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# Content analysis of food advertising in Iranian children's television programs

## Abstract

**Background:** Advertisements can influence children's health related behaviors. Television advertisements are the main avenues directing commercials at children in Iran. This study aimed to explore the content of food advertisement during children's television programs in 2007-8 and to compare it with those reported in 2000. **Methods:** All advertisements broadcasted before, during, and after children's programs aired on two major Iran national television networks were videotaped for a period of 4 weeks during 2007- 8. For each advertisement, type of product(s) and mode of presentation (s) were coded. **Results:** A total of 229 television advertisements were broadcasted. Food commercials were the most frequent group (31%) across the two channels. Among the food products advertised, calorie dense foods, including chocolate, soft drinks, extruded cereals, ice cream, cookies and candies were the most frequent. The appeal mainly used in television food advertisements was "stimulation of hunger/thirst" (38.5%). The advertisements were mostly presented as animations (54%) and the messages used were mainly directed to good taste. **Conclusion:** Although the total number of food advertisements during children's television programs has decreased but the consumption of high fat, high sugar, low nutrient dense foods continues to be promoted. Policies to address the issue should be scrutinized.

## Keywords

iranian, advertising, children, programs, analysis, food, television, content

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## Content Analysis of Food Advertising in Iranian Children's Television Programs

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## ABSTRACT

**Background:** Advertisements can influence children's health related behaviors. Television advertisements are the main avenues directing commercials at children in Iran. This study aimed to explore the content of food advertisement during children's television programs in 2007-8 and to compare it with those reported in 2000.

**Methods:** All advertisements broadcasted before, during, and after children's programs aired on two major Iran national television networks were videotaped for a period of 4 weeks during 2007-8. For each advertisement, type of product(s) and mode of presentation (s) were coded.

**Results:** A total of 229 television advertisements were broadcasted. Food commercials were the most frequent group (31%) across the two channels. Among the food products advertised, calorie dense foods, including chocolate, soft drinks, extruded cereals, ice cream, cookies and candies were the most frequent. The appeal mainly used in television food advertisements was "stimulation of hunger/thirst" (38.5%). The advertisements were mostly presented as animations (54%) and the messages used were mainly directed to good taste.

**Conclusion:** Although the total number of food advertisements during children's television programs has decreased but the consumption of high fat, high sugar, low nutrient dense foods continues to be promoted. Policies to address the issue should be scrutinized.

**Keywords:** Advertisements, child, food, television

## INTRODUCTION

Children around the world are potentially exposed to direct or indirect messages of advertisements on a daily basis. They have become a major target for advertisements due to their unique characteristics, as being more responsive to the advertisements<sup>[1]</sup> and as potential consumers of the products at the current time and in the future.<sup>[2]</sup> Studies have shown that food products are among the most frequently advertised items on television (TV).<sup>[3-4]</sup> This has become a concern from public health point of view, as the most frequently advertised foods are high in sugar, fat

and/or salt and their consumption can contribute to increased risk of obesity, diabetes and coronary heart diseases in adulthood.<sup>[5]</sup> In addition, it has been shown that food marketing to children influences their food preferences, purchasing behavior and purchasing requests, as well as their food consumption habits.<sup>[6]</sup> Such behaviors can track into their adulthood.

According to national data, the prevalence of overweight and obesity among Iranian school-children has been reported to be 10.1% and 4.79%, respectively.<sup>[7]</sup> In addition, Iranian children on average watch TV more than 4 h/day.<sup>[8]</sup> This viewing time is very close to the 4 h and 52 min reported by Brazilian children<sup>[9]</sup> and slightly lower than 5.5 h/day American children have been reported to view a variety of media, mostly TV.<sup>[10]</sup> Concern regarding the effect of food advertisement on children nutrition have resulted in the Institute of Medicine recommendation for policies to provide "advertising-free" schools as a mean to prevent childhood obesity.<sup>[11]</sup>

Therefore, identifying those foods that are advertised to children should be a major focus for policymakers and those involved in planning nutrition education and behaviour change programs at the community level. Knowledge of the foods advertised to children is also valuable insight into the information provided to children and it can be compared with evidence-based food-based dietary guidelines.<sup>[12]</sup>

Sophisticated techniques are used to ensure that TV advertising is appealing to children.<sup>[13]</sup> Studying the content and modes of presentation of advertisements also can serve as a learning opportunity for health professionals involved in the development of nutrition and health education programs and campaigns. In most cases, broadcast advertisements are entertaining to children<sup>[2]</sup> and the tools and strategies used can serve to improve understanding of effective means of communicating with children.

The purpose of the present study was to evaluate the frequency, content and method of presentation of food advertisements directed at primary school-children on Iranian TV channels over 1-year period (2007-2008). And also, to compare their frequency with those we had already reported in 2000.<sup>[14]</sup>

## METHODS

The study was a content analysis of food advertisements broadcasted during children's TV programs in 2007-8. At the time of the study, there were eight broadcasting channels on the Islamic Republic of Iran Broadcasting (IRIB) TV, two of which (channels 1 and 2) were national and provided children's programs on a daily basis. During each of the four seasons of the Iranian calendar year (from June 2007 to March 2008) 7 days in different months of that season were randomly selected. Days were selected, so as not to coincide with national, religious or political occasions. Overall, 28 days out of all possible days in the year were selected, and the programs were taped as a representative sample of typical days of the year in IRIB.

### Data collection

The sample consisted of all advertisements broadcast during, as well as 15 min before and after children's programs on the two main channels. The broadcasting times of the advertisements were between 3.50-6.10 p.m. (ordinary days) and 2.20-4.30 p.m. (holidays) on channel 1 and between 3.45-5.15 p.m. (ordinary days) and 9-12 p.m. (holidays) on channel 2. Broadcasting times of children's programs were considered as the times that were most probable for children's viewing.

Two evaluators viewed videotaped advertisements (one channel each) and recorded data on a sheet. For each advertisement, the time of broadcasting, duration, frequency, name of the channel and the category were coded. If it was a food and/or beverage advertisement, it was coded with regard to the following information: Food group, brand and company, means of presentation (sounds or pictures and whether the picture was real or animated), and the presence of the main and additional characters as presenter/s. Information recorded about human presenters included sex (female, male), age (child, adult, old), weight status (obese, not obese) and being alone or having a companion. Food group information was based on Iran's food-based guidelines.<sup>[15]</sup> Other features recorded included location in which the food product was advertised (e.g. parks, seaside, home); the target audience (children or adults);

health or nutrition-related message (s) or claims, if present; and the appeals of the advertisements.

Inter-rater reliability was determined by comparing the coding of the two evaluators across at least 40% of the sample. The two evaluators were nutritionist with enough experience in similar studies. Intra-rater reliability was also similarly assessed by comparing the coding made by the same evaluator on different occasions. Reliability was calculated using the following formula:<sup>[16]</sup>

$$\frac{\text{Number of agreements} \times 100}{\text{Number of agreements} + \text{Number of disagreements}}$$

Intra and inter-rater reliability of this study were 82% and 100%, respectively. Data were analyzed by SPSS version 18.0 and are presented as frequencies and percentages.

## RESULTS

Overall 72 h of children's programs were recorded and viewed, of which 99 min (2.3%) comprised 229 advertisements. For every 1-h of program more than 3 advertisements were depicted. The length of the advertisements ranged from 10 to 190 s. Of the 229 broadcast commercials, 70 (30.6%) were for food products, accounting for 27 min (27%) of the total 99 min of advertisements. A significant difference was observed between the frequency of food and non-food advertisements in channels 1 and 2;  $P < 0.05$  however, the proportion of

food and nonfood advertisement in 2007 was not statistically different from those reported in 2000  $P < 0.05$  (data not shown). Figure 1 presents the frequencies of different groups of advertisements compared to food groups, in the two TV channels ( $P < 0.05$ ). In Table 1, frequency of advertisements of food groups in the two channels are presented ( $P > 0.05$ ). Based on the table, salty and sweet snacks were the most frequently advertised food items compared with other food groups ( $P > 0.05$ ), in both channels.

The presenters were male in 33 (44.5%), female in 26 (35%) or both genders in 13 (17.5%) of the advertisements. Six (8%) of presenters appeared overweight (subjectively measured by reviewers). Only two (3%) of the advertisements did not have any presenter.

Frequency and percent of different appeals associated with the foods advertised are shown in Table 2. The most frequently used appeals were stimulation of hunger/taste, stimulation of curiosity/entertainment and novelty, respectively. Food advertisements were not coded exclusively for one feature in this category. It means that more than one code could be allocated to each advertisement. Rhythmic rhymes were deployed in 29 (40%) of TV food advertisements. The most frequent location used to present advertised products was the home environment (34%). The target audience in 68.5% of the advertisements was children and the most frequent appeals of advertised food ( $N = 47$ , 38.5%) was "stimulation of hunger/thirst". The main messages ( $N = 46$ ,

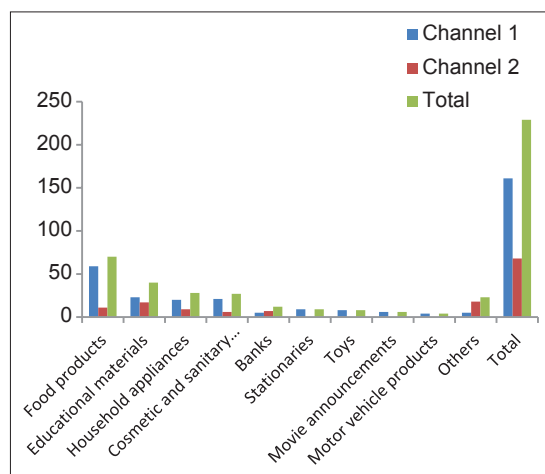
**Table 1:** Type of foods advertised in children's television program by food groups, Iran

Food category	Channel 1		Channel 2		*Channels 1 and 2	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Breads and cereals <sup>c</sup>	4	6	3	27	7	9.5
Fruits and vegetables <sup>d</sup>	7	11	0	0	7	9.5
Dairy products <sup>e</sup>	1	1.5	4	36	5	7
Meats, legumes and eggs <sup>f</sup>	15	24.5	0	0	15	20.5
Nuts <sup>g</sup>	3	5	0	0	3	4
Salty and sweet snacks <sup>h</sup>	32	52	3	27	35	48
Other foods <sup>i</sup>	0	0	1	10	1	1.5
Total	62	100	11	100	73	100

\* $P > 0.05$ . <sup>c</sup>Contained pasta and pizza paste, <sup>d</sup>Contained fruit leather (roll) s and plum paste, <sup>e</sup>Contained cheese, pizza cheese and in an advertisement a brand which belonged to a group of dairy products, <sup>f</sup>Contained legumes and fish cans, <sup>g</sup>Contained a brand which belonged to a mix of nuts and dried fruits, <sup>h</sup>Contained soft drinks, chocolate, sweets, ice cream, chips, cheese curls, <sup>i</sup>Contained margarine, mayonnaise, rose extract and in an advertisement a brand which belonged to a group of diverse food products

39%) used to promote the food products were “taste”, “delight” and “relaxing”.

Frequency and percent of different claims associated with food products advertised are



**Figure 1:** Frequency of television advertisement groups in children's program

presented in Table 3. Most of the claims were “Delicious, delight, relaxing” or consumer-related issues while only 9% of them were related to nutrition or health issues ( $P < 0.05$ ).

## DISCUSSION

Based on the findings, the majority of advertisements aired on the main two national Iranian TV channels during the children programs were on food products, mostly being unhealthy. This finding is consistent with studies from other countries and in Iran.<sup>[11,17]</sup>

Salty and sweet snacks were the most frequent food items advertised. Dietary guidance generally recommends a decrease in consumption of such foods. Other studies also have reported the proportion of unhealthy foods in advertisements directed to children being significantly larger than those for healthy foods.<sup>[18]</sup> In spite of being the majority, compared with previous studies,

**Table 2:** Frequency of appeals associated with food products advertised on children's programs, Iran

Appeals	Channel 1		Channel 2		*Channels 1 and 2	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
High quality	6	6.5	6	21	12	10
Novelty	10	11	5	17	15	12
Stimulation of hunger/thirst	43	47	4	14	47	38.5
Energetic/healthy/peer acceptance	1	1	0	0	1	1
Profiteering	9	10	4	14	13	11
Stimulating curiosity/entertaining	15	16	4	14	19	15.5
Providing welfare	7	7.5	5	17	12	10
Not defined/others	1	1	1	3	2	2
Total	92	100	29	100	121	100

\* $P < 0.05$

**Table 3:** Frequency and percent of claims associated with food products advertised on children's program, Iran

Claims	Channel 1		Channel 2		*Channels 1 and 2	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
High quality, superiority over other products, uniqueness	11	11	7	35	18	15
Novelty	16	17	5	25	21	18
Delicious, delight, relaxing	40	41	6	30	46	39
Providing health, energetic, nutritious	9	9	0	0	9	8
Containing special materials	3	3	1	5	4	3
Help to make friends, peer acceptance, cheer up others	7	7	1	5	8	7
Not defined/others	12	12	0	0	12	10
Total	98	100	20	100	118	100

\* $P < 0.05$



advertisements of salty and sweet snacks appeared to have decreased in frequency ( $P < 0.05$ ).<sup>[14]</sup>

The most frequently used claims in the advertisements were related to "taste," quality and novelty. For example in an advertisement on a brand of sponge cake the narrator said: "With different tastes, chocolate, strawberry, delicious and nutritious." In another advertisement for fruit rolls, it was said: "Healthy and delicious, made of fresh fruits." Thus, food advertisers perceived taste as an important motivation for food choice in children, more so than nutrition-related concerns. A similar focus of food advertisements on taste or quality of food, rather than on nutritional value, has been reported in studies from other countries<sup>[19,20]</sup> and previous studies in Iran.<sup>[14]</sup>

Some cases of direct and indirect violation of the Iranian government's regulations on TV advertisements<sup>[21]</sup> were also identified. Examples include showing an overweight child while eating a food product greedily and the offer of a gift associated with the purchase of a product. In another advertisement on a dairy product, it was said by a calf "the ice cream is more delicious than mum's milk." This could be considered a violation of intent of the International Code of Marketing of Breast Milk Substitutes.<sup>[22]</sup> In previous studies, more direct cases of violations were identified. For example, in one study an advertisement on margarine had claimed that it would lower cholesterol.<sup>[14]</sup> Overall, it appears that fewer scientifically unsound claims in advertised foods are being used following the introduction of the government's advertising regulations.<sup>[21]</sup>

### Frequency of food advertisements

During the study period, a total of 229 advertisements were videotaped over four seasons in two channels, while in the previous study in 2000, 155 advertisements were aired in only 1-week.<sup>[14]</sup> This translates to fewer advertisements being reported in the current study (3 ads/h in the current study versus 12 ads/h in the previous study). Another study has also reported a descending trend in the frequency of TV advertisements during children's TV viewing times.<sup>[19]</sup> This may be due to an increase in tariffs for TV advertisements in Iran during that time; however, it is not possible to confirm this interpretation.

Another interpretation could be related to the impact of legislation and recent regulations which potentially have limited various options of TV advertisements for the advertisers.

In the current study, about 4 ads/h were depicted from channel 1 which is much less than the previous study in that 155 advertisements were depicted in 14 h (i.e. about 11 ads/h).<sup>[14]</sup>

Despite the drop in the number of advertisements, the frequency of food advertisements had increased. In our earlier study, food advertisements ranked as a second in frequency, whereas in this study food advertisements were the most frequent product category on Iranian TV during children's viewing times. This confirms the findings of studies in other countries,<sup>[23,24]</sup> and also other studies conducted in Iran<sup>[17,25]</sup> and emphasizes the importance of "food" as a valued commodity for marketers.

### Presentation of food advertisements

Compared with a previous study of food advertisements to children in Iran,<sup>[14]</sup> the percentage of female presenters had increased in food advertisements (35% vs. 5%), while the percentage of male presenters remained similar (44.5% vs. 43.6%). Another study of children's advertisements also found that the percentage of female voice-overs was less than male, while a significantly larger proportion of the voice-overs for the healthy advertisements were female than were male.<sup>[18]</sup> Sex-specific patterns for advertisement presenters could not be elucidated from the data in the present study. Future research for clarification of the issue is needed.

The current study also found that the style of the food advertisements had changed and were more child-oriented, implying more emphasis on children as unique customers. However, this difference was not statistically significant. The majority of presentations were pictorial, more so than previously<sup>[14]</sup> and in agreement with other studies.<sup>[3,26]</sup> This could be due to technical improvements in advertising techniques or, as a result, the findings of other studies that have found fantasy was more appealing to children than reality.<sup>[18]</sup> The locations of most advertisements were identified as the home, similar to another study that reported the home among the most frequent setting used in advertisements.<sup>[18]</sup>

## CONCLUSIONS

In general, the food products being promoted via children's TV programs were of low nutritional value and inconsistent with dietary recommendations. Techniques used to promote food to children included

appeals of taste and quality, using female voices or depictions, making the visuals child-oriented through pictures and fantasy, and locating the product within the known environment of home. The findings provide evidence that nutrition and health policy makers should continue to focus on the content of food advertising and their influence on children.

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