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Junk Food Consumption and Effects on Growth Status among Children Aged 6-24 Months in Mashhad, Northeastern Iran

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Abstract

Introduction

Junk food, due to the lack of vitamins, minerals and trace amounts of energy and protein, there is the risk that the child's stomach filled and by reducing her/his appetite, reduce the chance of nutritious foods. So it is necessary to determine the relationship between using of junk food with growth rate in children.

Materials and Methods

This cross-sectional descriptive-analytic study was conducted on 300 mothers and their babies , who were referring to 10 selected Mashhad health-care centers for monitoring their 6-24 months children. Participants were selected by cluster and simple random sampling and valid and reliable questionnaire was used to collect data. Data were analyzed by descriptive- analytic statistics and using SPSS version 16.

Results

In growth chart, 86.7 percent of children showed appropriate growth, 10.3 percent had delayed growth and 3 percent had horizontal growth curve. In 11.3 percent of families, the junk food has been used for children regularly, 44.7 percent did not believe in these snacks and 44 percent of mothers sometimes used this junk food for their children. Results showed the statistical correlation between junk food consumption and growth status of children was significant, so children whom haven't had junk food, have grown more favorable than the other kids ($P<0.05$).

Conclusion

Use snacks interfere with the child's growth. Junk food consumption among the study population was high relatively. Mothers need to be aware of the effects of junk food to children's development.

Key Words: Children, Growth status, Junk food, Mashhad.

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Introduction

Present children are the investments of community in the future. The present physical and psychotic health prepares them for managing future society. Accurate nutrition in the 2 first years of life will be the most important factor in preparing health, growth and development of children in the future. In the third world countries, mortality of children under 5 years includes significant rate of total mortality. The most important factor of mortality in these groups include: respiratory infections, diarrhea diseases and malnutrition. Children who had improper nutrition, would be more ill and their disease would be longer. Growth rate in primary years of life and lack of necessary knowledge about proper nutrition of child are influencing factors in malnutrition incidence in children under 5 year. Children, who had improper and insufficient diet in the first years of life, had lower IQ and were unable to do their homework in school (1, 2).

Assessments showed that Iranian children have appropriate birth weight, but they lose their weight slowly between 4-6 months of life. This is probably due to child's need to supplementary food, inappropriate pattern of supplementary nutrition and inaccurate habits of nutrition. Weight loss continues till 18 months of life due to insufficient health care and lack of necessary knowledge, after that although increasing weight parallels to reference percentile, growth curve always passes in lower level than middle curve (3).

Consuming a healthy diet throughout the life course helps prevent malnutrition in all its forms as well as a range of noncommunicable diseases and conditions. But the increased production of processed food, rapid urbanization and changing lifestyles have led to a shift in dietary patterns. People are now consuming more foods high in energy, fats, free sugars or salt/sodium; and many do not eat enough fruit, vegetables and dietary fiber such as whole grains. The exact make-up of a diversified, balanced and healthy diet will vary depending on individual needs (e.g. age, gender, lifestyle and degree of physical activity), cultural context, locally available foods and dietary customs. But the basic principles of what constitutes a healthy diet remain the same (4, 5).

Infants and young children

In the first 2 years of a child's life, optimal nutrition fosters healthy growth and improves cognitive development. It also reduces the risk of becoming overweight or obese and developing NCDs later in life. Advice on a healthy diet for infants and children is similar to that for adults, but the following elements are also important:

- Infants should be breastfed exclusively during the first 6 months of life.
- Infants should be breastfed continuously until 2 years of age and beyond.
- From 6 months of age, breast milk should be complemented with a variety of adequate, safe and nutrient dense complementary foods. Salt and sugars should not be added to complementary foods.

As a result of changing dietary patterns in recent decades, nutritious snacks are substituted by junk food. Television advertising, attractive packaging, and lack of parental awareness are the major cause of junk food consumption (7, 8). In this regard, physicians and health care givers and more importantly mothers should have deep and sufficient understanding and knowledge about different stages of children growth and development and their influencing factors. So this study aimed to

assess the relationship between using junk food with growth status of children.

Materials and Methods

This cross-sectional descriptive-analytic study was conducted on mothers and their babies who were referring to Mashhad health-care centers for monitoring their 6-24 months infants. The sample size according to previous studies in this area calculated 300 mothers (9). Participants were selected by cluster and simple random among 10 selected health-care centers. 30 mothers entered the study randomly in each health care center.

This study was approved by the Research Ethics Committee of Mashhad University of Medical Sciences. The researchers were referring to the research settings and after coordination with the center's manager, introduced the research for the participants and obtained informed consents. Then they obtained required data by completing research tools. Research tool was a reliable and valid questionnaire which was confirmed by content validity and internal consistency Cronbach's alpha (α=0.86) reliability.

The questionnaire consists of 2 parts: A: personal characteristics and demographic information, and B: questions relating to knowledge assessment about influencing factors on child growth. After gathering data, they were coded and analyzed by descriptive and analytic test such as: ANOVA, t-test, chi-square statistics and confidence interval 95% by SPSS-16. P<0.05 was considered significant.

Results

A total of 300 mothers who had children aged 6 to 24 months, participated in this study. 49% of the sample size's children were male and 51% were female. Educational levels of mother were as follows: 15.3% primary education, 16.3% junior education, 50% high school graduates and 18.3% university education. Families size were as follows: 45.7% of families had one child, 46% 2 children, 7.3% 3 children and 1% of families had more than 3 children. Child nutrition status was as follows: 77.3% breastfeeding, 5.3% artificial milk, 11% breast milk and cow, and 6.3% breast milk and artificial baby food. Table.1, shows the frequency of participants' demographic variables.

Results showed in 11.3 percent of families, the junk food has been used for children regularly, 44.7 percent did not believe in these snacks and 44 percent of mothers sometimes used this junk food for their children, also, 66.8% of mothers using junk food for children once a day, 31.9% twice a day and 1.1% using junk food three times a day. Growth status of children was as follows: Optimal growth in 86.7 percent, low growth in 10.3 percent and 3 percent had horizontal growth curve. 1.3 percent of children weighted less than 2,500 grams (g) and 98.7 percent more than 2500 g. 35% of mothers started supplemental feeding before 6 months and 65% after 6 months.

There was a significant correlation between the consumption of junk food with children's growth, so the prevalence of growth retardation was more extensively in children who ate snacks (P<0.01) (Table.2). Results showed using the junk food consumption, were more in mothers with primary education than the others (P<0.01) (Table.3). There was a significant relationship between use of junk food and maternal referring to health care centers for child growth monitoring of their babies, so mothers with diploma level more than other mothers used drops for children (iron and multivitamin) (P<0.001), (Table.4).

Table 1: Frequency of demographic variables in participating mothers

Variables	Frequency	Percent
Child growth status		
Desirable	260	86.7
Growth retardation	31	10.3
Horizontal	9	3
Mother's literacy		
Primary	46	15.3
Junior high school	49	16.3
High school	150	50
Academic	55	18.3
Family income		
Low	41	13.7
Moderate	248	82.7
good	11	3.7
Very good		4
Baby's birth ranking		
first	157	52.3
second	121	40.3
third	19	6.3
3 <	3	1

Table 2: Distribution of use of junk food consumption in children according to maternal literacy levels

State growth percentiles	Using junk food			Total
	Yes Number (%)	No Number (%)	Sometimes Number (%)	Number (%)
Good	27(10.4)	120(46.2)	113(43.5)	260(100)
Gowth delay	7(22.6)	5(16.1)	19(61.3)	31(100)
Horizontal	0	9(100)	0	9(100)
Total	34(11.3)	134(44.7)	132(44)	300(100)

P value< 0.001.

Table 3: Distribution of use of junk food consumption in children according to maternal literacy levels

Using junk food	Maternal education				Total
	Primary education	Junior high school	Diploma	Academic	
Yes	10(29.4%)	0	20(58.8%)	4(11.8%)	34(100%)
No	19(14.2%)	7(5.2%)	65(48.5%)	43(32.1%)	134(100%)
Sometimes	17(15.3%)	42(31.8%)	65(49.2%)	8(6.1%)	132(100%)
Total	46(15.3%)	49(16.3%)	150(50%)	55(18.3%)	300(100%)

P value< 0.001.

Table 4: Frequency of mothers referring to health care centers for child growth monitoring according to using junk food

Using junk food for child	Participate in training classes			Total
	Yes	No	Sometimes	
Yes	19	13	2	34
	(55.9)	(38.2)	(5.9)	(100)
No	58	41	35	134
	(43.3)	(30.6)	(26.1)	(100)
Sometimes	26	69	37	132
	(19.7)	(52.3)	(28)	(100)
Total	103	123	74	300
	(34.3)	(41)	(24.7)	(100)

P<0.01

Discussion

In the present study, 11.3% of mothers had been used junk food for their children on a regular basis and 44% had been used junk food for sometimes. Since brain growth after fetal period occurs most in the first year of life, the importance of appropriate and accurate nutrition in children's growth, mental and physical health, learning and their efficacy is undeniable. So it is necessary to consider more importance to nutrition and nutrient types which are available for children in order to preparing children security and health (1, 2, 4). This study showed that the consumption of junk foods in the diet of children less than 2 years is high and with increasing age, it is also increasing. The potential consequences of excessive consumption of junk food is nutritional deficiencies, obesity, or both of them (2, 10, 11). Studies have shown feeding early in life, played a major role in shaping children's tastes and food habits to saline, can be a risk factor for hypertension in adulthood (2, 7). Dental problems are one of the side effects of sugar snacks (2, 7).

On the other hand, based on scientific literature, junk food which often contain large amounts of fat, calorie and high energy density, can be one of the causes of obesity (1, 2, 7), also, the presence of preservatives and chemical additives are often added to junk food, provides grounds allergies in children (2). The present study's findings showed a significant relationship between parents' literacy level and using junk food for children. This finding is in accordance with Halakouyi's findings (12).

Our findings showed no significant relationship between birth weight, age of initiating supplementary nutrition and child gender with children growth status, which is inconsistent with Alavi Naeini's findings about child gender and family income (13) and Keighobadi's findings about birth weight (14), and Teimouri's findings about adding oil to child's food (15), and Kabiri's study about child gender and economic status (16). The present study showed that 34.3% of mothers had been participating in the educational programs of health care centers regularly, which is inconsistent with Barzegar's findings who reported just 2.3% of families attended in these programs (17). These differences may be due to the presentation of new and various information by a modern educational method in health care centers of Mashhad, and more interest of mothers to these programs.

Conclusion

The consumption of junk foods to children studied was relatively high. Due to the adverse effects of junk foods, the necessity for research to examine the strengthening of educational programs to promote the use of traditional snacks nutrition, is clear. The point is that educational for mothers, should be considered that junk food which are used among meal, should be nutrition and

healthy for children. Healthy eating means eating a variety of foods so that the child gets the nutrients (such as protein, carbohydrate, fat, vitamins, and minerals) he or she needs for normal growth. If the child regularly eats a wide variety of basic foods, he or she will be well-nourished.

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