

Food Consumption Behavior among Elementary Students of Gonabad

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Article information	Abstract
<p>Article history: Received: 15 May 2011 Accepted: 8 June 2011 Available online: 30 Oct 2012 ZJRMS 2013; 15(3): 65-67</p> <p>Keywords: Consumption Food Student</p> <p>*Corresponding author at: Social Development & Health Promotion Research Center, Gonabad University of Medical Sciences, Gonabad, Iran. E-mail: bahrami_mb_66@yahoo.com</p>	<p>Background: Most of the dietary habits are formed during childhood and pursuing a correct and balanced dietary pattern is one of the most important factors in preventing degenerative diseases in adulthood.</p> <p>Materials and Methods: In this cross-sectional study, 375 boy and girl students, ranging from grade one to grade five of primary school, participated through the stratified random sampling. The dietary information was collected through filling out Food Frequency Questionnaires (FFQ). Finally, the data were analyzed by using SPSS-16 software.</p> <p>Results: 88.3 percent of the children ate breakfast. The obtained dietary pattern indicated that consumption of food groups, including proteins, milk and dairy, fruit, and vegetables was lower than the recommended allowances.</p> <p>Conclusion: Considering the achieved dietary consumption pattern, compiled and extensive training programs should be designed to promote the knowledge level, insight and behaviors of parents and trainers.</p>

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Introduction

In addition to the life-giving and health-making role of diet for children and diet during school ages, it is efficient from other aspects, such as improving the growth process, preventing gastrointestinal-respiratory infections or making grounds for easier and quicker improvement of such diseases [1].

Children need sufficient diet and physical activity more than other age groups to be able to achieve sufficient physical growth as well as mental development and to confront the chronic diseases of this period [2]. In addition, due to the great importance of foodstuff in the growth of body, diet plays a major role at different times. Paying attention to dietary behaviors during childhood and maturity is among the main instrument to achieve physical growth [3].

Most of the behavioral patterns of adults, especially dietary habits, are formed in childhood and they are less flexible during adulthood. During preschool ages, dietary preferences of children are under the influence of family environment. However, by entering school and creating changes in the conditions of the social life, children become far from home environment. As a result, their habits and food options will be changed gradually and they would be under the influence of new conditions, including social trends, media, environmental stress (friends) and diseases [4].

Studies carried out on children indicate that dietary behaviors have been changed over years. They drink less milk and it is often low fat and skimmed milk.

Consumption of sugar, including non-acidic fruit juices, carbonated drinks and candy, has been increased, especially by younger children. Some children nearly gain 50 percent of their required energy from the extra fat and sugar [5].

Comparing family food cart of the Iranian society and the favorable and standard basket determined by WHO indicates that the required foodstuff of body such as milk, dairy, fruit and vegetable stand at a lower position in the food basket. Up to 50 percent of our people suffer from lack of energy and protein in some parts of our country, especially in rural and marginalized urban areas [6]. Therefore, the present research is conducted aiming to study the foodstuff consumption pattern of children of schools of the city of Gonabad. It tries to examine the physical growth and the effective dietary factors.

Materials and Methods

This study is a cross-sectional research. In this study, 375 children ranging from 7 to 12 years old children (grades 1 to 5, including 190 girls and 185 boys) were selected from the different areas of Gonabad through the two-stage stratified random sampling. After taking the procedures to receive the plan approval, the letter of introduction was received from the Ministry of Education. Meanwhile, all the samples entered the research willingly.

Table 1. Means and standard deviations of the dietary groups under study (food behavior pattern) in terms of grade

grade	Dietary group	Bread and grains	Protein	Milk and dairy	Fruit	Vegetable	Nuts	Sundries
1		5.6±0.8	1.9±0.8	2.3±1.2	3.0±2.0	4.1±4.0	0.8±1.1	2.8±1.5
2		7.7±3.4	1.9±0.9	2.6±1.0	3.2±1.4	4.6±3.6	1.0±0.9	2.9±1.8
3		6.6±3.2	2.1±0.9	2.2±0.9	3.0±1.5	4.6±2.0	1.1±1.2	2.7±1.8
4		7.2±3.5	2.0±1.0	2.0±0.8	2.6±1.2	4.0±3.3	1.2±1.4	3.2±3.1
5		7.4±3.5	2.3±1.1	2.3±1.1	2.8±1.4	3.9±2.9	1.2±1.7	2.6±1.3
total		6.9±3.3	2.0±1.0	2.2±1.0	2.9±1.5	4.1±3.3	1.2±1.3	2.8±2.0

A questionnaire was used as a tool to collect information on the dietary behavior. The questionnaire is a derivation of the Food Frequency Questionnaire (FFQ), the reliability and validity of which have been proved by other studies in the country [7-9]. The questionnaires were handed to the parents through the students. They were supposed to be filled out by the main caregivers (mothers) and returned subsequently. After collecting the data, they were analyzed using SPSS-16 software and the significance level was considered at $p=0.05$.

Results

In this research, 375 children ranging from 7 to 12 years old children were studied. They included 50.7% (190 girls) and 49.3% (185 boys). The most frequency of educational level of parents were under graduates and diploma with 66.1 percent (248 people) and 72.3 (271 people) respectively and the most frequency of fathers' jobs was self-employed, 55.7% (209 people) and the most frequency of mothers' jobs was housekeeper, 78.9 percent (296 people). By determining the food behavior pattern of the primary school students at each grade, it was specified that bread and grains dietary group was the only group, which was consumed at the recommended allowances by the children.

Consumption of the other dietary groups, including proteins, milk and dairy, fruit and vegetable was lower than the recommended allowances. In addition, all the samples under study use bread and grains group weekly. However, among all the grades, the first grade had the minimum allowances of this dietary group. On average, this group had the daily consumption of 5 units. Whereas it is recommended to children to consume this dietary group at least 6 units a day (Table 1). During the research, it was specified that 88.3% of children under study ate breakfast. The major and minor types of oil used for cooking by the families of these children were liquid oil (52.5%) and animal oil (12%), respectively.

Discussion

By determining the food behavior pattern of schoolchildren at each grade, it became clear that bread and grains dietary group was the only group, which was consumed by children as much as the recommended allowances. In this group, bread was consumed most. On average, the daily consumption of this group was about 6 units. In a research, the bread and grains group was the dietary group, which was consumed most by schoolchildren [7]. Considering the fact that the children

dietary pattern is affected by the family dietary pattern- especially in the main meals- the above finding might be noteworthy in this concern. In the present research, consumption of other dietary groups, including protein, milk and dairy, fruit and vegetable was less than the recommended level.

A study indicated that the amount of protein group consumed by grade one students was more than the recommended levels. In other grades, it was less than the recommended allowances [10]. It might be one of the reasons for insufficient intake of iron among school-age children. Alternatively, a research conducted in Tehran specified that dairy, especially milk, and fruits were among the dietary groups consumed most as snacks [7]. In most advanced countries, 50 to 55% of the daily required calcium is satisfied using a balanced diet. Therefore, children should be encouraged to consume this dietary group to prevent the problems related to the shortage of this dietary group during adulthood.

During the research, it became clear that the majority of the participants under study eat breakfast. In a research carried out in Tehran, the percentage of those children who ate breakfast was 80%. Another research conducted in Taiwan suggested that the teenagers with regular consumption of breakfast had less risk to weight gain and those with irregular consumption of breakfast were subject to gain weight 51% more [12].

Breakfast is important because it is the most essential meal for children who are among the vulnerable groups. Temporary and short-term hunger occurs without eating breakfast. The result of this short-term fasting is that a child would become restless by inappropriate stimuli [12]. In this research, the type of consumed oil by families for cooking was liquid oil, whereas a study conducted nationwide indicated that hydrogenated oil was used most for cooking at homes of the students [2].

As the consumption of the dietary group of meat and proteins, milk, fruit and vegetable is lower than the recommended allowances, correct design and implementation of the dietary program at schools and recording and extensive training programs to promotion knowledge level of parents and trainers can be the important factors for removal of dietary problems and providing favorable growth and health in this vulnerable age group. Satisfying the hunger of well-fed primary school children or those with malnutrition within a short period improves their nutrition, helps them concentrate and learn better and improves their physical and mental function.

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Authors' Contributions

All authors had equal role in design, work, statistical analysis and manuscript writing.

Conflict of Interest

The authors declare no conflict of interest.

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