Perception of Mothers regarding Effect of Fast Food on Preschool Children Health Status

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Abstract

Background: Fast food intake is common among children and a likely modifiable risk factor for excess weight gain. **The aim of study:** Was to assess the perception of mothers regarding the effect of fast food on preschool children's health status. **Research design:** A descriptive research design was utilized to conduct this study. **Setting:** This study was conducted at three Nursery Schools in Benha City- Qualyobia Governorate. **Sample:** Was selected 50% 120 mothers having preschool children from the previously mentioned settings. **Tools:** Two tools were used in this study. **I:** A structured interviewing questionnaire was designed to assess socio-demographic characteristics of the studied mothers, preschool children's personal data, studied mothers' knowledge regarding fast foods, and studied mothers' reported practices to prevent fast food for preschool children. **II:** Used to assess the studied mothers' attitude regarding fast food of preschool children. **Results:** 53.3% of the studied mothers had poor total level of knowledge about fast food of preschool children. 65.0% of them had unsatisfactory reported practices to prevent fast food for preschool children, and 58.3% of them had negative attitude regarding fast food of preschool children. **Conclusion:** There was highly statistically significant relation between total body mass index of the studied preschool children and their mother's knowledge, reported practices and attitude regarding fast food. **Recommendations:** Health education programs should be provided for mothers to improve their awareness regarding fast-food and effects on child health, particularly among low-income families.

Keywords: Fast food, Mother's Perception, Preschool Children.

Introduction

Pre-school is period covers the ages between 3 and 6 year. Pre-school period is also the time when the child starts to experience independence and develops many habits essential to the adult life. Hence, monitoring the growth and development of the child in this period is one of the essentials of pediatric practice because growth and development can be affected from every case that disturbs mental and physical wellbeing of the child. On the other hand, a normal period of development and growth indicates at least that there has been no serious health Problem affecting the child **(American Academy of Pediatrics, 2022)**.

Preschool children have mastered the skill of self-feeding and are capable of eating a wide variety of foods. The establishment of a healthy diet during this period is crucial for the short- and long-term health of an individual. A good quality diet tends to consist of frequent consumption of fruits, vegetables, whole grains and lean sources of protein and dairy, as well as infrequent consumption of foods high in sugar **(Jarman, et al 2022)**.

Despite the socioeconomic condition of the family, fast food consumption has been

emerging worldwide due to quick consumption, ready to eat, inexpensive, and of good taste. Such foods have been found prepared using low-quality ingredients such as refined grains, added sugar, and fats, despite nutritious ingredient. Fast foods have high sodium salt, which is often used as a preservative to make the foods more flavorful and satisfying. Such foods attract more people especially children and adolescents. Common junk foods include fast food, carbonated drinks, chips, desserts, chocolates **(Bohara et al., 2022)**.

Fast food is a popular choice for children because of being quick and easy to eat. However, the high amount of sugar and saturated fat in fast food can have adverse effects on the preschool children's health. Fast food can increase the risk of obesity, type 2 diabetes, heart disease, and some types of cancer. In addition, fast food often contains additives that are not good for children's health.The additives can include preservatives, artificial colors, and flavors that can be harmful to the body **(Totosegis & Qamar, 2022)**.

Worldwide, 149 million children are stunted and 45 million are wasted and 38.9 million were found overweight. Inadequate protein and energy intake in child-hood is directly associated with reduced growth, and is indicative of several psychosocial problems later in life. Undernourished children also exhibit impaired development and decreased functional capacity. Pediatric under nutrition is characterized by a lack of adequate weight gain, low weight per height, or low weight per length, and is a direct contributor to impaired cognitive skills **(Roberts et al., 2022)**.

The community health nurse help to find the needs of preschool children and support the family in making the future plan. Developing a nursing plan that cover and analyze all the factors of preschool child's growth and development as well as good nutrition. Providing guidelines and educating the parents are the most significant part of the prevention of preschool children from poor nutrition as well as from other diseases. The community health nurse can also support and counsel the parents for example by providing emotional support and participating in problem solving **(Sharma & Sapkota, 2021)**.

Significance of the study:

Despite investments in the health sector and a significant reduction in child mortality, Egypt's malnutrition rates remain high. Stunting remains a significant public health concern in Egypt for young children under the age of five, affecting one out of every five children. Wasting and being underweight account for 8% and 6% of the population, respectively. Hence, enhancing food literacy to decrease nutrition-related disease burden is a growing international role for public health practitioners **(Mohamed et al., 2022)**.

In Egypt two thirds of under 5 years child mortality owed to malnutrition and stands as one of the 36 countries where 90% of the global burden of malnutrition falls. Overweight and obesity are considered the most prevalent nutritional disorder among both children and adolescents with 21–24% of them are overweight. The previous conditions increase the risk of heart diseases, insulin resistance and type 2 diabetes mellitus, hyperlipidemia, hypertension, kidney and liver diseases and reproductive dysfunction **(World Health Organization (WHO), 2021)**.

Aim of the study:

The aim of this study was to assess the perception of mothers regarding the effect of fast food on preschool children's health status.

Research questions:

- What is the mothers' knowledge regarding fast food of preschool children?
- What is the mothers' reported practice regarding prevention of fast food of preschool children?

- What is the mothers' attitude regarding fast food of preschool children?
- IS there a relation between mother's knowledge, attitude and practice about fast-food and body mass index of preschool children?

Subject and method:

Research design:

Descriptive research design was utilized to conduct this study.

Setting:

The study was conducted in the Nursery Schools in Benha City- Qualyobia governorate which included 9 primary schools with nursery schools for children, 25% of them were selected randomly as it was included three nursery schools named {Al-Imam Muhammad Abdo nursery school, Abu Bakr Al-Siddiq nursery school and Anas Bin Malik nursery school}.

Sample:

A simple random sample was used to select 50% (120) of mothers having preschool children from the previously mentioned setting. Multistage random sample.

Tools of data collection:

Two tools were used in this study.

The first tool: A structured interviewing questionnaire: It was developed by the Researchers' based on reviewing the related literatures and it was written in a simple clear Arabic language and consisted of three parts:

Part I: - This part included two sections:

A- Socio-demographic characteristics of the studied mothers. It consisted of eight questions related to age, educational level, working status, residence, income sufficiency, the number of children, attending training courses related healthy nutrition, and the kind of training courses.

B- The preschool children's personal data. It consisted of six questions related to age, gender, ranking, weight, height, and BMI.

Part II: - This part was used to assess the studied mothers' knowledge regarding fast foods. It consisted of eight questions related the meaning of fast food, types of fast food, attractive reasons in fast food, composition of fast food, the short term impact of fast food, the long term impact of fast food, actions used to prevent children from being fast food dependent, and the studied mothers' sources of information regarding fast food.

Scoring system:

Knowledge score for each answer was given as follows:

2 = Complete correct answer

1 = Incomplete correct answer

0 = Don't know or non-correct answer

Total scores of knowledge = 16

For each area of knowledge, the score of the items was summed-up and the total divided by the number of the items, giving a mean score for the part. These scores were converted into a percent score. The total knowledge scores were considered good if the score of the total knowledge > 75 % (> 12 score), considered average if it equals 50 – 75 % (8 – 12 points), and considered poor if it less than 50 % (< 8 points).

Part III:- It was adopted from **Khongrangjem et al., (2018)** and used to assess the studied mothers' reported practices to prevent fast food for preschool children. It consisted of eight practices related to encouraging the child to; eat vegetables at least 3 times a day, eat at least 1 portion of cheese every day, eat fruits 2times a day, decrease cola products and beverages, decrease additives as ketchup & mayonnaise, preparing colored attractive salads for each meal for the child, encouraging the child to drink milk and eat egg every day, and avoiding going to restaurants regularly.

Scoring system:

A score for each practice was given as follow:

2 = Always
1 = Sometimes
0 = Never

Total score of practices = 16

The total practices were considered satisfactory if the score of the total practices ≥ 60% (≥ 9 points), and considered unsatisfactory if it is less than 60% (< 9 points).

The second tool: - This tool was adopted from **Acharya, (2018)**, and used to assess the studied mothers' attitude regarding fast food of preschool children. It included thirteen statements about thinking that; the children prefer fast food due to its delicious taste, the children prefer fast food due to the attractive advertisements, and the children prefer fast food due to diversity of fast food types, going for fast food due to the availability of fast food restaurants, preferring going to restaurants because of the hygiene and safety, preferring going to restaurants because of the price and food quality, thinking that; fast food has high nutritional value, fast food consumption was measure of one's socio-economic status, fast food consumption was sign of enjoyment and sophistication, and fast foods were cooked under healthy condition and environment, considering that fast food consumption has no harmful effect on the body, thinking that the industrial fruit juice was beneficial as natural fruit, and thinking that tasty food was healthy.

Scoring system:

A score for each response on questions of attitudes was given as follow:

2 = Strongly agree
1 = Agree
0 = Disagree

Total score of attitudes = 26

The score of the items was summed-up and the total divided by the number of the items, giving a mean score for the part. These scores were converted into a percent score. The attitude was considered positive if the score of total attitudes > 60 % (> 15 points), and considered negative if it is < 60% (< 15 points).

Reliability and content validity of the tools:

Reliability of the tools was done by using Cronbach's Alpha coefficient test which revealed that each of the tools consisted of relatively homogenous items as indicated by the moderate to high reliability of each tool. The internal consistency of knowledge was 0.93, reported practices was 0.84, and 0.91 for attitude.

Content validity was done by five of the Faculty Staff Nursing experts from the Community Health Nursing Specialties who reviewed the tools for clarity, relevance, comprehensiveness, understanding, and applicability. There were minor modifications required.

Ethical considerations:

Permission has been obtained formally from each mother before conducting the study and given a brief explanation about the purpose of the study. They were also reassured that all the information gathered would remain confidential and used for the purpose of the study only. No names were required on the form to ensure anonymity and confidentiality. They were also informed that they have the right to withdraw at any time from the study without giving any reason.

Pilot study:

A pilot study was conducted on 12 mothers who represented 10% from the total number of mothers. So the pilot sample excluded from the total sample. The pilot study was aimed to assess the feasibility, clarity, and applicability of the tools also to determine the time needed for filling the structured questionnaire. According to the results obtained from data analysis, the modifications, correction, omission and addition were done. The tools lasted about 20 minutes to be filled.

Field work:

The study was conducted over a period of 3 months during the academic year 2021-2022 and started from February 2022 to the end of April 2022; data were collected by interviewing the studied mothers in the selected nursery schools in Benha City after bringing their children to the nursery school. The researchers' was attended two days/week (Sunday/Monday) for each nursery school by rotation from 9:00 am to 1:00 mid – day. About 10 mothers were interviewed per week. , the mothers were interviewed in an empty class after an agreement with the nursery administration and each mother was interviewed separately.

Statistical Analysis:

Statistical analysis was done by using Statistical Package for Social Sciences (SPSS) version 20. Data were collected, revised, coded, organized, tabulated, and analyzed using frequencies, number, percentage, mean scores, standard deviation and correlation coefficient. Data were presented in the form of tables and figures. Quantitative data was presented by mean ($\overline{X}$) and standard deviation (SD). Qualitative data was presented in the form of frequency distribution tables, number and percent. It was analyzed by Chi- square test (X^2) & correlation to detect the relation between the variables of the study (P- value).

Statistical significance was considered as follows:

- P- value > 0.05 Not significant
- P- value < 0. 05 Significant
- P- value < 0.001 Highly significant

Results:

Table (1): Shows that, 53.3% of the studied mothers aged 30-<40 years, with Mean ± SD of age of 30.83 ± 6.96 years, and 76.7% of them were living in urban areas. As regards to working status, 71.7% of them were housewife. Moreover, 50.0% of them had enough income for basic needs only. In addition, 58.3% of the studied mothers had two children. Also, 4.2% of the studied mothers attended training courses on healthy nutrition, 60.0% of them attended training courses on nutrition & healthy eating.

Table (2): Displays that, 42.5% of the studied children were aged 5-<6 years old, the Mean ± SD of age was 4.75 ± 0.94 years. As regard to gender, 61.7% of them were female. Also, 60.0% of the studied children were second in rank among their siblings. Moreover, 55.0% of them their weight ranged 14.4 - 18.5 kg. In addition, 51.7% of them their height ranged 94.2 – 109 cm. Also, 60.0% of the studied children had normal body mass index, 25% of them were overweight and 10% were under weight.

Figure (1): Shows that, 53.3% of the studied mothers had poor level of total knowledge about fast food of preschool children. Also, 30.0% of them had average level about fast food of preschool children**.** While, 16.7% of them had good level about fast food of preschool children.

Figure (2): Displays that, 65.0% of the studied mothers had unsatisfactory reported practices to prevent fast food for preschool children. While, 35.0% of them had satisfactory reported practices to prevent fast food for preschool children.

Figure (3): Shows that, 58.3% of the studied mothers had negative attitude regarding fast food of preschool children. While, 41.7% of them had positive attitude regarding fast food of preschool children.

Table (3): Shows that, there were highly statistically significant relations found between total body mass index of the studied preschool children and their mothers' knowledge, reported practices and attitude regarding fast food at (P < 0.001).

Table (4): Indicates that, there were highly statistically significant positive correlations found between the studied mothers' total level of knowledge, reported practices and total attitude regarding fast food of preschool children at (P< 0.001).

Table (1): Frequency distribution of the studied mothers according to their socio-demographic characteristics, (n=120).

socio-demographic characteristics	No.	%
Age		
< 20 years	2	1.7
20-<30 years	46	38.3
30-<40 years	**64**	**53.3**
≥ 40 years	8	6.7
Mean ± SD	**30.83 ± 6.96**	
Residence		
Urban	**92**	**76.7**
Rural	28	23.3
Working status		
House wife	**86**	**71.7**
Employee	34	28.3
Income sufficiency		
Sufficient & save	31	25.8
Sufficient For basic need only	**60**	**50.0**
Insufficient	29	24.2
Number of children		
One child	15	12.5
Two children	**70**	**58.3**
Three children	27	22.5
More than three	8	6.7
Attendance any training courses on healthy nutrition		
Yes	**5**	**4.2**
No	115	95.8
If yes, what training courses about healthy nutrition? (n=5)		
Nutrition & Healthy Eating	**3**	**60.0**
Nutrition and Wellbeing	2	40.0

Table (2): Frequency distribution of the studied preschool children according to their personal data, (n=120).

Items	No.	%
Age		
3-< 4 years old	22	18.3
4-<5 years old	47	39.2
5-<6 years old	**51**	**42.5**
Mean ± SD **4.75 ± 0.94**		
Gender		
Boy	46	38.3
Girl	**74**	**61.7**
Ranking of the preschool child		
First child	22	18.3
Second child	**72**	**60.0**
Third child or more	26	21.7
Weight (kg)		
<14.4 kg	18	15.0
14.4 - 18.5 kg	**66**	**55.0**
>18.5 kg	36	30.0
Height (cm)		
< 94.2 cm	20	16.7
94.2 – 109 cm.	**62**	**51.7**
>109.2 cm	38	31.6
BMI (kg/m2)		
Under weight	12	10.0
Normal	**72**	**60.0**
Over weight	30	25.0
Obese	6	5.0

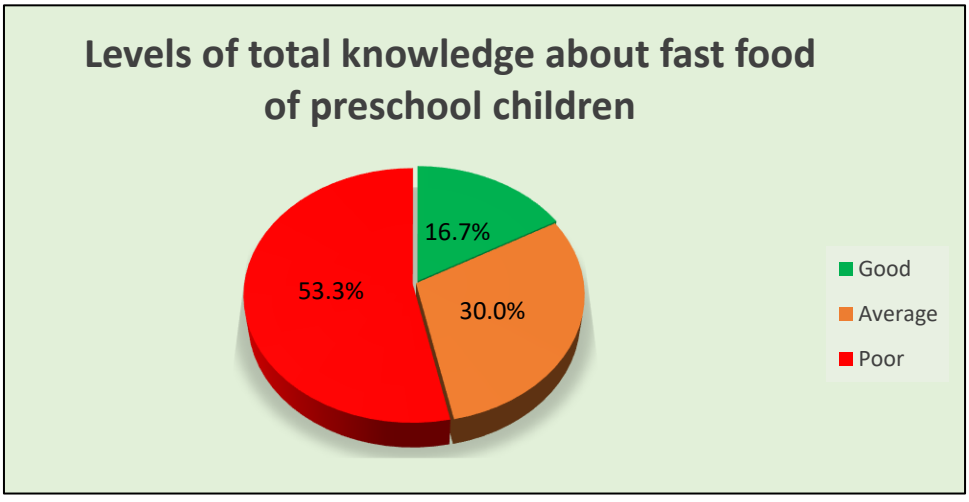

Figure (1): Percentage distribution of the studied mothers according to their total knowledge about fast food of preschool children, (n=120).

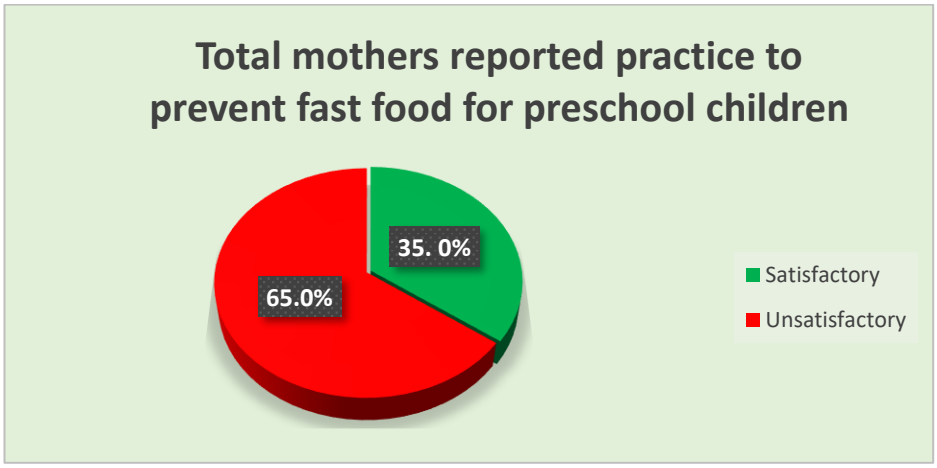

Figure (2): Percentage distribution of the studied mothers according to their total reported practices to prevent fast food for preschool children, (n=120).

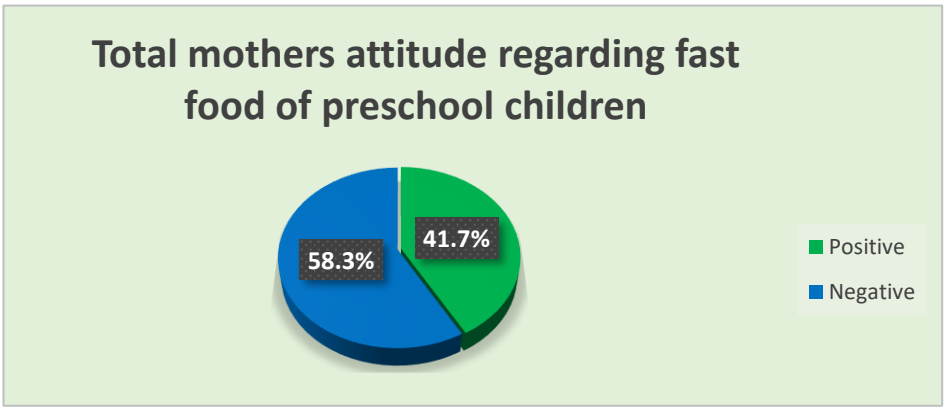

Figure (3): Percentage distribution of the studied mothers according to their total attitude regarding fast food of preschool children, (n=120)

Table (3): According to, research question No. 5: IS there a relation between mother's knowledge, attitude and practice about fast-food and body mass index of preschool children (n=120).

Variables		Levels of total body mass index								X^2	P-Value
		Under weight (n=12)		Normal (n=72)		Over weight (n=30)		Obese (n=6)			
		No.	%	No.	%	No.	%	No.	%		
Levels of total knowledge	Good	0	0.0	20	27.8	0	0.0	0	0.0	15.97	0.000**
	Average	2	16.7	29	40.3	5	16.7	0	0.0		
	Poor	10	83.3	23	31.9	25	83.3	6	100.0		
Levels of total reported practices	Satisfactory	0	0.0	42	58.3	0	0.0	0	0.0	18.05	0.000**
	Unsatisfactory	12	100.0	30	41.7	30	100.0	6	100.0		
Levels of total attitude	Positive	0	0.0	50	69.4	0	0.0	0	0.0	22.30	0.000**
	Negative	12	100.0	22	30.6	30	0.0	6	100.0		

Table (4): Correlation between mothers' knowledge, reported practices and total attitude regarding fast food of preschool children, (n=120).

Variables	Total knowledge		Total attitude	
	R	p-value	r	p-value
Total knowledge			0.532	0.000**
Total reported practices	0.593	0.000**	0.550	0.000**

Discussion:

According to socio-demographic characteristics of the studied mothers; the current study results revealed that more than half of them aged 30 to less than 40 years old with mean age and standard deviation of 30.83 ± 6.96 years. This result was in agreement with **Sotos et al. (2016)**, who conducted a study about parental and self-reported dietary and physical activity habits in pre-school children and their socio-economic determinants in England, they found that more than half of the studied sample aged 30 to less than 40 years old with mean and standard deviation of 31.92± 7.85 and the majority of them had secondary education.

Regarding the studied mothers' residence; the present study result indicated that more than three quarters of them were living in urban areas. This result was in the same line with **Gao et al. (2017)**, who performed a study about evaluation of fast food behavior in pre-school children and parents following a one-year intervention with nutrition education in China, and reported that more than three quarters of the studied parents were living in urban areas. This might because most of the schools are found in urban areas than rural areas.

As regards the studied mothers' working status and income; the present study results showed that more than two thirds of them were housewives and half of them had enough income for basic needs only. These results disagreed with **Zhang et al.(2015),**who developed a study about the impacts of fast food and the food retail environment on overweight and obesity of preschool children in China: A multilevel latent class cluster approach, and found that the majority of the studied sample were employers and they have sufficient and saving monthly income. This might be because the economic status in China is completely different than in Egypt.

As for the number of children; the current study result denoted that more than half of studied mothers had two children. This result was in contrast with **Mayor (2014),** who performed a study about children living near fast food outlets in England are more likely to be overweight, and found that the majority of the studied parents had three children. This might be because the studied mothers' monthly income was insufficient to cover the needs of more than two children.

Concerning the attendance of training courses related healthy nutrition and the kind of training courses; the present study findings

indicated that the minority of the studied mothers attended training courses related healthy nutrition, and more than half of them attended training courses about nutrition & healthy eating. These findings contradicted with **McLaughlin (2018),** who developed a study about detrimental effects of fast food on children in France, and stated that the majority of the studied mothers were interested to attend more than one training course about healthy eating as well as the healthy lifestyle. These findings might be because of the in availability of frequent training courses for our studied mothers.

Regarding the preschool children's personal data; the present study result showed that less than half of them aged 5 to less than 6 years old with mean age and standard deviation of 4.75 ± 0.94 years. This result disagreed with **Bowman et al.(2015)**, who conducted a study about effects of fast-food consumption on energy intake and diet quality among preschool children in a national household survey in the United States, and found that more than two thirds of the studied children aged 4 to less than 5 years old with mean age and standard deviation of 4.17± 0.86 years. This might be because this is the normal age of preschool children.

Concerning the preschool children's gender and ranking; the present study results indicated that more than three fifths of them were females and three fifths of them were the second child in their family. These results were in the same line with **Robinson et al.(2017)**, who performed a study about effects of fast food branding on young children's taste preferences in Stanford, and found that more than half of the studied children were females and they were the second child for their family.

As regards the preschool children's weight, height, and body mass index; the current study findings revealed that more than half of them their weight ranged from 14.4 to 18.5 kg, their height ranged from 94.2 to 109 cm, and they had a normal body mass index respectively. These findings were similar to the findings of **Fernandez et al. (2016)**, who developed a study about the association of dietary variety and diversity with body mass index in US preschool children, and reported that more than half of the preschool children's weight ranged from 13.6 to 20.0 kg, more than two thirds their height ranged from 86.4 to 110 cm and more than three quarters of them had a normal body mass index. This might be indicated that the preschool children didn't consume a large amount of fast food.

Regarding the studied mothers' total level of knowledge about fast food. the present study results indicated that more than half of the studied mothers had poor total level of knowledge, slightly more than one quarter had an average total level of knowledge while the minority of them had good total level of knowledge. These results agreed with **Shanthini & Hubballi (2021),** who carried out a study about assessment of mothers' knowledge regarding the consumption of junk food among preschool children at selected colleges of Belagavi City in India, and found that the majority of the studied mothers had inadequate total level of knowledge, the minority of them had moderately adequate total level of knowledge and none of them had adequate total level of knowledge about junk food. This might be due to the absence of training courses about fast food and its bad effect on health.

Regarding the studied mothers' total reported practices to prevent fast food among preschool children; the present study findings illustrated that less than two thirds of them had unsatisfactory total reported practices, while more than one third of them had satisfactory total reported practices. These findings disagreed with **Quah et al. (2018),** who

performed a study about maternal practices regarding fast food in relation to body mass index in 5 year-old children in a multi-ethnic Asian population, and found that most of the studied mothers had satisfactory total reported practices regarding fast food while the minority of them had unsatisfactory total reported practices. This might be because the studied mothers in our study need health education about fast food.

As regards the studied mothers' total attitude regarding fast food of preschool children; the present study results revealed that more than half of them had negative total attitude regarding fast food while, less than half of them had positive total attitude. These results disagreed with **Sepide et al.(2016),** who developed a study about assessing knowledge and attitudes toward fast foods among students of Shahid Beheshti university of medical sciences, and reported that more than two thirds of the studied students had positive total attitude towards fast food consumption while the rest of the sample had a negative total attitude towards fast food. This might be because the studied mothers need more training courses about the negative effect of fast food on the child's health.

According to, research question No. 4: IS there a relation between mother's knowledge, attitude and practice about fast-food and body mass index of preschool children (n=120).; the current study findings showed that there were highly statistically significant relations found between the preschool children's total body mass index and their mothers' knowledge, reported practices and attitude regarding fast food at (P<0.01) (table3). These findings were in the same line with **Ishikawa et al.(2021),**who performed a study about relationship between parents' dietary care and food diversity among preschool children in Japan, and found that there were highly statistically significant relations found between the preschool children's total body mass index and their mothers' knowledge, attitude and practices regarding food diversity at (P<0.01).

Regarding the correlation between the studied mothers' total level of knowledge, total reported practices and total attitude regarding fast food of preschool children; the present study findings indicated that there were highly statistically significant positive correlations found between the studied mothers' total level of knowledge, total reported practices and total attitude regarding fast food of preschool children at (P<0.01). These findings were against the finding of **Ibrahim (2018),** who performed a study about knowledge, attitude and practice on fast food consumption among normal and overweight/obese international Islamic university Malaysia Kuantan students, and found that there were no statistically significant correlations found between the studied students' total knowledge and total attitude towards fast food consumption at (P>0.05). While, agreed with him as there was a significant positive correlation found between the studied students' total knowledge and total practices towards fast food consumption at (P<0.06).

Conclusion:

More than half of the studied mothers had poor total level of knowledge about fast food of preschool children, less than two thirds of them had unsatisfactory reported practices to prevent fast food for preschool children, and more than half of them had negative attitude regarding fast food of preschool children. Moreover, there were highly statistically significant relations found between the total body mass index of the studied preschool children and their mother's knowledge, reported practices and attitude regarding fast food. As well as, there were highly statistically significant positive correlations found between the studied mothers'

knowledge, reported practices and total attitude regarding fast food of preschool children.

Recommendation:

Health education program should be provided for mothers to improve their awareness regarding fast-food and effects on child health, particularly among low-income families.

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إدراك الأمهات فيما يتعلق بتأثير الوجبات السريعة على الحالة الصحية للأطفال في سن ما قبل المدرسة

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ان تناول الوجبات السريعة شائع بين الأطفال وهوعامل خطر لحدوث العديد من الامراض. لذلك هدفت الدراسة إلى تقييم تصور الأمهات فيما يتعلق بتأثير الوجبات السريعة على الحالة الصحية للأطفال في مرحلة ما قبل المدرسة. وقد أجريت هذه الدراسة في ثلاث حضانات بمدينة بنها - محافظة القليوبية. تم إستخدام عينة عشوائية منهجية مكونة من 50% من الأمهات اللواتي لديهن أطفال في مرحلة ما قبل المدرسة. وضمت العينة على 120 من مجموع 240. وقد كشفت النتائج 53.3٪ من الأمهات اللواتي شملهن الدراسة كان لديهن مستوى إجمالي ضعيف من المعرفة حول الوجبات السريعة لأطفال ما قبل المدرسة. 65.0٪ منهم لديهم ممارسات غير مرضية تم الإبلاغ عنها لمنع الوجبات السريعة لأطفال ما قبل المدرسة، و58.3٪ منهم لديهم موقف سلبي تجاه الوجبات السريعة لأطفال ما قبل المدرسة. كما اوصت الدراسة انه يجب تصميم برنامج للتثقيف الصحي للأمهات لتحسين وعيهن فيما يتعلق بالوجبات السريعة وآثارها على صحة الطفل، وخاصة بين الأسر ذات الدخل المنخفض.