

Impact of Adolescents' Family Meal Eating Patterns upon their Weight Control Behaviors at Secondary Schools in Baghdad City

اثر انماط عائلة المراهقين في تناول الوجبات الغذائية على سلوكيات السيطرة على الوزن في المدارس الثانوية في مدينة بغداد

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المستخلص:

الهدف: تهدف هذه الدراسة للتعرف على اساليب عائلة المراهقين لتناول الوجبات الغذائية و ايجاد العلاقة ما بين اساليب عائلة المراهقين لتناول الوجبات الغذائية و سلوك سيطرة وزنهم.

المنهجية: دراسة وصفية اجريت في جانبي الكرخ والرصافة لمعرفة اثر اساليب عائلة المراهقين لتناول الوجبات الغذائية على سلوك سيطرة وزنهم في المدارس الثانوية في مدينة بغداد للفترة من 20 من شهر نيسان لعام 2013 الى نهاية تشرين الاول لعام 2014 . اختيرت عينة عشوائية (غير محتملة) ، (غرضية) من 1254 الطلاب والطالبات المراهقين من المدارس الثانوية لجانبي الكرخ والرصافة لمدينة بغداد . حددت مصداقية الاسئلة الاستبائية بواسطة مجموعة من الخبراء من ذوي العلاقة بحقل الدراسة ، اما الثبات فمن خلال دراسة استطلاعية . جمعت معلومات الدراسة من خلال استمارة استبائية مكونة من (54) فقرة اسئلة ذات متعدد . حللت المعلومات باستخدام التحليل الاحصائي الوصفي (التكررات والنسبة المئوية) ، والتحليل الاحصائي الاستنتاجي (مربع - كاي).

النتائج: اثبتت الدراسة ان معظم العينة (33.1% ، 41.4% ، 38.5% ، 31.4% ، 40.3% ، 40.3% ، 38.4%) دائم وبعض الاحيان يتناولون الوجبات الغنية بالدهون والنشويات والمواد السكرية ونراها في وجبة الافطار مثل البيض والخضروات المقلية وايضا القشطة والزبدة مع المربي ، بينما في الغداء والعشاء (31.4% ، 41.2% ، 32.3% ، 41.3% ، 52.5% ، 37.7% ، 55.7% ، 67.2% ، 41.0%) بعض الاحيان المراهقين وذويهم يتمتعون بجلب وتناول شطائر الهمبركر والفلافل من خارج المنزل وايضا نصف العينة بعض الاحيان يتناولون الطعام الصحي مثل الخضروات الطازجة المطبوخة في المنزل ، اكثر من ثلث ونصف العينة (37.4%) و(38.1%) يوميا وبعض الاحيان يتناولون الوجبات السريعة داخل وخارج المنزل . العادات الغذائية للمراهقين وذويهم وتناول الوجبات الخفيفة والسريعة داخل وخارج المنزل ذات علاقة معنوية عالية ذات دلالة احصائية مع جميع طرق السيطرة على وزن المراهقين .
التوصيات: اوصت الدراسة بالتاكيد على عوائل المراهقين ان يكونوا اكثر توجه لتتبع انتظام اوقات الوجبات الغذائية والطعام الصحي لمنع المراهقين وحمايتهم من مخاطر زيادة الوزن في المستقبل.

Abstract

Objective: The study aimed to identify the adolescents' family meal eating patterns, and find out the relationship between adolescents' family meal eating patterns and their weight control behaviors.

Methodology: A descriptive study was conducted on impact of adolescents' family meal eating patterns upon their weight control behaviors in secondary schools at Baghdad city, starting from 20th of April 2013 to the end of October 2014. Non- probability (purposive) sample of 1254 adolescents were chosen from secondary schools of both sides of Al-Karkh and Al-Russafa sectors. Data was collected through a specially constructed questionnaire format include (54) items multiple choice questions. The validity of the questionnaire was determined through a panel of experts related to the field of the study, and the reliability through a pilot study. The data were analyzed through the application of descriptive statistical analysis frequency, & percentages, and inferential statistical analysis, chi-square, are used.

Results: The study results revealed the study sample mostly (38.4% , 40.3% , 40.3% , 31.4% , 38.5% , 41.4% , and 33.1%) always and sometimes eat meals rich with fat, carbohydrate and sweetly elements shown that in breakfast meal like fried eggs, fried vegetables and cream, better with jam, while in lunch and dinner mostly the adolescents and their family (41.0% , 67.2% , 55.7% , 37.7% , 52.5% , 41.3% , 32.3% , 41.2% , and 31.4%) sometimes interest bringing and eating burger, shawarma and falafel sandwich from out, also half percent the study sample sometimes eating healthy foods like cooking and fresh colure vegetables at home, more than one third and half of them (37.4%) and (38.1%) daily and sometimes eat fast food in or out home. The study sample eating habits with the family at home, eating snacks, fast food in and out home, have highly significant association with their total weight control behaviors methods.

Recommendation: The study recommended that should adolescents' family have more intervention to follow regular mealtime and eating healthy foods to prevent and protect them from excessive risk weight gain at future.

Key words: Adolescents' Family Meal Eating Patterns, Weight Control Behaviors

Introduction

Adolescence is considered an especially important period of intense physiological, psychological and social change and is critical for the development of dietary behaviors. It is a life stage where individuals shape their identity and constitute a personal system of beliefs, morals and values. In this period, marked by rapid growth and development, the total nutrient needs are higher than any other time during the life cycle.⁽¹⁻⁴⁾

More than 30% of children and youth aged 9–19 years are over-weight or obese, and rates continue to increase. Parents play a critical role in the development of children's eating habits and weight-related behaviors through exposure, availability, and accessibility of foods in the home. The family meals setting as the potential to substantially impact the dietary intake of children and adolescents and may provide an important avenue for obesity prevention in future. More families to have meals together have been negatively affected by changes in their society.^(5,9)

Positive associations between nutrient intake patterns, including intakes of fiber, fat, several vitamins and minerals, and fruits and vegetables, and family meal frequency have been previously reported among children and adolescents. Family meal frequency may promote nutritious dietary intake and protect against disordered eating. Only a handful of studies have examined the associations of family meal frequency and overweight or obesity.⁽¹⁰⁻¹³⁾

Parent weight-control behaviors and psychosocial functioning and the family social-emotional climate that may potentially influence adolescents' weight-control behaviors including eating and body image. Parent encouragement to lose weight was a more significant predictor of daughters' moderate weight loss attempts, such as dietary restraint and heavy exercise, and that parent encouragement was a stronger predictor in this case than parents' own dietary restraint levels. Parents can influence child behaviors in several ways such as parental modeling of behaviors and expression of attitudes toward eating and body image. Parent weight-control

behaviors and body perception may initial evidence suggests that influence adolescent weight-control behavior, with parents' body dissatisfaction and engagement in unhealthy weight-loss behaviors, such as fasting, skipping meals, and crash dieting, being predictive of these same behaviors among their adolescent daughters.^(14, 15)

Family meals may have relevance for the prevention early detection, and by treatment of disordered eating. Regular family meals provide an opportunity for the role modeling to prepare of healthy eating patterns and lead to social interactions among family members, and may thus help to reinforce healthy eating patterns and prevent disordered eating behaviors. Absent of adolescents from family meals, or there are few family meals, it may be harder for parents to notice food-related issues or that their child is not eating an adequate diet. Thus, regular families meals may assist in the early detection of disordered eating behaviors happen mostly at early young person. The establishment of "normal" family meal patterns is important in the treatment of adolescent eating disorders, where adolescents participate in regular family meals in an enjoyable atmosphere that is free from conflict around food choice or other issues.⁽¹⁶⁾

Methodology

A descriptive study was conducted on impact adolescents' family meal eating patterns upon their weight control behaviors in secondary schools at Baghdad city, starting from 20th of April 2013 to the end of October 2014. Non-probability (purposive) sample of 1254 adolescents were chosen randomly from secondary schools of both sides of Al-Karkh and Al-Russafa sectors. Data was collected through a specially constructed questionnaire format include (54) items multiple choice questions. The validity of the questionnaire was determined through a panel of experts related to the field of the study, and the reliability through a pilot study. The data were analyzed through the application of descriptive statistical analysis frequency, & percentages, and inferential statistical analysis, chi-square, are used.

The Results

Table (1) Distribution of the Study Sample by their General Information

Variables	Gender															
Gender	Male							Female								
	No.		%		No.		%		No.		%		No.		%	
	611		48.7		643		51.3									
Total	1254 (100%)															
	Ages (years)															
Ages (years)	12		13		14		15		16		17		18			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		
	7	0.6	48	3.8	101	8.1	239	19.1	408	32.5	363	28.9	88	7.0		
Total	1254 (100%)															
	Body Mass Index															
Body Mass Index	Under Weight				Normal				Over Weight				Obese		Morbidity Obese	
	<50 th Percentile				50 th -84 th Percentile				85 th -94 th Percentile				=>95 th Percentile			
	No.		%		No.		%		No.		%		No.		%	
	349		27.8		348		27.8		293		23.4		241		19.2	
Total	1254 (100%)															
	Socio-Economical Status Scale (SESS)															
Socio-Economical Status Scale (SESS)	High				Middle				Low							
	No.		%		No.		%		No.		%		No.		%	
	451		36.0		374		29.8		429		34.2					
Total	1254 (100%)															

No. = number, % = percentage

This table shows that more than half (51.3%) of adolescents were female, one third (32.5%) whose age is 16 years old, one third (33.0%) of them at grade 5 of the students' secondary grades, nearly one third at (27.8%) of them are under and normal weight of the students' BMI, nearly one third (34.2%) of adolescents come from low family socio- economic status, and two third (70.6%) of the sample sharing in the physical activity 1-2 times/ per week.

Table (2): Distribution of the Adolescents' and their Family Breakfast Eating Habits at Home

Adolescents' and their Family Breakfast Meal at Home	Always		Sometimes		Seldom		No	
	No.	%	No.	%	No.	%	No.	%
Regular breakfast	300	23.9	481	38.4	132	17.0	341	27.2
Fried eggs	354	28.3	505	40.3	241	19.2	154	12.3
Boiling eggs	91	7.3	597	40.3	406	32.4	250	20.0
Milk and dairy products	379	30.2	394	31.4	361	28.8	120	9.6
Cream and better	351	28.0	483	38.5	273	21.8	147	11.7
Jam	332	26.5	520	41.4	334	26.7	68	5.4
Fried vegetables	349	27.9	416	33.1	190	15.2	299	23.9
Artificial fruit juice	371	29.6	248	19.8	338	27.0	296	23.6
Tea or coffee with sugar	167	13.3	78	6.2	326	26.0	683	54.5
Corn flex with milk and sugar	127	10.1	134	10.7	289	23.1	704	56.1
Water with eating	563	44.9	285	22.7	169	13.5	237	18.9

No. = number, % = percentage

This table shows that (38.4%, 40.3%, 40.3%, 31.4%, 38.5%, 41.4%, and 33.1%) respectively sometimes eat regular breakfast, fried eggs, boiling eggs, milk and dairy products, cream and better with jam, and fried vegetables, while more than one fourth (29.6%) always drink artificial fruit juice, and more than one half (54.5%, 56.1%) drink tea or coffee with sugar, and corn flex with milk and sugar, and (44.9%) always drink water with eating.

Table (3): Distribution of the Adolescents and their Family Eating Habits of Lunch and Dinner at Home

Adolescents' and their Family Lunch and Dinner at Home	Always		Sometimes		Seldom		No	
	No.	%	No.	%	No.	%	No.	%
Rice or bulgur	515	41.0	492	39.3	153	12.2	94	7.5
Breads	843	67.2	322	25.7	68	5.4	21	1.7
Cooking vegetable with soup	699	55.7	441	35.2	82	6.5	32	2.6
Fried food(vegetables)	450	35.9	610	48.6	111	8.9	83	6.6
Grill meat, chicken or fish	472	37.7	462	36.9	192	15.3	127	10.1
Fried meat, chicken or fish	294	23.5	633	50.4	185	14.8	142	11.3
Boil meat, chicken or fish	135	10.8	399	31.8	241	19.2	479	38.2
Beans (lentil, pea, pazela...etc.)	329	26.3	595	47.4	248	19.8	82	6.5
Macaroni like Andomy and spaghetti	227	18.1	674	53.7	273	21.8	80	6.4
Vegetable salad with the meal	659	52.5	393	31.4	130	10.4	72	5.7
Green leaves like (celery, parsley...etc.)	518	41.3	413	33.0	151	12.1	172	13.7
Yogurt with the meal	340	27.1	579	46.2	237	18.9	98	7.8
Soft drink or artificial juice	405	32.3	340	27.1	202	16.1	307	24.5
Water with the meal	516	41.2	273	21.8	128	10.2	334	26.8
Drinking the tea directly after the meal	394	31.4	247	19.7	158	12.6	455	36.3
Bringing Burger sandwich from out	223	17.8	529	42.2	201	16.0	301	24.0
Bringing falafel sandwich from out	250	20.0	590	47.0	272	21.7	142	11.3

No. = number, % = percentage

This table shows that more than one third and half or more (**41.0%, 67.2%, 55.7%, 37.7%, 52.5%, 41.3%, 32.3%, 41.2%, and 31.4%**) always eat rice or bulgur, breads, cook vegetables with soup respectively, grill meat or chicken or fish, vegetable salad with the meal, green leaves like (celery, parsley...etc.) , soft drink or artificial juice, water with the meal, and drink tea directly after the meal while more than one third and nearly the half (**48.6%, 50.4%, 47.4%, 53.7% , 46.2%, 42.2%, and 47.0%**) sometimes eating fried food, fried meat or chicken or fish, beans (like lentils, peas, pazela), macaroni, yogurt with meals, burger, and falafel sandwich from out ,and more than one third(**38.2%**)did not eating boil meat or chicken or fish.

Table (4): Distribution of the Adolescents' and their Family Eating Habits of Snacks after Meals

Adolescents and their Family Snacks After Meals	More than One Per Day		Daily		Sometimes		Seldom		No	
	No.	%	No.	%	No.	%	No.	%	No.	%
Cake and other crackers	152	12.1	215	17.2	639	50.9	194	15.5	54	4.3
Chocolate or cocoa	40	3.2	70	5.6	524	41.7	426	34.0	194	15.5
Ice cream	16	1.3	42	3.4	425	33.8	546	43.6	225	18.0
Sweets (sweetener)	193	15.4	438	35.0	507	40.4	89	7.1	27	2.2
Soft drink like cola....etc.	279	22.3	519	41.5	355	28.3	87	6.9	13	1.0
Chips	9	0.7	41	3.3	298	23.7	598	47.7	308	24.6
Artificial fruit juice	26	2.1	102	8.1	531	42.3	402	32.1	193	15.4
Milk and dairy products	45	3.6	200	16.0	507	40.4	222	17.7	280	22.3
Beans and nuts	66	5.3	199	15.9	553	44.1	310	24.7	126	10.1
Tea or coffee	174	13.9	248	19.8	361	28.7	192	15.3	279	22.3

No. = number, % = percentage

This table shows that almost more than one third of the sample (**41.5%**) daily take soft drink, (**50.9%**, **41.7%**, **33.8%**, **40.4%**, **23.7%**, **42.3%**, **40.4%**, **44.1%**, and **28.7%**) sometimes eating cake and other crackers, chocolate or cocoa, ice cream, sweets, chips, artificial fruit juice, milk and dairy products, beans nuts, and drink tea or coffee respectively.

Table (5): Distribution of the Adolescents' and their Family Fast Food Eating Habits

Adolescents' and their Family Fast Food Eating Habits	Always		Sometimes		Seldom		No	
	No.	%	No.	%	No.	%	No.	%
Fast food in home	348	27.8	469	37.4	382	30.5	55	4.4
Fast food from out	164	13.1	287	22.9	478	38.1	325	25.9
Total	1254 (100%)							

No. = number, % = percentage

This table shows more than one third (**37.4%**) sometimes eat fast food in their home, and (**38.1%**) seldom eat fast food from out.

Table (6): Distribution of the Adolescents' Healthy Weight Control Behavior

Adolescents' Healthy Weight Control Behavior Methods	Always		Sometimes		Seldom		No	
	No.	%	No.	%	No.	%	No.	%
Using the dieting food	125	10.0	362	28.9	202	16.1	565	45.0
Fasting some of days	94	7.6	272	21.7	268	21.4	620	49.4
Doing some physical activity	163	13.0	415	33.1	358	28.6	317	25.3
Eating a little amount of food (varieties of food)	244	19.5	332	26.5	272	21.7	406	32.3
Eating a little amount of sweets	100	8.0	351	28.0	279	22.3	524	41.7
Drinking a plenty of water /per day	572	45.6	402	32.1	191	15.2	89	7.1

No. = number, % = percentage

This table shows that almost half (**45.0%**, and **49.4%**) of the sample did not use the dieting food and fasting some of the days respectively, one third of them (**33.1%**) sometimes do physical activity, (**32.3%**, **41.7%**) did not eat a little amount of food (varieties of food) and also did not eat a little amount of sweets, and finally almost half (**45.6%**) of the sample always drink a plenty of water /per day.

Table (7): Distribution of Adolescents' Unhealthy Weight Control Behavior

Adolescents' Unhealthy Weight Control Behavior Methods	Always		Sometimes		Seldom		No	
	No.	%	No.	%	No.	%	No.	%
Take diet pills	115	9.2	237	18.9	155	12.4	747	59.5
Used laxative & diuretics pills	14	1.1	14	1.1	64	5.1	1162	92.7
Using the binge eating (made themselves vomit)	79	6.3	17	1.4	23	1.8	1135	90.5
Smoking cigarettes (for weight control)	151	12.1	133	10.6	51	4.1	919	73.3

No. = number, % = percentage

This table shows that half and the majority (**59.5**, **92.7**, **90.5**, and **73.3%**) of adolescents' not having unhealthy weight control behaviors like not taking diet pills , use laxative & diuretics pills , using the binge eating (made themselves vomit), and smoking cigarettes (for weight control) respectively.

Table (8) the Association between Meals Eating Habits of the Adolescents' and their Family and their Weight Control Behaviors

Adolescents' and their Family Meals Eating Habits		Weight Control Behavior Methods Total Score		Total	* χ^2
		Yes	No		
Breakfast at Home	Yes	167	86	254	$X^2=.301$ **Sig.= .337
	No	625	375	1000	
Total		792	461	1254	
Lunch and Dinner at Home	Yes	530	317	846	$X^2=.553$ **Sig.= .596
	No	262	145	407	
Total		792	462	1254	
Eating the Snacks	Yes	125	83	207	$X^2=.357$ **Sig.= .399
	No	667	379	1046	
Total		792	462	1254	
The Total Scores	Yes	220	242	461	$X^2=.027$ **Sig. = .023*
	No	326	467	793	
Total		546	709	1254	

* χ^2 = Chi- square, sig. = **significant, p-value ≤ 0.05

This table shows that adolescents' and their family meals eating habits has not significant association with total weight control behavior methods like breakfast, lunch and dinner at home and eating the snacks. While adolescents' total factors and total weight control behavior methods has highly significant association at p-value ≤ 0.05 .

Discussion

The sample of the study consists of 1254 students from 12 secondary schools chosen randomly for total 1171 schools in Baghdad city. In the present study as shown in table (1) refers to statistically distribution of the observed frequencies, percentages of all studied sample demographical characteristics variables. Regarding to the gender, the finding indicates that males and females (48.7, and 51.3%) respectively, were approximately equal ratio. This study was nearly the same ratio and agrees with Romanian high schools study sample (43.1%, and 56.9%) for male and female respectively.⁽¹⁷⁾

The result study samples find that more than one forth BMI were almost equal in under and normal weight percentile (27.8%, and 27.8%) respectively, that indicate that they did not have good nutrients for developing their physically and psychologically performance. This result supported with Romanian study because most of the study is indicated about under and normal weight for both genders (16.5% and 73.4%) respectively.⁽¹⁸⁾

The eating habits of the breakfast, lunch and dinner at home, in tables (2), and (3) show that the study sample mostly always and sometimes eat meals rich with fat, carbohydrate and sweetly elements show that in breakfast meal like fried eggs, fried vegetables and cream, better with jam, this result nearly agrees with the Greek high schools' study that indicates the majority of breakfast eaters about two third reported only consumption of milk, with a preference for chocolate milk, and an industrialized product with preservatives, and more than one half of adolescents reported that they do not prefer their meals to be baked, one third preferred the meals to be fried and only 5.7% boiled food.⁽¹⁹⁾

Lunch and dinner meal also show always eating rice, bread, bulgur, fried meat and chicken, macaroni (Andomy), beans, and drinking soft drink and artificial juice, while mostly the adolescents and their family sometimes interest bringing and eating burger, shawerma and falafel sandwich from out, also half percent the study sample sometimes eating

healthy foods like cooking and fresh colure vegetables at home, therefore the Eastern Mediterranean Region study show both gender did not regularly eat lunch and supper and it supported by the present study for many factors like the lounged school time or they were buying sandwich from canteen for breakfast and lunch the same time.⁽²⁰⁾

Regarding the study sample and their family in table (4) eating the snacks after meals, almost more than one third and half of them daily and sometimes go to eating candies, sweets, ice cream, and chips and they are interesting in drinking fruit juice, and / or soft drink and tea or coffee after or within their meal; while also nearly one third of the study sample sometimes take healthy elements like milk and dairy products, and eat beans and nuts. This result supported by Asia pediatric study in which almost one half and more than one third of the participants eat variety of snacks.⁽²¹⁾

In table (5) more than third of the study sample and their family sometimes eat fast food in or out home therefore, the adolescents and their family are interested in eating fast and unhealthy foods. This result disagrees with Malaysia medical schools study which shows that more than two third eating fast food form in and outside of home. Some of adolescents try to keep their weight on the save side to be more self-confidence and satisfaction themselves in front of their peers for both genders. Therefore, they do some ways and methods to prevent overweight or obese.⁽²²⁾

Table (6) shows that most of the study sample did not use the dieting food or fasting to keep their weight, some of them do physical activity, while there eat more than needs of foods and sweets, and they always drinking a plenty of water/ per day, while another study which shows that majority of the sample depend on the healthy methods weight control behavior like reducing fat consumption , exercise , increasing fruit and vegetable consumption , reducing the amount of food eaten at meal times , reducing the quantity of snacks consumed between meals , and having a balanced diet .⁽²³⁾

Table (7) shows that the study samples' unhealthy weight control behaviors methods more than half and majority of them did not take diet, laxative, and diuretics pills, and also did not use the binge eating way or smoking cigarettes for control their weight and this means that the participant uses mostly the healthy methods for weight control and this result supported with the study ISRN.⁽²³⁾

Table (8) shows that the study sample eating habits with family at home, eating snacks, fast food in and out home, have highly

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9. significant association with their total weight control behaviors methods and this result agree with the Thailand study shown that highly significant association between adolescents' weight control methods and them with family eating habits.⁽²⁴⁾

Recommendation The adolescents' family most have more intervention to follow regular mealtime and eating healthy foods to prevent and protect them from excessive weight gain at future.

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