

Peer Health Education and Unhealthy Eating Habits among Students in Babel Governorate

Maher Jawad Kadhum and Israa Umran Kadhum

ABSTRACT

Background & Objectives: Nutritional needs of teens are generally increased due to the rapid growth and changes in body during puberty. Peer health education may be a new education approach to be applied. The objectives in this study were to assess the level of knowledge, attitudes and practices about unhealthy eating habits and to improve by applying peer health education approach.

Methods: Interventional study was used in a sample of 2848 students during the period from January 2012 to March 2013. Global School-based Students Health survey Questionnaire (GSHS) were distributed to students (pretest). Peer health educators were selected from each school according to a certain criteria and trained to be a peer health educator. After training they started peer health education program in their schools. After 6 months a post test was applied to the same students (after peer education) to assess the improvements.

Results: The study showed female skipping breakfast more than males and the difference was statistically significant. There were 26% of students who never consumed milk and dairy products and 78% were eating a high fat diet three times daily. Students with poor knowledge and practices (12%) improved after peer education and the improvement was statistically significant.

Interpretation & Conclusion: The promising improvement in knowledge and practices of adolescents may encourage using peer health education in health promotion of adolescents in Iraq.

Key words: Peer health education, unhealthy eating habits schools.

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INTRODUCTION

Friends are usually peers, that is, people of the same age, with similar background and interests. Teenagers know they must be different from their parents, for them, this is a matter of self-esteem. The role of friends move to the forefront while the importance of the family in the adolescent's life declines.¹ One of the most effective tool in improving the health is health education (HE). HE not only teaches the basic health knowledge and prevention, but also makes people change every day habits especially unhealthy lifestyles.² The peer group provides support, for the present, at least, everyone will know who they are: they belong to this group.¹ Rapid economic and sociological changes, and in addition to fast development in media

and mobile phone has made the traditional health education not meeting the needs of adolescents. The peers have a major and perhaps greater influence on a young person's health behavior than parents or health staff.³

SUBJECTS & METHODS

Design:

Interventional study in a sample of students in eight secondary schools chosen randomly in Babel governorate during the period from January 2011 to March 2012. The study population included all school students from class 1 to class 5. The intervention included three stages; recruitment, training of peer health educators (PHE) and program implementation (dissemination of health information by PHE to their peer students).

About 5-10% of students from each class were selected as PHE. Total number of PHE were 216, 113 boys and 103 girls. The selection depended on a certain criteria which included academic achievement, history of good

Public Health Department, Babel Health Directorate, Ministry of Health, Iraq.

Correspondence: Dr. Maher Jawad Kadhum, Public Health Department, Babel Health Directorate, Ministry of Health, Iraq.

Email: albana.maher@yahoo.com

communication skills, additional activity in school (e.g. Sport team, theater) and the age which should be close to the target group of students (PHE from the same class). A pretest did for PHE and training started by creating a workshop for 5 days (20 hours) in each school in order to build the capacity of PHE to deliver specific health information. A post-test was done after a workshop of training to ensure that PHE have got proper communication skills and health information. A score of 90/100 at least was used to pass post-test. Those PHE who passed the post-test started their program of educating (stage of dissemination of health information) students.

The total number of the students were 2848. Self-administered questionnaire distributed to the students to fill in 15-20 minutes. The questionnaire included factors associated with nutritional aspects including eating habits, especially the number of servings consumed per day (fruits, fresh green vegetable, high fat diet and milk and dietary products), number of days eating fast food per week, skipping breakfast, and the possible reasons preventing teens from eating breakfast daily and the association with demographic factors (age, sex and residency).

Coding process was done by giving a number assigned to each student according to his class. A pretest did by fulfilling of self-administered questionnaire (SAQ) by all students to obtain a baseline level of knowledge, attitude and skills (perceived skills) regarding the health information. The SAQ based on Global School-based Students Health survey Questionnaire (GSHS) developed by the World Health Organization in collaboration with United nations UNICEF, UNESCO and UNAIDS.⁴ The absent students, those not completing papers and/or leaving questions without answers were neglected.

The stage of dissemination of health information through activities like direct contact, presentation, group discussion and in some school role play started. This stage continued for 6 months. At the end of this stage a post-test for all students were performed done (after peer group education) by filling the same GSHS questionnaire of the pretest. The answers of students in the pre and post test were scored. The scoring involved given zero to (NO) answer and (10) to the (yes) answer. Other answers to questions on a Likert scale scored from (2) to (10). Then the total summation of the scores for all questions for the topic was calculated. The total sum of health topic was stratified into three levels. The poor level when the total score was blow 50th percentile, the acceptable level when

the total score between 50th and less than 75th percentile, the good level when the total score equal and more than 75th percentile.

Sampling: The sample size for the study was calculated using EPIINFO version 6 statistical software. Using the assumption that the proportion of adolescent communicating on nutritional aspects to be 50%, 95% CI, 5% marginal error, and 5% non-response rate, a total of 2848 students were required for the study.

Data entry and analysis: The SPSS statistical package 19 was used for data entry and analysis of the data in the study and analysis of data for the study. Data were presented as frequency and percentages, McNemar's test was also used to test the difference between poor level and acceptable/ good level. P value of less than or equal 0.05 was used as the level of significance.

RESULTS

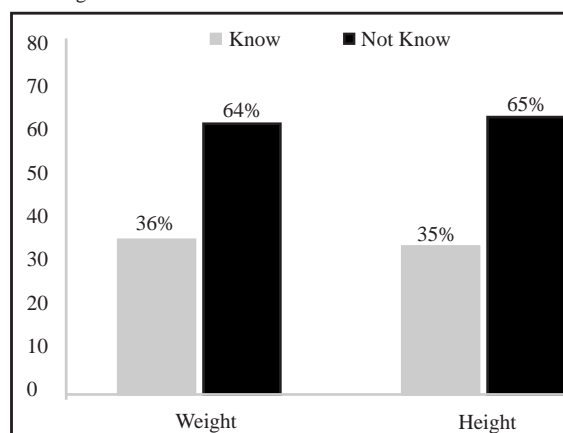
A total of 2848 students was involved in the study, their mean age was 15.38 ± 1.59 years, the age distribution of students was 13-15 years in 53% and 16-18 years at 47%. The gender distribution was 40% males and 60% females. About 44% of students were living in urban and the rest in rural areas (56%) (Table 1).

Table 1: The age, gender, and residence distribution of students

		No	%
Age groups	13-15 years	1501	53
	16-18 years	1347	47
Gender	Male	1156	41
	Female	1692	59
Residence	Urban	1263	44
	Rural	1585	56

Only one third of students knew their weight and height (Figure 1).

Figure 1: The frequency of students knowing their weight and height



Students reported that they always not eating at home in the presence of food were 85 (3%) and eating breakfast daily (not skipping) were 1544 (54.2%) (Table 2).

Table 2: The distribution of students, according to not eating at home and eating breakfast daily

	Never	Rarely	Sometimes	Most of the time	Always
Not eating	1316 (46%)	621 (22%)	726 (25%)	100 (4%)	85 (3%)
Eating breakfast	114 (4%)	333 (12%)	570 (20%)	282 (10%)	1544 (54%)

Stratification of the sampled students eating breakfast according to gender was shown that more than half of males (62%) and less than half of females (47%) were not skipping their breakfast. Residency showed that more than half of the sampled students (53% and 56%) in both urban and rural areas respectively were not skipping their breakfast. The main possible reason of skipping breakfast was unable to eat in morning (26%), especially in females (34%). The gender difference was statistically significant ($P < 0.05$) with 1.85 odds ratio (Table 3).

Table 3: The distribution of students, according to the breakfast skipping possible reasons and stratification according to gender and residency

		Eat always (not skipping)	No time to eat	Unable to eat in morning	No breakfast at home	Other reasons
	Breakfast	1544 (54%)	418 (15%)	743 (26%)	23 (1%)	120 (4%)
Gender*	Male	714 (62%)	170 (15%)	177 (15%)	12 (1%)	83 (7%)
	Female	788 (47%)	272 (16%)	582 (34%)	12 (1%)	38 (2%)
Residency	Urban	668 (53%)	183 (15%)	362 (29%)	15 (1%)	35 (2%)
	Rural	880 (56%)	225 (14%)	384 (24%)	10 (1%)	86 (5%)

* $\chi^2 = 62.99, (P < 0.05)$. Odds ratio= (1.85)

Less than one third of students never consumed milk and dairy products. There was 78% of students consuming less than three serving of high fat diet and 28% of students consuming more than three serving of sweetened soft drink and/or soda daily (Table 4).

Table 4: The distribution of daily consumption of food items

	Frequency of daily consumption of food items (n=2848)		
	Never	= 3 servings	>3 servings
Fruits	77(3%)	1891(66%)	886(31%)
Vegetables	-	2250(79%)	598(21%)
Sweetener soft drink &/or soda	-	2050(72%)	798(28%)
High fats diet	387(14%)	2216(78%)	245(9%)
Fruit juice	370(13%)	2167(76%)	311(11%)
Milk and dairy products	738(26%)	2005(70%)	105(4%)

About eating fast food and high calorie snacks, females (71%) eat more than in males (29%). The distribution of students, according by eating fast food and high calorie snacks according to gender was more in females (71%) than (Table 5).

Table 5: The distribution of students by eating fast food and snack daily according to gender

	Eating fast food and high calorie snacks /week (n=2848)		
	Male	Female	Total
Never	403(29%)	968(71%)	1371(48%)
= 3 days	576(49%)	592(51%)	1168(41%)
>3 days	177(57%)	132(42%)	309(11%)
Total	1156	1692	2848

Most of the students (66%) describing an action for controlling their weight, which included practicing any exercise or sport (36%) and using drugs for controlling their weight (6%) (Table 6).

Table 6: The distribution of students, according to methods used to control weight

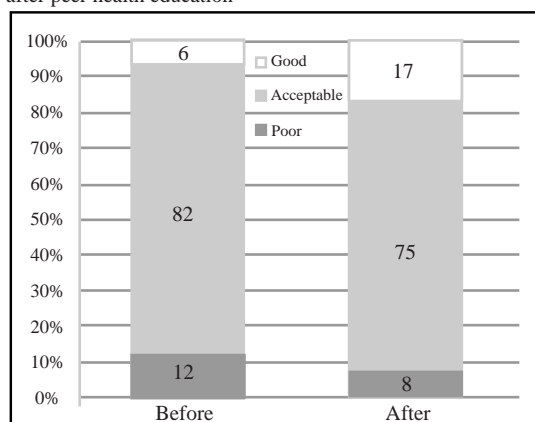
	%
Have a certain action for weight control	66
Starving or fasting for weight control	12
Practicing any exercise for weight control	36
Using drugs for weight control	6

Finally, figure 2 shows the overall description of nutritional knowledge before and after peer education (poor, acceptable and good) and it was poor in 12%, acceptable in 82% and good in 7% of students. This picture was changed after peer group education to be poor in 8%, acceptable in 75% and good in 17%. This difference between before and after peer education was statistically significant ($P = 0.000$). The knowledge of students after peer education was changed in both age groups, both gender and in both residence (urban and rural) group were high proportion developed good knowledge (Table 7).

Table 7: The distribution of nutritional aspects before and after peer education, according to age groups, gender and residency

Knowledge regarding nutritional aspects	Age groups		Gender		Residence		
	13-15	16-18	Male	Female	Urban	Rural	
Before	Poor	11%	13%	11%	12%	12%	11%
	Acceptable	81%	82%	81%	82%	81%	83%
	Good	8%	5%	8%	6%	7%	6%
After	Poor	8%	8%	8%	8%	8%	8%
	Acceptable	73%	76%	75%	74%	75%	74%
	Good	19%	16%	17%	18%	17%	18%

Figure 2. The distribution of nutritional aspects before and after peer health education



DISCUSSION

According to the World Health Organization, five of six important risk factors of non-communicable diseases in the Arab countries are closely related to improper diet and physical inactivity.⁵ Teenage girls may become more sensitive about their weight. This concern arises because of the rapid weight gain associated with puberty⁶ and a small percentage of them become so obsessed about their weight.⁷

The self-reported data of weight and height are valuable if the only source of data. But only one third of the students knew about their weight and height indicate they were not care about these parameters or they did not know their importance. Although the prevalence of being overweight was lower when body mass index was based on self-reported data the adolescent should be able to assess their parameters.⁸

Eating healthy food put a constraint on people's food choice making them select from a subset of foods that are healthy or skip an opportunity to eat.⁹ The desire to eat healthy food competes with the desire to satisfy one's appetite, according to that people experience a self control conflict between eating healthy or eating without constrains.¹⁰

Adolescents may not eat at home in the presence of food and want to follow a new fad diet (popular diet) if they see their friends or famous people following these diets. This hungry may lead to higher levels of hyperactivity, repeated absence, and slowness among hungry/at-risk children.¹¹

A healthy diet for adolescents should include different kinds of foods from all the food groups. The current study found eating fruits mostly less than recommended, this may reflect either the family had poor education about healthy diet or in big families, the economic reasons may affect the availability of fruits for all members. Although green vegetables present in good

quality and their cost were reasonable, even so only 21% eaten three servings daily (less than recommended) and this may affect their health and grow especially bone mineralization.^{12,13}

Breakfast helps children pay attention, develop problem-solving tasks, make good use of memory¹⁴ and have fewer absences and incidents of slower than those who do not¹⁵ get more of important nutrients, vitamins and minerals such as calcium, dietary fiber, folate and protein¹⁶ and less likely to develop overweight.¹⁷

The reasons of skipping breakfast mainly directed towards (they have no time to eat in morning) and females skipping the breakfast more than males.¹⁸ The improper or never consuming dairy products and milk, might reflect that family doesnot pay attention to this main group of healthy food and not encouraging their children to consume. Milk and fruit juice are a source of water and provide key nutrients such as calcium and vitamin C.¹⁹ Other beverages, referred to as sugar drinks or sugar-sweetened beverages (SSBs), also are a source of water but have poor nutritional value. The increased caloric intake resulting from these beverages is one factor contributing to the prevalence of obesity among adolescents and decreased dietary of micronutrients calcium, folate and iron.²⁰⁻²²

The high fat diet, which included hamburgers, French fries, pizza, potato chips, candy and soda, a minority of sampled students (14%) never eat a high fat diet. This might reflect that students could be afraid to gain weight or they learn from school or family that their health or weight could be affected. The higher proportion of energy from fat and/or added sugar may have a lower intake of a vitamin A, folic acid, fiber, iron, calcium, and zinc than is recommended.²³

Adolescents are an ideal target for nutritional education because they are usually open to new ideas; they show curiosity and interest. The improvement occurred after PE in practice could be explained by the impart of educational material between PHE and the students. The adolescents may not only adopt healthy eating patterns themselves, but may influence their peers.²⁴ Unacceptable changes that occurred in a poorly graded group could be explained by, first the question about nutritional aspects concentrated mainly on attitude and behavior so students may need more time to change their attitude. Second, the peer pressure may not be enough to make students get more information and improve. Third, the selection of PHE is important to be from the same targeted group and this could be difficult to apply properly. At the same time PHE may affect the contact students in a manor that engaged in unhealthy behavior during the first year of contact but later on the unhealthy behaviors decreased.²⁵

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