Content Analysis of Food Advertisements Addressed to Children and Adults in Andalusia

Jose A. Ponce-Blandón**, Manuel Pabón-Carrasco† and Mercedes Lomas-Campos‡

**Head of Spanish Red Cross Nursing School, University of Sevilla, Spain
†Lecturer, Spanish Red Cross Nursing School, University of Sevilla, Spain
‡Professor, Faculty of Nursing, Physiotherapy and Podiatry, University of Sevilla, Spain

*Corresponding author: Jose A. Ponce-Blandón. Email: japonce@cruzroja.es

Received: 13 March 2017; Accepted: 21 June 2017; Published: 28 June 2017

Abstract

Objectives: To know the main features presented in food ads on television in Andalusia (southern Spain), analyzing the differences between ads aimed at children and at adults.

Methods: A contents analysis of ads included in a sample of 60 hours of programming from two TV channels with the largest audience. The information about health benefits, warnings about excessive consumption, the presence of scientific information and the type of food announced were analyzed.

Results: Eighteen hundred and eighty ads were broadcast, of which 416 (22.1%) announced foodstuffs. The most advertised category of foodstuffs were dairy, 23.1% [14.9-33.1] and sugary cereals, cookies and chocolate, 17.6% [10.4-27.0]. A total of 39 spots (42.9% [32.5-53.7]) were aimed at children and 52 ads (57.1% [46.3-67.5]) aimed at adults. The products considered “unhealthy” and “fast food” (p<0.01) were significantly more frequently advertised in commercials aimed at children.

Conclusions: Almost half of food and beverage ads broadcast by the major television channels in Andalusia are specifically targeted at children, offering more products with low or unhealthy nutritional values, in relation to advertising aimed at adults.

Keywords: Food Publicity (MeSH); Products Publicity Control (MeSH); Children (MeSH); Content analysis (MeSH); Health Promotion (MeSH)

Introduction

Childhood obesity has become a major public health problem. Different studies carried out on obesity and overweight children provide different results according to the definition criterion of obesity used (WHO or International Obesity Task Force IOTF), age stratum and geographical and temporal scope studied [1]. Sánchez-Cruz et al. [2], following WHO criteria, established a prevalence of overweight in Spain between 8 and 13 years of age of 30.7% and of obesity of 14.7%. With same criteria, the Aladino study of 2015 placed the prevalence of overweight in the range of 6 to 10 years in 23.2% and that of obesity in 18.1%. In Andalusia, the latest data available correspond to the Aladino 2011 study, which places the prevalence of overweight at 24.1% and obesity at 26.1% at these same ages [3-5].

The experts in our country have recognized that there is a direct relationship between these high rates of obesity and exposure of the children to advertising messages of food with little nutritional value through television [6]. In other countries, it has been demonstrated that there is a correlation between the hours the child spends watching television and the volume of calories he/she consumes throughout a day, which can result in additional 167 kcal/day for each hour watching TV [7].

The few studies conducted in Spain [8] and, more of them in other countries [9-12] which analyze the food advertisements on children’s channels, show that they mostly advertise high-calorie and not recommended for a balanced diet at those ages food. Children become the most vulnerable population group when it comes to the implementation of consumption patterns of foods that lack nutritional value. There are many studies that address the nature and effects of food marketing aimed at children through advertising, as stated in the review by WHO [13], which proves the massive exposure of children to advertising messages. In the United States, for example [14], it was found that over a period of nine months children can be exposed to more than 220,000 promotional messages, 36.4% of which advertise foods, very similar percentage showed by other studies in other countries [15].

In many of the studies on the effects that food advertisements have on the consumption habits of children, emphasis is placed on the need to analyze the contents of these advertising messages in order to better understand the persuasive strategies that advertisers use to achieve those effects [16-21].

In Spain, there are three works that examines contents of such advertisements has been found. Menéndez et al. [8], focused primarily on the persuasive resources used in these commercials targeted at children. Campos et al. [22] and Ramos C et al. [23] conclude that the Self-Regulation Code is insufficient and children’s exposure to TV advertising of unhealthy food is worrying in Spain, for this reason, we decided to conduct this study aiming at determining the main characteristics of advertising messages promoting foodstuffs on the television channels that have the greatest audience in Andalusia, analyzing possible differences in the content of advertisements aimed at children in comparison to those aimed at adults.

Methods

Analytical observational design of prevalence contrasting the differences between the ads aimed at children and those aimed at adults. The units of analysis were the ads included in the sample, which were selected from the broadcasts of the two free-to-air TV channels which according to General Media Survey 2010 [24] have the highest audience share in Andalusia: Canal Sur (22.3%) and Tele 5 (18.1%), in the programming slots from 7.00 to 21.00, among programs with major audience share and specifically addressed to children, for a period of one week (23 to 29 August, 2011). A recording of 60 hours of programming was completed, half for each of the channels studied, using Combo DVD with TDT recorder and HDMI 1080p. Specifically, 28 hours were broadcast from children programming (from 8,30 to 12,30h during weekdays and from 7,00 to 15,00 h on sunday) and 32 hours from general target programming (from 14,30 to 17,30 h on monday and friday, from 14,30 to 21,00 h on tuesday, wednesday and thursday, and from 11,00 to 17,30 h on saturday). To store the recorded material a multimedia external hard drive screenplay plus HD 500 Gb was used.

Though the message repeated several times, the advertisement was counted only once for the sample, just to develop the content analysis. However, they were counted in their totality in order to size the number of ads to which targeted public was exposed. As inclusion criteria it was taken into account that the product announced in the selected programming slots was food, whether it was a processed product, a natural one or a drink. Medicine, dietary products and alcoholic beverages were excluded from the sample.

We created a data collection form containing study variables. Prior
to data collection, we led a pilot procedure, with ten advertisements not included in the study sample, in order to check whether the items could lead to confusion or ambiguity.

The variables included in the data collection worksheet were: the type of product (food product or other), the advertisement’s target audience (child-juvenile aged 2-18, or adults), information about health benefits (present or absent), warnings about excessive consumption or potential harmful effects (present or absent), presence of scientific information (present or absent), information about the price (present or absent) and type of food advertised (high in sugar, fat, salt or low levels of those in the product, main course or appetizer, “fast food” or not “fast food” product, fruits or vegetables as the core ingredient of the product or not).

An observer fills in data collection sheets, after seeing three times each advertising spot on a television monitor LCD 27”. Subsequently, a second external observer watched three times each spot, filling in the same data collection sheet, so that the differences between observers could be measured. Assertiveness in the classification of the items being higher than 95% was considered sufficient.

The data collected was recorded for further analysis and use with the data recording software Epi Info, version 3.5.1. Absolute, relative and accumulated frequencies of each of the described above variables were calculated as well as the 95% of confidence intervals of the relative frequencies of each of the variables studied in the descriptive phase.

For the development of the analytical phase prevalence ratios or hazard ratios were calculated based on the comparison of the frequencies found in the two groups and their confidence intervals. To test the hypothesis of the study, Chi-square test or two-tailed Fisher’s exact test was performed, establishing values of p less than 0.05 as the level of significance.

Results

In the hours recorded, a total of 1,880 of advertising spots were broadcasted, of which 671 (35.7%) were broadcasted by Canal Sur Television and a total of 1,209 (64.3%) by Tele 5. Four hundred sixteen (22.1%) of the total recorded ads, offered a foodstuff or a beverage, of which 195 were broadcasted by Canal Sur (46.9%) and 221 by Tele 5 (53.1%). The ratio of general ads to which the viewers are exposed on these channels is of 31.3 ads / hour and, in case of foodstuff and beverage product, this ratio is 6.9 ads / hour of programming. Among the 416 recorded advertising messages that were offering food and beverage product, this ratio is 4.5 times per hour of programming.

An observer fills in data collection sheets, after seeing three times each advertising spot on a television monitor LCD 27”. Subsequently, a second external observer watched three times each spot, filling in the same data collection sheet, so that the differences between observers could be measured. Assertiveness in the classification of the items being higher than 95% was considered sufficient.

The data collected was recorded for further analysis and use with the data recording software Epi Info, version 3.5.1. Absolute, relative and accumulated frequencies of each of the described above variables were calculated as well as the 95% of confidence intervals of the relative frequencies of each of the variables studied in the descriptive phase.

For the development of the analytical phase prevalence ratios or hazard ratios were calculated based on the comparison of the frequencies found in the two groups and their confidence intervals. To test the hypothesis of the study, Chi-square test or two-tailed Fisher’s exact test was performed, establishing values of p less than 0.05 as the level of significance.

Table 1: Food types advertised in the ads included in the sample (n=91).

<table>
<thead>
<tr>
<th>Food type</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Accumulated percentage</th>
<th>CI 95%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milk and dairy</td>
<td>21</td>
<td>23.1%</td>
<td>23.1%</td>
<td>14.9%-33.1%</td>
</tr>
<tr>
<td>Sugared cereals, cookies and chocolate powder</td>
<td>16</td>
<td>17.6%</td>
<td>40.7%</td>
<td>10.4%-27.0%</td>
</tr>
<tr>
<td>Pizzas, burgers and prepared meals</td>
<td>13</td>
<td>14.3%</td>
<td>55.0%</td>
<td>7.8%-23.2%</td>
</tr>
<tr>
<td>Sauces and additives</td>
<td>8</td>
<td>8.7%</td>
<td>63.7%</td>
<td>3.9%-16.6%</td>
</tr>
<tr>
<td>Rice, pasta and sugar-free cereals</td>
<td>5</td>
<td>5.5%</td>
<td>69.2%</td>
<td>1.8%-12.4%</td>
</tr>
<tr>
<td>Ice creams, pastry and candies</td>
<td>5</td>
<td>5.5%</td>
<td>74.7%</td>
<td>1.8%-12.4%</td>
</tr>
<tr>
<td>Juice and fruits</td>
<td>5</td>
<td>5.5%</td>
<td>80.2%</td>
<td>1.8%-12.4%</td>
</tr>
<tr>
<td>Appetizers, snacks and chips</td>
<td>3</td>
<td>3.3%</td>
<td>83.5%</td>
<td>0.7%-9.3%</td>
</tr>
<tr>
<td>Soda and sugar-sweetened beverages</td>
<td>3</td>
<td>3.3%</td>
<td>86.8%</td>
<td>0.7%-9.3%</td>
</tr>
<tr>
<td>Others</td>
<td>12</td>
<td>13.2%</td>
<td>100.0%</td>
<td>7.0%-21.9%</td>
</tr>
<tr>
<td>Total</td>
<td>91</td>
<td>100.0%</td>
<td>100.0%</td>
<td></td>
</tr>
</tbody>
</table>

Citation: Ponce-Blandón JA, Pabón-Carrasco M, Lomas-Campos M. Content Analysis of Food Advertisements Addressed to Children and Adults in Andalusia. Nurs Advan Health Care 2017; 1:006.
advertisement sample size. We conducted a literature review to inform our understanding of the appropriateness of our sample size; in particular, we reviewed 41 prior studies that perform analysis of food advertisements content. In these 41 studies, we noted that the average number of general advertisements broadcasted in an hour stood at 32 ads, and since our recordings were of over 60 hours, we expected to find about 1900 different ads, sufficient to meet the objectives of the study and assess the research hypothesis. The expectations have been fulfilled except for the size of specific broadcasts advertising food products. If we take into account the observed proportions of food advertisements in different studies, we expected to get between 475 and 665 meals and drinks ads, with an expected ratio between 8 and 11 or fat, dissimilarities statistically significant were found regarding scientific, technical or nutritional information included in the spot and also information on the potential health benefits provided by the announced foodstuff. This information was less frequent in the spots of “unhealthy” foods, as seen in Table 3.

## Discussion

Before interpreting and discussing the study findings, we will make a critical analysis of methodology, limitations and difficulties of this study could affect its results.

One important source of potential selection bias is the obtained

Table 2: statistical analysis of differences between ads aimed at children and ads aimed at adults.

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>FREQUENCY (%) [CI 95%]</th>
<th>RISK RATIO (RR) [CI 95%]</th>
<th>TEST VALUE</th>
<th>P VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unhealthy products</td>
<td>Children ads n=39</td>
<td>82.0% [66.5-92.5]; n=32</td>
<td>2.5 [1.6-3.8]</td>
<td>21.8</td>
</tr>
<tr>
<td></td>
<td>Adult ads n=52</td>
<td>32.7% [20.3-47.1]; n=17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fast food</td>
<td>Children ads n=39</td>
<td>69.2% [52.4-83.0]; n=27</td>
<td>2.76 [1.6-4.6]</td>
<td>17.7</td>
</tr>
<tr>
<td></td>
<td>Adult ads n=52</td>
<td>25.0% [14.0-38.9]; n=13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Main dishes</td>
<td>Children ads n=39</td>
<td>2.6% [0.1-13.5]; n=1</td>
<td>0.2 [0.02-1.4]</td>
<td>3.3</td>
</tr>
<tr>
<td></td>
<td>Adult ads n=52</td>
<td>13.5% [5.6-25.8]; n=7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foodstuff containing fruits or vegetables</td>
<td>Children ads n=39</td>
<td>2.6% [0.1-13.5]; n=1</td>
<td>0.22 [0.02-1.77]</td>
<td>2.5</td>
</tr>
<tr>
<td></td>
<td>Adult ads n=52</td>
<td>11.5% [4.4-23.4]; n=6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technical or nutritional information included in the ad</td>
<td>Children ads n=39</td>
<td>25.6% [13.0-42.1]; n=10</td>
<td>0.63 [0.33-1.19]</td>
<td>2.15</td>
</tr>
<tr>
<td></td>
<td>Adult ads n=52</td>
<td>40.4% [27.0-54.9]; n=21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information on the potential health benefits included in the ad</td>
<td>Children ads n=39</td>
<td>33.3% [19.1-50.2]; n=13</td>
<td>0.78 [0.45-1.35]</td>
<td>0.75</td>
</tr>
<tr>
<td></td>
<td>Adult ads n=52</td>
<td>42.3% [28.7-56.8]; n=22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Price information included in the ad</td>
<td>Children ads n=39</td>
<td>12.8% [4.3-27.4]; n=5</td>
<td>0.66 [0.24-1.8]</td>
<td>0.66</td>
</tr>
<tr>
<td></td>
<td>Adult ads n=52</td>
<td>19.2% [9.6-32.5]; n=10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(*) Statistically significant differences

Table 3: statistical analysis of differences between food ads considered “unhealthy” and “healthy”.

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>FREQUENCY (%) [CI 95%]</th>
<th>RISK RATIO (RR) [CI 95%]</th>
<th>TEST VALUE</th>
<th>P VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical or nutritional information included in the ad</td>
<td>Unhealthy foodstuff n=49</td>
<td>18.4% [8.8-32.0]; n=9</td>
<td>0.3 [0.18-0.67]</td>
<td>11.6</td>
</tr>
<tr>
<td></td>
<td>Healthy foodstuff n=42</td>
<td>52.4% [36.4-68.0]; n=22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information on the potential health benefits included in the ad</td>
<td>Unhealthy foodstuff n=49</td>
<td>18.4% [8.8-32.0]; n=9</td>
<td>0.3 [0.15-0.56]</td>
<td>18.1</td>
</tr>
<tr>
<td></td>
<td>Healthy foodstuff n=42</td>
<td>61.9% [45.6-76.4]; n=26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Price information included in the ad</td>
<td>Unhealthy foodstuff n=49</td>
<td>14.3% [5.9-27.2]; n=7</td>
<td>0.75 [0.29-1.89]</td>
<td>0.37</td>
</tr>
<tr>
<td></td>
<td>Healthy foodstuff n=42</td>
<td>19.0% [8.6-34.1]; n=8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(*) Statistically significant differences
spots of food products per each hour of programming. Our obtained sample was slightly lower than expected, with 416 ad broadcasts, with a ratio of 6.9 food advertisements per hour of programming. This in our opinion, does not denote methodological errors but rather the assertion that in our country less food may be advertised compared to other countries where these studies were conducted, which are mainly English-speaking countries.\(^{6}\) In any case, we understand that the 416 food advertisements, which formed the sample, are of sufficient size to draw valid conclusions, given similar works that analyzed, with reliable results, advertising content of food products [10,11,25].

Turning now to the discussion of the results, we will begin evaluating the advertising content related to food. The results show that 22.1% of the spots announced food and drinks. This figure is in general lower than the one observed in most of the published works [26]. Dibb and Gordon noted that most of the ads featured during the time of children watching TV corresponded to products with high levels of sugar, fat or salt, that is 30%-40% sugared food products, 63%-74% food with excess fat and 27%-49% food products with excessive levels of salt, respectively [25].

In 2005 in the United States, Harrison et al. [11], found that the “fast-food” products and sweets formed 83% of the advertised food, which is well above our results. Also, further analysis stands out for exceeding our figures as well, that is, almost half (46%) of advertising spots were ads of food or sweets [8,27].

The study conducted in Portugal found that 26% of the ads studied advertised breads and sugared cereals, 35% sweets, 12% soft drinks, 21% dairy products and 6% others. The geographical and cultural proximity of the country where the study was conducted may explain that these results are very similar to ours [28].

The fact that, in general, the percentage of food advertisements in Spain is, in the light of the results of this study and the available literature, below than in neighboring countries, can have many reasons, but there are two main ones. The first is the concern and debate that has been sparked on political and social levels regarding unhealthy food products, which generally tend to be the most advertised among child audience. This has led to a greater regulation of the advertising industry and sales strategies that has led health authorities to develop the initiatives to ban the sale of pastries, snacks, sweets and unhealthy food even in educational institutions [29]. The second reason is the diversion of advertising strategies from the television to other media that in the knowledge society resulted being closer to the recipients of their products.

Particularly interesting are the differences between ads aimed at children and those aimed at adult, which concluded to be significant. It is not unusual to find these differences; thus the work done by Neville et al. excels other works. Neville et al. found some differences in the announcements broadcasted in different programming times (for children and adults). During children’s programs, it was observed more likely to see ads about sweets and twice as likely to see fast food ads, compared to ads broadcasted in programming for adults [15]. This goes in line with the findings in the work of Kuribayashi et al. in the US, which showed that food rich in fat and salt seems to be offered more in ads aimed at adults while sugared food was broadcasted in advertising to children [30].

Likewise, the study of advertising content conducted by Egberts et al. in 2004 found that in advertising for adults healthier foodstuffs appear more often than in advertising for children [31]. The correlation between unhealthy foods and children’s advertising is even more consistent if we take into consideration that in our study a statistically significant relation was also found between products considered “fast food” and advertising aimed at children. This makes sense if we consider that there was also a correlation with unhealthy foods, which often tend to coincide with foods considered as “fast food.”

In Spain, in the framework of strategy for Nutrition, Physical Activity and Obesity and Health Prevention (NAOS Strategy) [32], the Code of Co-regulation of Food and Beverage Advertising aimed at Children, Obesity Prevention and Health (Code PAOS) [33] which, among other principles, provides that food or beverage ads should not promote or present unhealthy eating habits. Also worthy of note is the implementation of the Plan for the Promotion of Healthy Living Habits in the Spanish Population (HAVISA Plan) [34], which seeks to disseminate messages and legends in children’s advertising, aimed at promoting healthy eating, in line with Strategy NAOS. Several researches have studied contents of this type of advertising [8,23,35,36], focusing more specifically on nutritional analysis of advertised products or on the compliance of self-regulation codes for the advertising sector and, in general, those works, according with the results of the present study, corroborate the insufficiency of measures adopted currently in Spain, both self-regulation PAOS code or health promotion lines such as HAVISA Plan. In fact, it’s proved a high level of Noncompliance in child food ads, with the intentional strategy of hiding or manipulating food product information in favor of the advertiser [23].

This study has a practical use from the standpoint of promoting healthy eating and preventing obesity in children, as the literature analysis confirms that the marketing of food products among children is a part of the obesity problem, though it is not the whole problem. Therefore, at the moment, there is evidence that Spanish laws on food advertising control are still insufficient to avoid unhealthy food publicity on TV and, consequently, to facilitate early prevention of obesity.

The main findings of this study will help us to clarify the role of the advertising of food products in the nutritional habits of children.

Thus, it is concluded that almost a quarter of the advertising messages that are broadcasted by the major television networks in Andalusia, correspond to food and drinks, with nearly half of those specifically designed for children and adolescents. Food products that are advertised mostly in food advertisements do not correspond to food that from the scientific point of view would be considered healthy, offering children more products of low nutritional values compared to those offered to adults.

Acknowledgements

The authors want to give thanks to Drs Felix Julio Jara Fernandez and Rafael Muriel Fernandez for their help in tools validation and their expert opinions and recommendations. In addition, they also want to thank the Official College of Nursing of Seville, the recognition given to this work, which is part of a broader research. This institution have awarded to the published research the third prize in the XXVI National Contest on Nursing “City of Sevilla”.

Key Points

- This is the first research developed in Southern Spain (Andalusia), which analyzes the content of advertising messages of foodstuffs aimed at children and young people and comparing them with those aimed at adults.
- 60 hours data were recorded from two television channels with the largest audience in this territory, analyzing 1.880 spots, including 416 food advertisements identified in the recording. A total of 91 different foodstuffs were collected.
- There was a clear predominance of food products with a low nutritional value and a lack of scientific and technical information about them in the content of advertising messages.
- There was a greater abundance of unhealthy foods and fast foods in advertisements aimed at children, which may exert an influence on the rates of childhood obesity in our region.

Citation: Ponce-Blandón JA, Pabón-Carrasco M, Lomas-Campos M. Content Analysis of Food Advertisements Addressed to Children and Adults in Andalusia. Nurs Advan Health Care 2017; 1:006.
References


