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Abstract

Objective: The aim of this study was to model children's potential exposure to television food advertisements under different regulatory scenarios to demonstrate the policy implications of regulatory change in Australia. **Methods:** Television advertising data was collected from Sydney commercial television channels from 14-20 May 2006. Extrapolating from these data, the patterns of food advertising under four regulatory scenarios were examined, including arrangements restricting the content, volume and timing of advertisements. **Results:** Each scenario resulted in a reduction of total and non-core food advertisements. The scenario to restrict non-core food advertisements during the major viewing period (7:00-20:30) led to the largest reduction in total and non-core food advertisements (79.2% reduction), with no change in the frequency of core food advertisements. **Conclusions:** The results illustrate the potential for reducing children's exposure to food advertising through simple regulatory restrictions. **Implications:** This research contributes to future debates on the regulation of television food advertising. It is particularly relevant as Australian regulations will be under review in 2007.

Keywords

food, television, advertising, systems, effects, regulation, children, different

Disciplines

Arts and Humanities | Life Sciences | Medicine and Health Sciences | Social and Behavioral Sciences

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Key words: Television advertising; public policy; overweight; obesity; nutrition policy; children.

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Several international reviews have linked television food advertising to childhood overweight and obesity through its influence on children's food preferences, purchase requests and diet.^{1,2} Previous research from Australia and New Zealand has found that advertisements for non-core or high-fat/high-sugar foods comprised the majority of television food advertisements, with the actual proportion varying according to food classification methods and viewing times covered.³⁻⁷ Regardless of classification method, rates of unhealthy food advertising remain high.

This advertising pattern has spurred public health advocates to question the effectiveness of the present television advertising regulations, both in Australia and internationally.⁸ Australia has a co-regulatory system comprising two industry self-regulatory codes and the Government's Children's Television Standards (CTS).⁹ The CTS make no specific reference to

types of foods advertised to children, but define children's viewing periods and the volume of advertisements allowed during these periods. The maximum advertising time during defined children's periods is from 10 to 13 minutes per hour for programs aimed at children. Restrictions also apply to the repetition of advertisements during these programs, with each allowed to be shown up to twice in a 30-minute period. All advertisements are excluded from programs aimed at pre-school children.

Internationally, there has been considerable recent attention given to this issue. The United Kingdom's (UK) regulatory body, the Office of Communications, introduced new regulations in January 2007 that restrict the types of foods that may be promoted to children.¹⁰ These restrictions are based on nutrient profiling by the Food Standards Agency and preclude all foods high in fat, sugar and salt from being advertised to

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children.¹¹ Quebec, Norway and Sweden have implemented bans on all food advertising to children.¹² Unfortunately, research to date has produced conflicting results,¹² which has been contributed to by a lack of systematic evaluation and the exposure of audiences in each country to (unrestricted) satellite television.

The aim of this study was to model children's potential exposure to food advertisements under different regulatory scenarios. The scenarios restricted food advertising in various ways, including restricting the content and volume of food advertisements during different time periods.

Methods

Television recording

Data were collected from 6.00-23.00 for all three commercial Sydney television channels for one week (Sunday 14 to Saturday 20 May 2006). Data were screened and all food and non-food advertisements identified. Random analysis of time periods over three channels showed high inter-rater correlation (<1% difference in classification as food or non-food) between coders. OzTAM data¹³ was purchased to determine the peak viewing times for children aged 5-12 years.

Food classification

The Australian Guide to Healthy Eating (AGHE), a national nutrition education tool in Australia,¹⁴ was used as the basis for classifying food advertisements (see Table 1). This classification system describes foods as core (the main food groups recommended to be consumed daily¹⁴) and non-core (those foods that are surfeit to daily requirements). Other food-related items that were advertised, including supermarkets and vitamin and mineral supplements, were not classified as core or non-core foods but were included in the total food advertising count. All food classification was conducted by the research dietitian (BK). Reliability was confirmed through independent coding of a random

sample (n=50) by another dietitian (overall food classification agreement was 92%).

Regulation scenario modeling

Using the data collected on food advertising across the recording period, modelling was conducted to explore the potential impact of four regulatory scenarios upon the volume and pattern of advertising. The regulatory scenarios were:

- **Scenario 1:** The prohibition of all food advertisements during children's peak viewing times as defined by OzTAM data (Monday to Friday 18:00-22:00 and Saturday to Sunday 7:00-11:00 and 18:00-22:00).
- **Scenario 2:** A volume-based restriction limiting all food advertisements to 30 sec/hour during children's peak viewing times (as above).
- **Scenario 3:** The prohibition of only those foods considered non-core according to the AGHE during the major viewing period from 7:00-20:30, which combined the current 'C' (children's) and 'P' (pre-school children's) periods as defined by the CTS.
- **Scenario 4:** The prohibition of only those foods considered non-core according to the AGHE during children's peak viewing times (as above).

SPSS Version 12.0 for Windows was used for descriptive analysis.

Results

Nutrient description of television food advertisements

The total number of advertisements during the study period was 9,991, 26.2% of which were for food. Data relating to the types of foods advertised and children's exposure to unhealthy food advertising has been reported elsewhere.⁴

During the study period, non-core foods, as defined by the

Table 1: Food categories based on the Australian Guide to Healthy Eating.

Core foods	Non-core foods
Fruit	Confectionery
Vegetables	Fast food restaurant meals
Milk and milk products (excluding cream, high-fat cheese, high-fat milk dishes)	Cakes, biscuits and muesli bars (excluding low-fat savoury biscuits)
Meat, fish, poultry, eggs and nuts (excluding high-fat processed meat, sugar-coated nuts)	Savoury crisps and pastries (excluding low-fat corn snacks)
Breads, cereals, rice and pasta (excluding high-fat breads such as garlic bread, high-fat pasta meals)	Gravies and sauces (excluding pasta/simmer sauces with <10% fat, pickles, chutney, herbs and spices)
Baby foods	Sugared drinks (excluding low-joule drinks and mineral water)
Juice (excluding fruit drinks)	Frozen milk products (excluding ice-cream and frozen yoghurt with <5% fat)
Yeast extracts	High-sugar/high-fat spreads
	Frozen/fried potato products
	Alcohol
	Tea and coffee

AGHE criteria, comprised 42.3% of all food advertisements and 46.2% of advertisements during children's viewing hours. Core foods comprised 46.5% of overall food advertisements and 45.3% during children's viewing hours. The residual proportion was advertisements for other food-related items.

Regulation modelling for television food advertisements

Of the four regulation scenarios examined, the largest reduction in total food advertisements was observed under scenario 3, which involved restricting non-core foods during the major viewing period (a reduction of 877 food advertisements or 33.6% over the study week) (see Table 2). Only non-core food advertisements were reduced, with no reduction in the number of core food advertisements shown. Scenario 4, restricting non-core foods during children's peak viewing times, had a more modest effect on reducing non-core food advertisements (38.1%), but also did not affect the frequency of advertisements for core foods.

In contrast, scenario 1, which restricted all food advertisements during children's peak viewing times, resulted in a reduction of 39.2% of non-core food advertisements and a reduction of core food advertisements (27.9% reduction in core food advertisements from original data). Similarly, scenario 2, where the volume of all food advertisements was limited to 30 sec/hour, produced a reduction in both non-core and core food advertisements (31.9% reduction in non-core food advertisements and 22.5% reduction in core food advertisements from original data).

Discussion

The high levels of unhealthy food advertising to children on Australian commercial television highlight the need to revise and strengthen the regulatory environment. Regulations to reduce exposure could have a large impact on population health and be highly cost effective.¹⁵

All four regulatory scenarios resulted in a reduction in total and non-core food advertisements. Scenario 3, a reduction of non-

core foods during the major viewing period, produced the largest reduction in total food advertisements (33.6%). This scenario also produced the greatest reduction in non-core food advertising (79.2%). This regulatory scenario is considered to have the greatest potential health benefit. The dramatic reduction in non-core food advertisements with no reduction in core food advertisements might harness the power of advertising more effectively in favour of healthier products. Indeed, successful campaigns to promote fruits, vegetables, bread and fish consumption, and to reduce smoking, support the positive effects that this may have.¹⁶ Furthermore, the restriction of non-core foods alone may encourage food manufacturers to modify their products to comply with advertising content criteria.

While this study provides insight into the potential value of regulations covering time, volume and content restrictions on television food advertisements, some of its limitations should be noted. One of these is that modelling has been based on an extrapolation of one week of television broadcast data; however, checks have indicated that the data generated is typical, as the advertising patterns are consistent with other studies^{3,5} and the sample week did not correspond with any special broadcast or other events.¹³ It should also be recognised that this research is not able to predict the outcomes of regulatory change, as it is likely that industry and advertising groups would adopt different advertising purchasing patterns and use different media channels, such as radio, print, billboards and the Internet, given a different regulatory environment. Rather, it seeks to demonstrate the potential effects of changes in the regulatory environment.

Two of the scenarios investigated here applied the AGHE, yet this may not necessarily represent the optimal basis for classifying and regulating food advertising to children. Food Standards Australia and New Zealand is proposing a food classification system for use in the regulation of nutrition, health and related claims, and the Preliminary Final Assessment Report received public comment in May 2007. The criteria proposed in that report could be tested for their appropriateness as a tool for television food advertising regulations in Australia.

Table 2: Comparison of total, non-core and core food advertisements under different regulatory scenarios, and compared with original advertising data.

	Original data	Scenario 1 ^a	Scenario 2 ^b	Scenario 3 ^c	Scenario 4 ^d
Frequency of total food ads	2,620	1,772	1,923	1,743	2,198
% reduction in total food ads based on original data		32.4%	26.3%	33.6%	16.0%
Frequency of non-core food ads	1,107	685	754	230	685
% reduction in non-core food ads based on original data		39.2%	31.9%	79.2%	38.1%
Frequency of core food ads	1,218	878	944	1,218	1,218
% reduction in core food ads based on original data		27.9%	22.5%	0.0%	0.0%

Notes:

- (a) Restriction of all food advertisements during children's peak viewing times (Monday to Friday 18:00-22:00 and Saturday to Sunday 7:00-11:00 and 18:00-22:00).
 (b) Restriction of the volume of all food advertisements during children's peak viewing times, to 30 sec/hour.
 (c) Restriction of non-core foods according to the AGHE during the major viewing period (7:00-20:30).
 (d) Restriction of non-core foods according to the AGHE during children's peak viewing times.

Given their geographic and relative communication isolation, Australian children may benefit from restrictions on food advertising, even in the absence of regulations for television food advertising on cable television. Despite high public support for changes in regulations governing food advertising,¹⁷ tighter restrictions on food advertising to children are not politically supported in Australia.¹⁸ Television advertising is big business for both manufacturing companies and commercial broadcasters, with \$3.3 billion generated in advertising revenue in 2003/04 for Australian commercial free-to-air channels alone.¹⁹ Hence, any restrictions are likely to be met with strong opposition. Nevertheless, this research shows that relatively simple adjustments in the regulatory code may have considerable effects on the television advertising environment to which children are exposed. Strong research and public opinion may yet produce change in this important public health area.

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