

Diabesity in children and television food advertising: Where are we now?

Emma Boyland

The World Health Organization (WHO) has stated that the promotion of foods high in fat, salt and sugar to children is a key international public health policy issue (WHO, 2010). Empirical evidence demonstrates that exposure to advertisements for energy-dense foods via television (Boyland et al, 2011a) and the Internet (Harris et al, 2012) is detrimental to children's diets. In response to increasing societal concern in the UK about levels of childhood obesity and its co-morbidities (notably type 2 diabetes), the Office of Communications (Ofcom, the UK broadcast regulator) phased in new regulations from 2007 to govern the promotion of foods and beverages on television to children (Ofcom, 2007). These regulations have been criticised for being poorly constructed and for failing to have the required impact (Boyland et al, 2011b; Adams et al, 2012). Importantly, they do not tackle the issue of children's extensive exposure to food advertising through other, non-broadcast, media.

In the absence of a major genetic shift in the past few decades, the spotlight has been shone on our "obesogenic environment" to explain the rising prevalence of paediatric obesity and increasing incidence of type 2 diabetes in young people. One of the key features of such an environment is the abundant availability of highly palatable, energy-dense foods that are aggressively marketed. The issue of advertising foods to children is a contentious one; there is a growing body of evidence to demonstrate the effects of food promotion on children's diets, and the recent introduction of regulations governing food advertising on television in the UK is far from the end of the debate.

Television viewing and obesity – food advertising is a key link

Television viewing has long been associated with weight gain and obesity (Dietz and Gortmaker 1985). However, a number of factors are thought to

mediate this relationship, including the sedentary nature of viewing (potentially displacing physical activity and lowering overall energy expenditure), effects on sleep (reduced duration as a result of media use; Chahal et al, 2012; Morley et al, 2012; Prentice-Dunn and Prentice-Dunn, 2012) and the influence of the commercial content of television on eating behaviours (Boyland and Halford, 2012). Zimmerman and Bell (2010) showed that there was a significant association between commercial television viewing in 1997 and BMI *z*-score in 2002 for children aged 0–6 years. This association was not present for non-commercial viewing, and the finding was robust even when exercise and "eating while viewing" were taken into account; they concluded that advertising is critical to the relationship between television viewing and weight gain.

Indeed, it has been estimated that the contribution of television food advertising to obesity prevalence in the UK is up to 18% (Goris

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Article points

1. Television viewing is linked to obesity because of the effects of food advertising on eating behaviour.
2. Food advertisements are food cues and they influence children's food intake and associated behaviours.
3. Children are exposed to extensive advertising for foods high in fat, salt and sugar via television and, increasingly, new media such as the Internet.
4. Regulations in the UK have failed to have a significant impact upon children's exposure to television advertising of unhealthy foods.

Key words

- Children
- Diet
- Food advertising
- Foods high in fat, salt and sugar
- Health
- Regulation
- BMI

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Page points

1. Food advertisements act as cues for food consumption, and exposure to such cues acts to promote food intake and related behaviours.
2. Although all children are affected by exposure to food advertising, such that they increase their overall energy consumption, recent research has demonstrated that certain groups of children may be more vulnerable to the effects than others.
3. The influence of food advertising on children's eating behaviour is resilient, persisting through adolescence, and may be immune to modification through parental intervention even in young children.
4. This suggests that protecting children from exposure to food advertising through regulation would be a better solution to this issue, rather than attempting to negate the effects after exposure has already occurred.

et al, 2010), and the marketing of unhealthy food products has previously been identified as a specific risk factor for childhood obesity by the World Health Organization (WHO, 2002).

Recent evidence on the effects of television food advertising on food choice and intake in children

Food advertisements act as cues for food consumption, and exposure to such cues acts to promote food intake and related behaviours (Harris et al, 2009). Although all children are affected by exposure to food advertising, such that they increase their overall energy consumption (Halford et al, 2004), recent research has demonstrated that certain groups of children may be more vulnerable to the effects than others, notably:

- Those children who are already overweight or obese (Halford et al, 2008).
- Those who are highly neophobic (show an avoidance of, or a reluctance to eat, new foods; Dovey et al, 2011).
- Those who habitually watch a large amount of commercial television (Boyland et al, 2011a).

Children in the above categories increase their food intake or alter their food preferences towards high-fat and -sugar foods to a greater extent after food advertising exposure.

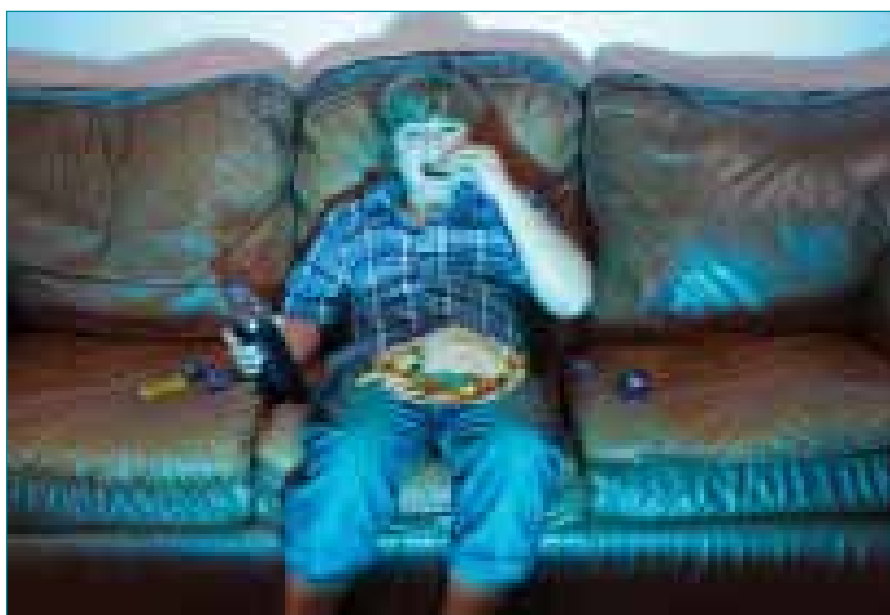
In many of these experimental studies, the child participants were at an age at which they were beginning to operate more autonomy over their food choice behaviours (approximately 7–11 years; Hamilton-Ekeke and Thomas, 2007). However, Ferguson et al (2012) found that after exposure to food advertising, younger children (3–8 years) were more likely to choose the advertised item even with parental encouragement to choose the healthier food. So, the influence of food advertising on children's eating behaviour is resilient, persisting through adolescence (Scully et al, 2012), and may be immune to modification through parental intervention even in young children. This suggests that protecting children from exposure to food advertising through regulation would be a better solution to this issue, rather than attempting to negate the effects after exposure has already occurred.

Food advertising on UK television – have the regulations had an impact?

In the UK, statutory legislation was introduced in phases between 2007 and 2009 (full enforcement was in place from January 2009), with the objective being to:

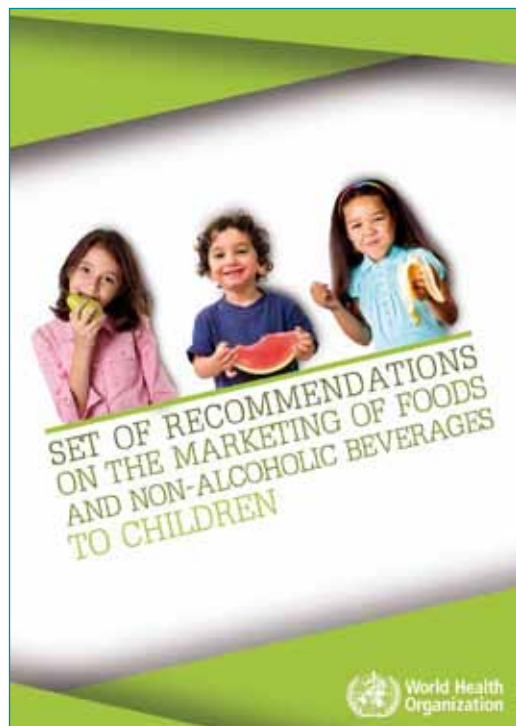
“[...] reduce significantly the exposure of children under 16 to high fat, sugar and/or salt (HFSS) advertising, as a means of reducing opportunities to persuade children to demand and consume HFSS products” (Ofcom, 2007).

However, data on food advertising derived from the broadcasting of 14 of the most popular commercial channels with young people in the UK in 2008 demonstrated that the vast majority of foods advertised were high in fat, salt and sugar (HFSS), even during peak viewing times, when large numbers of children would have been watching (Boyland et al, 2011b). Of the top ten most frequently advertised food categories, six represented unhealthy items such as fast food, high-sugar and low-fibre breakfast cereals, chocolate and confectionery, and snack foods. This emphasis on HFSS food advertising has been seen in other UK studies (Sixsmith and Furnham, 2010); further, it has been found that total exposure to both all food advertising and HFSS food advertising specifically was significantly



Food advertisements act as cues for food consumption, promoting food intake and related behaviours; some children may be more vulnerable to the effects than others.

greater for less affluent viewers compared with more affluent viewers (Adams et al, 2011a). This may contribute to the health inequalities seen in the UK, whereby prevalence of obesity is higher in lower socioeconomic groups (Stamatakis et al, 2010). Research evidence indicates that despite good adherence to the rules, children's relative exposure to HFSS food advertising has not changed and the restrictions have actually been associated with an increase in relative exposure of all viewers (not just children) to HFSS advertising (Adams et al, 2012). This is likely to be caused by a shift of HFSS food advertising from children's dedicated programming to family air time, when perversely the latter often has a greater overall number of child viewers (Ofcom, 2008; Which?, 2008). Furthermore, often the food context in which items are shown in food promotion is healthier than the primary advertised food (e.g. milk, fruit juice and tea appearing on the table alongside a highly sugared breakfast cereal), which may be adding an unjustified aura of healthiness to the item being promoted



Exposure to advertisements for foods high in fat, salt and sugar is detrimental to children's diets; the World Health Organization (2010) has published recommendations to protect children from exposure to food advertising.

(Adams et al, 2011b). Food advertisers also use a number of persuasive techniques (including themes of fun and featuring child-oriented brand characters) to ensure that the advertisement grabs the attention of the young viewers and thus has the opportunity to encourage consumption of or requests to be made for these foods (Boyland et al, 2011c; Hebden et al, 2011).

New challenges – Internet food advertising

Although television food advertising is still a major avenue for creating brand awareness among young viewers (viewing time has increased despite children's concurrent, enthusiastic uptake of other media; Ofcom, 2011), in recent years youth-oriented food promotion has spread to company websites, social networks and other digital media (Harris et al, 2010). Food advertising on the Internet often involves sophisticated "advergaming" (simple, addictive games in which brand immersion is the key objective) and elaborate virtual worlds to engage children (Harris et al, 2010). This is another challenge to those concerned about the effects of food promotion on children's health, as studies have shown not only that this type of advertising has a detrimental effect on children's food choices (Harris et al, 2012), but also that children struggle to recognise an advertisement on a webpage (even up to 12 years of age; Ali et al, 2009). Thus are children being unfairly exploited by advertisers if they are not aware that they are being advertised to? Data from eye-tracking studies suggest that even adolescents (who are more likely to be aware of what constitutes an advertisement online) are mainly explicitly unaware of when they have been exposed to marketing on the Internet (Sandberg et al, 2011).

Empirical evidence demonstrates that the UK regulatory framework has not significantly reduced children's exposure to HFSS food advertising on television, and that regulation of food marketing to young people through other new media avenues also needs to be explored. Food promotion is not "bad" in itself; however, it is clear that the foods that are being represented are not conducive to a healthy diet.

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We must seek to engender an environment in the UK in which healthy food choices are visible, accessible and easy to make so that young people can be supported in avoiding a lifelong struggle with weight gain and associated negative health outcomes. ■

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