

## Perceived Barriers to Healthy Eating Among Mothers of Preparatory School Girl Students in an Egyptian City: A Qualitative Study

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### ABSTRACT

**Background:** parents face many barriers in feeding their children in a healthy way, and these perceived barriers may affect children's eating habits.

**Aim:** this study aimed to investigate the existing barriers perceived by mothers in relation to the eating behaviors of their preparatory school children.

**Participants and Methods:** four focus groups were conducted with mothers of students (N=30) at 3 preparatory girl schools in Assiut city. Focus group discussions (FGD) were conducted using a FGD guide. Analysis was conducted using Nvivo11 software.

**Results:** the reported barriers to healthy eating among Egyptian population included personal barriers, family barriers, social barrier peer pressure, and community settings barrier. Family barriers included parents' dietary habits and taste preferences, mother's knowledge about healthy diet, mothers' working status and house chore commitment, and family socioeconomic conditions. Personal barriers included taste preferences, psychological changes of adolescence and sense of independence, adolescents' denial of the unhealthy nature of their preferred food, and culture and values.

**Conclusion:** family and personal barriers were the main barriers to healthy eating behaviors perceived by mothers.

**Recommendation:** the reported barriers to healthy eating from the mothers' perspective should be taken in consideration during construction of nutritional education program to improve its success.

**Keywords:** Adolescents; Healthy eating; Barriers

### INTRODUCTION

Worldwide, major changes in the dietary habits have occurred since the second half of the twentieth century; first in developed countries then recently in developing countries. The concept of 'food' has changed from a source of nourishment to a marker of lifestyle and a source of enjoyment as portrayed by media. A large proportion of food advertisements are of processed foods with high caloric content, large amounts of sugar and fat, and with little or no micronutrient content<sup>(1)</sup>.

In adolescence, eating behavior is affected by individual, social, environmental, physical, and macro system factors<sup>(2)</sup>. Additionally, there are important developmental factors relating to food choice uniquely associated with adolescence. Adolescence is a period of major change throughout the lifespan with physical changes, changes in cognitive processes, and personal autonomy, and these various maturational factors have not been fully integrated in research into adolescent food choices and eating behavior. For example, adolescence is a period of psychological development associated with striving for independence through making insurgent or non-conformist statements. Eating unhealthy foods is one of the ways in which independence or rebellion may be expressed as an act of parental defiance<sup>(3)</sup>. In addition, the school environment can influence adolescents eating behavior directly through policies on the range and price of foods available, as well as indirectly through peer pressure in relation to unhealthy food consumption<sup>(4)</sup>.

Despite the crucial roles of parents in the home food environment, they face many barriers in

feeding their children in a healthy way, and these perceived barriers may affect children's eating habits<sup>(5)</sup>. A study conducted in an ethnically diverse population indicated that the main barriers in fruit and vegetable consumption were the price of food and the lack of energy and preparation time<sup>(6)</sup>. Family focus group results cleared that another barrier to healthy eating was lack of accessibility to healthy foods<sup>(7)</sup>. An adolescent's pickiness and taste preference was additionally reported as a challenge during family meals<sup>(8)</sup>.

By investigating parental feeding practices, nutritional awareness and perceived barriers to behavior change, and identifying culture specific variation, it is possible to develop tailored health promotion programs which can support current levels of motivation and understanding and which could support behavior change subsequently. There are no available studies previously investigated barriers to healthy eating from mothers' perspective in the Egyptian society.

**Aim:** This study aims to investigate the existing barriers perceived by parents in relation to the eating behaviors of their preparatory school children.

### PARTICIPANTS AND METHODS

**Study design:** qualitative study.

#### Participants:

A total of four focus group discussions (FGD) were conducted to explore the mothers' perception of barriers to healthy dietary habits. The participants were 30 mothers of adolescent girls. Participants were

recruited from mothers of preparatory school students in Assiut city. In this study, the estimated point of saturation was observed after the fourth focus group session.

**Materials:**

All the focus group discussions were conducted using a FGD guide. The discussion guide consisted of open ended questions to allow respondents to fully explain their opinions, perceptions and experiences. The points discussed included; knowledge regarding healthy food, dietary habits of the girls and the girls’ families, factors influencing the dietary habits, barriers of changing the unhealthy dietary habits, and how parents could support their children to adapt healthy dietary practices.

The researcher contacted each of the potential participants to explain the objectives of the research, and if the participant agreed to take part in the research a discussion was scheduled. The researcher moderated the group discussions. A note taker wrote the discussion. Firstly, participants were asked what is healthy diet and sources of their nutritional information. Then participants were asked about their own and their children dietary habits and if is considered healthy.

This led to a discussion of what were the major barriers in their lives to healthy eating. The duration of focus groups lasted between 45 and 90 min. The discussion was also audio taped after taking the approval of the participants. Then the records were transcribed and analyzed consecutively.

**Ethical consideration:**

**This work has been carried out in accordance with The Code of Ethics of the World Medical Association (Declaration of Helsinki) for studies involving humans. The proposal was approved via the Ethical Review Committee of Assiut Faculty of Medicine before starting data collection. A written informed consent was given by the participants before the beginning of focus group discussions. All the focus group discussions were conducted in a private room in each school.**

**Data analysis:**

The qualitative data derived from the focus group discussions were analyzed by a software program Nvivo11 to encode all quotes. Data were examined for recurrent instances of some kind, which then systemically identified across the data set, and grouped together by means of a coding system using an inductive thematic approach. The themes included personal barriers, family barriers, social environment, and community setting. Similar c

odes were grouped together into broader concepts.

**RESULTS**

**Participants’ characteristics:**

**Table (1): Background characteristics of the study mothers of preparatory school girl students, Assiut city, 2020**

Variable	No. (n=30)	%
<b>Age</b>		
Mean ± SD	44.8 ±7.5 years	
Range	31-52 years	
<b>Occupation</b>		
Working for cash	18	60%
Housewives	12	40%
<b>Educational level</b>		
Illiterate/below second. education	6	20%
Secondary education	9	30%
University and higher	15	50%
<b>No. of children</b>		
Mean ± SD	3.6 ± 1.2	

The mean age of mothers ± SD was 44.8 ±7.5 years (range = 31-52 years). Two thirds of mothers (60%) were working for cash. Half (50%) of the mothers had university education and 20% were illiterate and had below secondary education. The mean number of their children ± SD was 3.6 ± 1.2 children.

Overall, from the data analysis the main four reported themes categories of barriers were: ‘personal, family, social environment and community setting’. Presented here is summary of the findings (Table 2).

**Table (2): A summary of findings**

Family barriers	Personal barriers
Parents’ dietary habits and taste preferences. Mother's knowledge about healthy diet. Family socioeconomic conditions. Mothers' working status and house chore commitment.	Taste preferences. Psychological changes of adolescence. Adolescents’ denial of the unhealthy nature of their preferred food. Culture and values.
Social environment barriers	Community setting barriers
Peer pressure.	Availability and accessibility of unhealthy food.

**Mothers had fair knowledge about concept of healthy diet:**

The majority of mothers, especially the educated, had a fair level of knowledge regarding the characteristics of a healthy diet, referring to its healthy components, as proteins, vegetables and fruits. Some of them have also referred to the healthy mode of food preparation such as grilling and boiling. Few of them

agreed that frying is an unhealthy method of cooking. Others mentioned that clean homemade food would be the healthiest food. Others referred to decreasing carbohydrates as a way to make the diet healthy.

A 52 years old mother of 3 children, university education said: "I want to give them a nutritious diet containing protein, carbohydrate, fruits, vegetables, vitamins and minerals". A 38 years old mother of 3 children, secondary education said: "Eat vegetables and fruits, decrease carbohydrate, junk and fried food". A 46 years old secondary education mother said: "I usually decrease the use of fat in cooking and use olive oil and make vegetable soup". A 52 years old mother of 6 children, secondary education said: "Frying and excess sweets makes food unhealthy, I tried to make boiled vegetables". A 38 years old mother of 4 children, university education said: "Healthy food is the clean food that I washed extensively". A 55 years old mother of 4 children, illiterate said: "Healthy food is the homemade food".

Only few of the mothers mentioned decreasing use of fat in cooking and few others mentioned using grilled food. A considerable proportion mentioned the importance of salad and fruits in diet.

However, it was observed that the majority of the low socioeconomic mothers and even a considerable proportion of the average socioeconomic level mothers mentioned that they usually use the available food at home, regardless of the cooking method.

A 44 years old illiterate mother of 5 children said: "We eat available foods at home, regardless of being fried or cooked in oven".

### **Barriers to healthy eating:**

#### **❖ Family factors:**

The emerged themes revealed that, the role of family factors in determining the feeding habits of the adolescents was as important as the attitudes and perspectives of the adolescents themselves. Finally, they eat what they are offered at home.

The type of food prepared and offered by mothers was determined by many factors; mothers' knowledge about healthy diet, mothers' dietary habits and mothers' concern to serve a healthy diet.

It was observed that the concern and interest in providing a healthy diet is definitely associated with the family socioeconomic status and the other commitments of the mothers having other duties.

### **Parents' dietary habits and taste preferences affect their children' dietary habits:**

Some mothers mentioned that parents' dietary habits such as including chips in the different meals, drinking cola, influence their children eating behavior. Considerable proportion of mothers thought that their children would not stop unhealthy diet unless their parents do.

A 37 years old secondary education mother of 3 children said: "When I serve kofta or grilled chicken, I bring chips to provide a variety and make the food appetizing, so that we may eat it together and enjoy". A 38 years old university education mother of 4 children, said: "My children like to imitate their father, he likes cola". A 37 years old secondary education mother of 3 children said: "They drink carbonated drinks as their father says that it is a digestive". A 40 years old university education mother of 3 children said: "Children will stop unhealthy food when we first stop it".

Another important observed factor was the mothers' taste preference of the food they cook and offer to their children. It seemed that they prefer some types of unhealthy preparation of food to provide their children with the best taste.

A 37 years old secondary education mother of 3 children said: "I cooked pane chicken in the oven, my children ate and liked it, but I felt that fried chicken is more delicious".

### **Mother's knowledge about healthy diet may shape the dietary habits since childhood:**

Few mothers felt that their children eating habits created since childhood depend on the mothers' knowledge about healthy diet.

A 48 years old secondary education mother of 3 children said: "children eat as their mother got them used to, my first daughter doesn't eat healthy food as I didn't have enough information, her younger sisters eat healthy food and became taller than her as I started to listen to doctors in television and read in magazines and obtained more knowledge".

### **Mothers' working status and house chore commitment hinders them for caring about their children healthy diet:**

Mothers felt that their lack of time due to working outside home or even having to care for their home and other children have a crucial role in their children eating behaviors. They may not find time to prepare food or to negotiate with the children about their eating practices. They may even have to order fast food, even when they are convinced that it is unhealthy.

A 37 years old secondary education mother of 3 children, said: "If you prevent unhealthy food, they will eat it when you are in work or when they are outside home". A 50 years old mother of 3 children, university education said: "I buy junk food when I was tired or have no time". A 44 years old mother of 3 children, university education said: "I am working and have another young child who is still learning how to eat and need care. I don't have time to tell the older one what to eat and what to not eat, I have to care for the younger one".

Few mothers mentioned that if they resisted unhealthy eating, this would put them in stress, that

they try to avoid by letting their children eat they want, even if unhealthy

A 50 years old university education mother of 3 children said: “Stress, No! When I say eat this and do not eat that, they will refuse and we will get into a struggle, they will win at last”.

#### **Family socioeconomic conditions affect mothers' concerns of providing healthy food:**

It was observed that large families with poor socioeconomic levels expressed their complaints about the food product prices, and mentioned that they are outstanding with their budget. This was mentioned as a major obstacle in providing healthy food by a considerable number of mothers. Some mothers thought that healthy food is expensive, and the main concern is to feed their children and not being hungry regardless of being healthy or not.

A 44 years old illiterate mother of 5 children said: “The economic status gets us to eat cheap food and do not consider the healthy food”. A 55 years old illiterate mother of 4 children, said: “My children don't drink milk as it is not available and expensive”. A 50 years old illiterate mother of 4 children said: “They eat fruits when it is available but we cannot buy it every day”.

On another hand, high socioeconomic status of other families was found to make them eat unhealthy food: A 42 years old university education mother of 3 children said: “When our economic conditions got better, my children got used to order fast food, even when I prepare food at home, they ask for the same type of unhealthy food they eat in restaurants”.

#### **❖ Personal factors:**

##### **Taste is an important determinant of food choices:**

The majority of mothers reported that ‘taste’ is an important factor influencing their children food choices. Taste could be an important driver of practicing unhealthy eating habits, such as preferring fast food, and disliking healthy prepared food, such as boiled meals.

A 38 years old secondary education mother of 3 children said: “My daughter doesn't drink milk, she says it smells bad. A 52 years old university education mother of 3 children said: “Children like fast food, it has a good flavor and smell”. A 37 years old secondary education mother of 3 children, said: “My children doesn't like boiled food, it doesn't have any flavor, just boiled with water”.

Some mothers mentioned that liking the taste of unhealthy and junk food is as addiction and that their children are always having a psychic craving for outdoor fast food. A 50 years old university education mother of 3 children said: “Children used to eat junk food and addicted preservatives”.

On the other hand, some mothers mentioned that their children like the taste of healthy food, such as fish and fruits. A 44 years old illiterate mother of 5

children said: “My daughter eats fish till its end as she like it”. A 45 years old secondary education mother of 6 children said: “My children like fruits and eat it more than other food”.

#### **Psychological changes of adolescence and sense of independence is a major factor affects eating habits:**

Almost all mothers referred to the effect of psychological changes of adolescence and sense of independence on changing their children eating habits and the insistence on having their own choices which are in most cases unhealthy. They have observed a major change in their habits when their girls started the preparatory grade.

A 38 years old secondary education mother of 3 children, said: “Age of adolescence, she wants to show her personality, that's all, she wants to prove that she is old enough, and can say “No”.

#### **Adolescents' denial of the unhealthy nature of their preferred food:**

A considerable proportion of mothers mentioned that their girls deny that their preferred types of food are unhealthy and even tried to prove their healthy constituents by searching the different websites and arguing its safety and don't care if the food is healthy or not.

A 38 years old secondary education mother of 3 children said: “My daughter says if chips was unhealthy the government would not allowed its availability”. A 42 years old university education mother of 2 children, said: “They don't want to know what healthy food is, as they don't like healthy food and like the unhealthy food”. A 38 years old university education mother of 2 children said: “When I give my children paper from internet about the danger of endomy “noddles”, they show me many scientific proofs about its safety”.

#### **Culture and values affect the eating habits:**

Some mothers, especially those from the middle and higher socioeconomic levels referred to fast foods as a reward of their children in their happy occasions and outdoor amusements. Many mothers buy junk food as a way to celebrate in the feasts and celebrations

A 50 years old university education mother of 3 children said: “I buy junk foods at the happy occasions to make my children happy”. A 45 years old university education mother of 3 children: “We eat at restaurants as a recreation method”.

#### **❖ Social environment (interpersonal):**

##### **Peer pressure:**

Group or peer pressure emerged to be one of the most important influencing factor of adolescents' food choices.

A 45 years old secondary education mother of 6 children, said: "My daughter says I cannot see my friend buy something and I don't buy". A 40 years old university education mother of 3 children said: "They eat junk foods when they go out with their friends, they go in a group to eat". A 52 years old university education mother of 3 children said: "Children started to eat junk food when they started going out with their friends". A 52 years old secondary education worker mother of 6 children said: "Whatever healthy food you prepare, they get out in the street, they go to school, they go to classes with their friends, and buy food from the street".

#### ❖ **Community settings:**

##### **Availability and accessibility of unhealthy food promote its consumption:**

The wide distribution of restaurants, easy access to unhealthy food and advertisement of unhealthy food also have a major effect on the adolescents' food choices.

A 38 years old secondary education mother of 3 children said: "Restaurants and the smell of junk food make my daughter think that the food has a good taste even if she did not eat it". A 40 years old university education mother of 3 children said: "The generation differs from the past (there was no such amount of restaurants), now most of their time in the lessons and with their friends so buy junk food". A 38 years old secondary education mother of 3 children said: "The culture of eating changed. The presence of television and advertisement on new products and burger affect the eating pattern of adolescents. I know that my child will eat it and get harm".

##### **Suggestions for interventions:**

###### **Individual level:**

Participants suggested school health education through sessions or the teacher. A 45years old university education mother of 3 children said: "The school has great effect on the children. You can give advices five minutes before lesson and show them pictures of patients of malnutrition". A 48 years old secondary education mother of 3 children said: "Educate the children through teachers, sessions, or ask them what they eat and tell them the right".

###### **Environmental level:**

Other participants suggested environmental changes as preventing unhealthy food from canteen, education of mothers on ways of preparation of healthy food and return of school meal to overcome the economic problems.

A 42 years old university education mother of 3 children said: "Unhealthy food should be prevented from school canteen". A 38 years old secondary education mother of 3 children said: "Educate the mothers on changing the shape of healthy food to food that children like". A 55 years old illiterate mother of 4

children said: "Return of school meal and give the children milk, eggs and fruits".

## **DISCUSSION**

Parents' perceived barriers of healthy eating are important for health educators to understand when attempting to intervene with any group of adolescents. This study aimed to identify parents' perceived barriers to healthy eating. This study indicates that there are several personal, family, social environment, and community settings barriers to healthy eating.

The majority of mothers reported that 'taste' is an important factor influencing their children food choices. Taste could be an important driver of practicing unhealthy eating habits, such as preferring fast foods, and disliking healthy prepared foods, such as boiled meals. Consistent with our results, taste preferences and flavor associated with specific foods were reported by both adolescents and parents in several studies as a common barrier to healthy eating (9-11).

Most mothers thought that the psychological changes of adolescence, sense of independence and the insistence on having their own choices is a major barrier of adopting healthy eating practices. The same finding was reported by **Moitra and Madan**<sup>(9)</sup>, who reported in their study that the biggest challenges from the parents' point of view were that the children don't listen to their parents' advices and becomes difficult to be convinced.

Many mothers mentioned that their girls deny that their preferred types of food are unhealthy and even tried to prove their healthy constituents by searching the different websites and arguing its safety and don't care if the food is healthy or not. Our results were supported by the results reported by **McNamara et al.**<sup>(12)</sup> in their qualitative study on teachers' perspectives on the barriers to healthy lifestyle behaviors among adolescent girls. They found that the girls lack the basic knowledge and respondents indicated beliefs that many girls do not care about living a healthy lifestyle. Also, **Moitra and Madan**<sup>(9)</sup> reported that adolescents don't care whether their health is good or bad as barrier to healthy eating as perceived by the adolescents themselves.

Mothers especially of low socioeconomic level expressed their complaints about the food product prices, and mentioned that they are outstanding with their budget. They mentioned as a major obstacle in providing healthy food by a considerable number of mothers. This finding was similarly reported in previous study that found the socioeconomic capacity is associated with food habits among adolescents<sup>(13)</sup>. Also, **Hey et al.**<sup>(14)</sup> referred in their study that not being able to afford healthy food was a barrier to healthy eating as perceived by low income parents.

Many mothers felt that their lack of time due to working outside home or even having to care for their home and other children have a crucial role in

their children eating behaviors. They may not find time to prepare food or to negotiate with the children about their eating practices. They may even have to order fast food, even when they are convinced that it is unhealthy. This finding was supported by **Peterson *et al.***<sup>(11)</sup> in their qualitative study on parents' perceived barriers to healthy eating for low income adolescents. Parents' lack of time was expressed as a barrier to healthy eating that increase use of fast food. Mothers' knowledge about healthy diet was other family factor that influences adolescents' dietary habits in this study. This finding was supported by **Hey *et al.***<sup>(14)</sup> who reported that insufficient nutrition knowledge among parents as a barrier to healthy eating as perceived by low income parents.

At the adolescence stage, peers have a high impact on nutritional behavior. **Shepherd**<sup>(15)</sup> reported that healthy food intake is mainly associated with the parents and home environment, while fast food intake is associated with friendship and socioeconomic status. The importance of peer impact on dietary practices was mentioned by almost all mothers who thought that going out and socialization with the peers made their children consume fast food. Also **McNamara *et al.***<sup>(12)</sup> found in their study that teachers noted that peer attitudes and behaviors are particularly influential during this developmental period.

Many mothers referred to the wide distribution of restaurants, easy access to unhealthy food, and advertisement of unhealthy food as important factors that facilitate unhealthy dietary practices. Also, the availability and easy access to unhealthy foods in and near schools were mentioned by **Moitra and Madan**<sup>(9)</sup> as barriers to healthy eating in the school environment from teachers' and parents' perspectives. In other study, **Hesketh**<sup>(16)</sup> emerged that parents referred to increasing numbers of fast food outlets and unhealthy options in school canteens as obstacles to healthy eating.

Many mothers referred to the importance of school based nutritional education in improving the dietary habits of adolescents, but it should be complemented by prevention of unhealthy food from the school canteens, mother training on preparation of tasty healthy food and availability of free healthy school meal to overcome the economic obstacles.

Finally, there were several personal, family, social environment, and community settings barriers to healthy eating among Egyptian population that should be taken in consideration while construction of nutritional education program to improve its success.

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