value tags of foods in FF menus
Mandatory licensure for school buffet owners
Intersectoral collaboration
The collaboration between the Ministry of Health and the Council of Unions
The merger of homogeneous food unions
Establishing union agreements
Cooperation between the Ministry of Health, food industry, and agriculture
Supporting environment (access)
Changing and increasing access
Accessibility of traditional and healthy restaurants and catering
Abundance of traditional and healthy restaurants and catering
Increasing the number of restaurants and stores that provide healthy FF
Limiting access
Reducing access to FF stores
Restricting access to FF stores around schools

[a] Theme = Social support for healthy eating styles.

Brach, suggest interventions designed with a cultural approach are more effective (29). As a solution, one study suggested changing the choices available for children's meals in fast-food restaurants (30). Furthermore, other studies indicated a strong positive relationship between knowledge and awareness about nutrition and eating behaviors (31). In addition, research has shown that school-based interventions and health education can improve adolescents' eating habits (32). The school-based interventions should eliminate misunderstandings caused by publications and advertisements (33, 34). One of the interesting findings of previous studies is that health awareness was not significantly negatively related to people's choices for FF consumption (3). Hence, some interventions must be

Box 3. Parent and Stakeholder Views About Social Support for Healthy Eating Styles to Reduce FF Consumption[a]

Category and Sub- Categories' Main Code
Family supervision and control
Supervising the pocket money given to adolescents and supervising how the money is spent
Reducing or eliminating pocket money for adolescents
Supervising how pocket money is spent
Monitoring adolescent's foods
Adolescent's foods at schools
Adolescent's foods at home
Adolescent's foods while spending time with friends
Organizational supervision and control
Monitoring schools' buffets
Monitoring schools' buffets by the Bureau of Health
Monitoring schools' buffets by school principal
Monitoring schools' buffets by the health centers
Monitoring schools' buffets by Union of Food stores
Monitoring the administration of laws
Monitoring food stores and restaurants
Monitoring any advertisement on food materials

[a]Theme = Monitoring and controlling healthy eating styles.

designed to raise parent and student awareness.

Our findings confirmed the negative effects of advertisements and commercials. According to the results of one study, parents believed that their children wanted to visit FF restaurants because of advertisements (30). Zuppa et al. showed that, typically, television advertisements promote FF and high-calorie foods among children and adolescents (35).

According to a study by Mirmiran et al., despite an acceptable level of nutritional knowledge in adolescents in Tehran, only 25% of boys and 15% of girls had healthy eating behavior (36). Thus, it is not enough to solely emphasize information and knowledge transfer about the short- and long-term benefits of healthy foods (37) since the consumption of any type of food by children and adolescents is strongly influenced by other factors, like parents' taste and eating habits (38).

Another strategy suggests the advocacy of social support for healthy eating styles provided by family, organizations, or the environment. Families should protect their members and maintain patterns of healthy behavior (39) by creating a positive atmosphere and providing food favored by children (21). In contrast with many results, one study reported that mothers believe FF restaurants have recently offered healthier foods, but there were still some concerns about food quality. These mainly addressed meat products and processing methods (30).

Folta et al. showed that women must be taught about food preparation skills (40). Benton's study showed a family can influence nutritional patterns by choosing the right foods and preparing healthy meals (41). However, time (i.e., convenient food consumption) is as a factor that has a significant impact (3).

Another type of support is provided by organizations promoting healthy nutrition. Participants highlighted the need for supportive legislation and regulations and intersectoral collaboration for the promotion of healthy eating styles (12). Supportive laws and regulations can balance the price of healthy food and FF. Several studies revealed that food price is an important determinant for user's decisions and choices (42). Foods with good nutritional value are more expensive than energy-dense and unhealthy foods (43, 44). In addition, one study found that a strict budget might affect parents' choices for purchasing from FF restaurants (30). Duffy et al. showed that imposing taxes on high-calorie foods such as pizza had an impact on reducing consumption (45). The reduction of the price of healthy foods in low income communities was also effective in reducing the consumption of unhealthy foods (46). However, a study by Mhurchu et al. showed that reduc-

ing the costs of healthy and nutritious foods did not affect the consumption of unhealthy foods (47). Seemingly, to achieve a comprehensive solution, factors other than cost must be considered (48).

Some parents pointed out the need for the compulsory installation of nutrition labels on FF. As reported, there are currently few concerns about the influence of labeling at FF outlets on parents' purchases (49). While a study claimed presenting the nutritional value of food on menus helped parents choose low-calorie options (50), another study showed it did not modify adolescents' food choices (51). Although FF labeling is expected to lead to a decreased level of consumption, one study has reported there is no evidence to suggest nutrition labeling alone reduces the frequency of FF purchases (49).

This study's results showed that schools do not support healthy eating styles among adolescents. It is therefore necessary to make laws and regulations prohibiting FF sales in schools and limit FF shops in the surrounding environments. Further, FF stores should be motivated to provide healthy foods with reasonable prices for adolescents (34, 52).

Intersectoral collaboration and the integration of homogenous food unions were among the other solutions suggested by stakeholders. This is also proposed by the world health organization's global strategy on diet, physical activity, and health (53).

Some students think that whatever is sold in schools is healthy. This indicates the significant role of schools in forming healthy behaviors in adolescents and young children (54). Frieden proposed the idea of zoning restrictions through which authorities can limit the density of FF establishments around schools (55). The rapid expansion of FF shops around schools can motivate children to consume FF more frequently. The presence of FF shops close to schools can also increase the probability of FF consumption and reinforce peer-influences that encourage FF consumption (56).

Parents and stakeholders also suggested supervision and control as the last method to mitigate FF consumption. This can be carried out by the families and the involved organizations. Martin said that legislators and policy makers can use their powers to design preventive measures to inhibit the delivery of unhealthy foods (57)

Studies aimed to assess the impact of health interventions were more successful when they involved parents and children instead of only children (58). Nonetheless, some studies reported that parental participation in these programs was ineffective (59).

Our study had some limitations, which are common for qualitative research. One of the limitations of our research was its sample size, which restricts the generalization of our results to similar groups of people. Nevertheless, generalization is not a primary goal of qualitative studies. Likewise, our study was more directed toward identifying perspectives. Another limitation of this study was the lack of tendency among eligible people to participate; some of the individuals invited to participate in the research rejected the offer since they thought the project was useless. However, one of the main strengths of our study is the recruitment of a diverse group of people. This made our results more reliable and prevented an assessment of the topic from only one perspective. Qualitative research provides an explanation and is not used to test a hypothesis formally; it provides some information and an understanding about a community, which can lead to more effective programs that fit the community's context and culture (34). Accordingly, our study tried to provide some general ideas and comments about the ways to limit FF consumption among Iranian adolescents. Its results are context based.

5.1. Conclusion

To reduce FF consumption in adolescents, communities should participate in the design and implementation of health programs. The solutions recommended by parents and authorities should be utilized by decision makers, planners, and administrators.

The suggested interventions consider adolescents' interest toward convenient foods and face the challenges made by advertisements and FF availability. Moreover, devising policies and strategies to increase the cost of unhealthy FF is recommended.

Similar studies should be conducted in other age groups with different cultural, population, social, and economic contexts.

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Footnotes

Authors' Contribution: Hesamedin Askari Majdabadi, Mahnaz Solhi, Farideh Khalajabadi Farahani, and Saharnaz Nedjat designed the study. Hesamedin Askari Majdabadi collected the data and wrote the manuscript. Hesamedin

Askari Majdabadi, Farideh Khalajabadi Farahani, and Mahnaz Solhi analyzed the data. Mahnaz Solhi and Ali Montazeri supervised the study. All authors read and approved the final manuscript.

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