

Food advertisement and its influence on childhood obesity

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Abstract. Childhood obesity is a serious problem in United State. With several factors that influence the obesity rate, food advertisement on children contribute largely to the increasing obesity rate in children. Food companies broadcast their advertisement mostly for HFSS and fast-food during children's peak viewing time by using different techniques to attract children's attention. Food advertisement can shift children's food preferences and build the brand loyalty. By restricting the exposure to food advertisement, children will decrease the amount of food they buy for snack and drink and consume less calories per day. The restriction should be done by statutory regulation instead of self-regulatory system because large companies are taking advantages of the certain criteria to keep advertising their unhealthy food product to children.

Keywords: Food marketing on children, Childhood obesity, statutory regulation, advertisement.

1. Introduction

Childhood obesity needs to be addressed urgently because children is constantly in poor health status as they grow up with obesity. According to CDC, Obesity has a high level of prevalence around 20 percent in both children and adult [1]. Exposure to food ads is one of the numerous variables that has contributed to the rise in childhood obesity. Food advertising and childhood obesity, published by David, concludes that advertisement that target on children has a detrimental influence on their food preferences, shopping habits, and nutritious quality they consume [2]. Large food companies' intent to promote their food in the time that a large proportion of children are watching TV. They also use different techniques to make their product more attractive to children. Children are prone to request the food that they see most often especially when they are attracted by the fanciful commercial. When they look at the colorful package with their favorite character, it is hard for them to resist the temptation to get one. As a result, children's product preferences, demands, and diet are influenced by food and beverage advertising. Children's product buying requests are influenced by their tastes, and these requests impact parents' shopping decisions. The main issue is that the foods promoted by corporations are usually heavy in fat, sugar, and salt, with little nutritional value. Since children shift their eating patterns towards more snack and fast food based, they will ultimately consume more calories than their body can handle. This extra calorie will build up and make children more likely to develop childhood obesity.

This paper summarized how food advertisement shift children's preference towards their products; why the shifting preferences cause children to consume more calories; Why is it so successful to prevent childhood obesity by regulating food marketing to children; why is the self-govern system not as effective as the statutory regulation when considering food marketing to children; and what are the ideas to construct a statutory regulation on food marketing to children.

2. How does food advertisement affect children's food decision

2.1. Children are frequently exposed to unhealthy food advertisement

The most common way that young children are introduced to fast food restaurants is through television (TV). Large food corporations spend a lot of money on television advertising to target youngsters. McDonalds and Burger King accounted for virtually all the 92 QSR children's meal advertisements that appeared throughout the research period. Food packaging appeared in 88 percent

of children's advertising vs 23% of adult ads, and a street view of a QSR restaurant appeared in 41% of children's ads versus 12% of adult ads [3].

2.2. Children are prone to purchasing products they see advertised on television

According to Borkowski's research, youngsters who viewed the advertisements that are included in a TV program were considerably more likely to the item that advertised in that TV program than children who saw the same programs without the advertisements. A brief glimpse of food advertising can also change a child's eating habits [4]. Contrary to popular belief, age does not affect a child's likelihood of being influenced by food advertisements. Children's preferences for advertised items were shown to be enhanced after exposure to food ads, according to the study. The adverts influenced both younger and older children [5]. It is surprising how advertisement can twist children's food preference towards their products. The branding of food can affect children's taste bud to favor their food better than their counterpart. Children enjoyed the flavors of meals and beverages more if they thought the food and beverages were from McDonald's, according to the Robinson research. According to a moderator analysis, children with more television sets in their families and youngsters who ate meal from McDonald more frequently had considerably higher branding impacts [6].

2.3. Large food companies use different promotion skill within specific time to affect children

The reason that food advertisement has such a powerful effect resides in the time periods they advertise their product and the marketing techniques which they used to attract children's attention. Food ads with persuasion marketing strategies, such as promotional characters and premium incentives, are targeted during broadcast periods when a big number of youngsters are watching television [7]. As shown in table 1, 64% of the advertisements can be seen by children during children's programs. Children's knowledge of, and positive attitudes toward, food goods have been linked to promotional characters, particularly cartoons and spokes-characters, resulting in long-term brand recognition and loyalty from an early age [8].

Table 1. Proportion of ads with advertising strategy including various influence elements [9]

z	2016			2017			2018	
	All ads (%)	All ads (%)	All ads (%)	Ads during children's programmes (%)	Ads during nonchildren's programmes (%)	Permitted food ads (%)	Not permitted food ads (%)	
Cartoon/Company char.	16	11	8	64	7	0	12	
Licensed character	1	1	0	0	0	0	0	
Amateur sportsperson	0	0	3	0	3	1	3	
Celebrity (nonsports)	4	7	3	0	3	5	2	
Movie tie-in	2	7	0	0	0	0	0	
Famous sportsperson/team	1	2	4	0	4	3	5	
Nonsports/historical events	0	2	1	0	2	2	1	
"For kids"	21	33	13	64	12	0	20	
Awards	3	7	8	8	8	13	5	
Sporting event	0	0	0	0	0	0	0	

Note: *Data for advertisements eligible for nutrient profiling (N = 5776).

3. Why food advertisement can increase childhood obesity rate

The problem that associates with this frequently exposure to marketing is that these advertisements trigger children to eat more low-nutrient and calorie dense food, like fast food, sugary snack, and beverages. Between 2002 and 2004, children's soft drink consumption increased by 9.4% because of exposure to 100 additional TV ads for sugar-sweetened carbonated soft drinks. A 1.1 percent rise in children's fast-food consumption was connected to the same increase in fast food advertising exposure. [10]. Drinks contribute for roughly 18.7% of total daily calories for children aged 2 to 18, with beverages accounting for 60% of total daily calories from added sugar [11]. Even though the reason that children consume so much sugar sweeten beverages shouldn't be blamed entirely to market advertisement, early exposure to beverage companies and development of brand loyalty contribute huge to children's preferences.

Not only do the consumption of beverages increase with the exposure of food advertisement, but food ads also contribute the increase consumption of high sugar breakfast cereal. The average number of child-targeted SBC advertising saw in the previous week was positively associated with the number of SBC (high sugar breakfast cereal) brands ingested. Children drank 29 percent more sugar breakfast cereal brands in unadjusted analyses for every breakfast cereal with high sugar content. advertising saw in the previous 7 days. For every ten SBC advertising viewed in the previous seven days, children consumed 14 percent more SBC brands [12]. Granted that children consume more products that have high level of simple sugar, the possibility that they develop obesity in their early life stage is also reasonable. Simple sugars have a high glycemic index, which means they cause an increase in insulin release, which is an anabolic hormone. High sugar consumption also replaces the other nutrients that children need for their body development. Sibylle's research found a strong tendency in preschool children's nutritional and food group intakes falling as added sugar levels increased. Children who consumed the greatest added sugar (at least 25% of their energy) consumed the very little nutrients like fibers, vitamins, and minerals [13].

Over-consumption of fast foods also contribute largely to obesity. Fast food consists of high content of fat, salt and carbs with low fiber, vitamins, and minerals. Because of the fat and carb concentration in a meal, fast foods are high in calories. For example, A combo of Big Mac from Macdonald has 1080 calories. However, those calories don't provide sufficient nutrients for body development. Therefore, the extra calories transfer to fat and stored in the body. In the study conducted by Shanthy, children who ate fast food consumed more total energy, fat and added sugar but less nutritious food like non-starchy vegetable, fruits, and dairy products than children who didn't consume fast food. Another within-subject study makes similar conclusion that children's nutrient intake varies between the days that they consume fast food and the days that they don't eat fast food [14]. Children who eat fast food regularly have overall higher BMI than those who don't eat fast food very often, according to an international study. This pattern was not related to country's wealth and affected both girls and boys in the same extent [15]. Exposing to unhealthy food advertisement is associated with the increasing rate of consumption of those unhealthy products. Consuming more of the food portrayed on television increases consumption of junk food, lowering the quality of children's diets, and contributing to a greater risk of obesity.

4. Regulation on banning food advertisement to children

4.1. Cutting down the exposure to children can reduce the obesity rate

Reducing food advertisement to children can significantly lower calories that children consume and in turns lowering the childhood obesity rate. According to Veerman's research, restrict the food advertisement to the extent that children can see the advertisement on TV decreases average BMI and obesity prevalence in a large extent and applied to both woman and man. These figures are 11.0 percent and 9.9 percent, respectively, when estimations are based on expert judgment [16].

4.2. Self-governed regulation is not very effective

Food and advertisement do have significantly impact on children’s obesity rate. However, there are no act or policy that ban food marketing on children. There is one company self-governed regulation called Children's Food and Beverage Advertising Initiative that aimed to regulate food marketing on children under age 12. Industries that engaged in this program will voluntarily agree to stop advertise on children for unhealthy products or only advertise products that fulfill the severe Uniform Nutrition Criteria set forth by the CFBAI. However, self-regulatory programs depend only on the autonomy of the company, and there is no means to enforce the company to make this regulation more effective. Even though companies pledge to follow the guideline for advertising on children, they are not strictly following the rules to reduce their boarding time on unhealthy food and fast food.

As soon as the CFBAI was introduced, eighteen of the top food industries, as well as fast-food restaurants, have agreed to promote healthier food opportunity when they advertise their product on children under age 12. However, the exposure to food advertisement especially fast-food restaurant ads increased in a steeper slope after the CFBAI was launched as figure 1 shows [17].

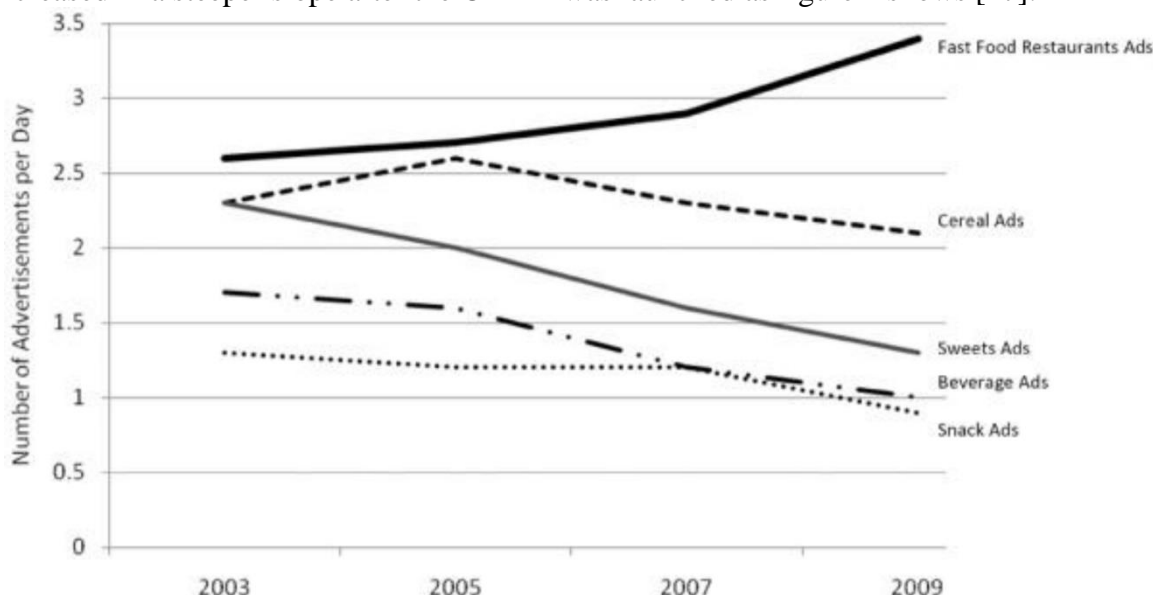


Figure 1. Exposure to food-related advertisements for selected categories for children aged 6 to 11 years by year [17]

Furthermore, the nutritional quality of items marketed on children's television is still inferior to that of adult television [18]. Since the adoption of industry self-regulation in 2014, there has been no notable increase in the overall nutritional quality of meals sold to children [19]. While some corporations have responded to pressure to reduce unhealthy food advertising on television, the self-regulatory code's impact is limited by the desire of food companies to accept it. This self-regulatory rule does not sufficiently safeguard children, as seen by the continuing promotion of harmful foods. As a result, the self-governing system is ineffective in preventing food firms from marketing to children under the age of 13.

4.3. Statutory regulation for food marketing to children is required

Statutory system is needed to lower the children exposure to unhealthy food advertisement. Even though there are limitations to the act, as Emma described in her article, nations that implemented statutory legislation addressing food marketing to children were able to restrict children's exposure to marketed food goods. The Mexican government likewise ran into problems while attempting to implement a regulation to limit unhealthy food because it lacked a clear definition of unhealthy food, and the regulation did not address the promotion of foods rich in fat, sugar, and sodium [20].

In the United States, public health experts have tried to involve the food sector in voluntary initiatives to reduce this shortage in self-regulating marketing of food for children. To successfully prevent companies from advertising unhealthy foods to children, U.S. government agencies have proposed several restrictions on food companies, such as the requirement that foods advertised to children must contain significant amount of essential nutrients. The other principles that the government agencies proposed is that the promotion of unhealthy foods to children under 18 should be strictly prohibited [21].

To improve the effectiveness of both self-governed and statutory regulation, the WHO has provided three essential ideas that companies should get consensus on when making advertisement to children. The first idea is that the term “unhealthy food” should be well defined in terms of the nutritional quality when considering whether it can be advertised to children [22]. If there is no set of defined exact standards, the company is likely to steal the concept to sell some unhealthy food to children. For example, Industry is capable of advertising on the products like reduced fat chips, or reduced sugar cereal that seem to be healthier version of their traditional counterpart but are not actually low in fat or sugar, and not even contain any other nutrients that can benefits children’s development. Therefore, there should be an exact regulation on the food that are promoted to children, in which the maximum amount of sugar, fat, and sodium are determined for one serving of the product. CFBAI clarified a uniform nutrition standard for food that can be advertised to children including the upper limit of unhealthy component like fat, sugar and sodium, and the minimum amount of nutrient that should be added like fortification and fiber. This action is very effective because it effectively stops companies from continuing to advertise non-healthy foods to children by changing their own food labels towards low fat or low sugar version.

The second idea from WHO is to confirm the definition of children. The exact age range for children who should not be targeted by unhealthy food marketing. Children are defined as people aged 11 or younger in all industry self-regulation commitments [23]. Each institution or country has a different consensus on the age range of children, so standardizing the specific age range of children is necessary to effectively allow companies to enforce the standards. Children are clarified as young people when they are below 16-year-old under UK law, but a kid is defined as a person under the age of 18 in UN law [24].

The third idea is to confirm types of marketing that shouldn’t be used to advertise on food and drinks high in fat, sugar, and sodium. To identify marketing that specifically targeting children, a variety of methods have been employed. When children make up 15% or more of the overall audience, Quebec’s ‘child-directed’ marketing legislation prohibits promotion of items “exclusively tailored for children or particularly appealing to children [25]. In both of US and UK, government and industry restrictions have concentrated on reducing food advertising during children’s program, such as when the number of children that watching the specific program is higher than a certain number. In UK, the regulation applied to the program that the number of children (4-15 years old) who view the program exceed 20 percent of the total audience [26]. The majorities of members in CFBAI defines child-direct program as the number of children aged 4-15 years who watch that program exceed 35 percent of all the audience. Because these kinds of regulation strictly regulate the food marketing during children’s program, there are increased number of food market that are broadcast on different types of children programs like family program. Many people in United Kingdom argued that government should implement a regulation that ban HFSS food on children before 9 pm because most of the program that entertain children finished at 9 pm. The food advertisement can be broadcasting after 9.m. because in this time, most of the programs serve for adult instead of children [27]. According to experts in the United State, when children consist of 25 percent of the audience for a certain programming on TV or other venues; and during that program, most techniques and strategies are targeting children for advertising, those marketing should be considered as child-direct marketing [28].

5. Conclusions

Food-advertisement on children do have a large influence on their eating habit and contribute to increasing calories intake among children. Due to various techniques food companies use to promote the advertisement and the time that they are boarding their products, children are easy to build up brand loyalty and consume their product more, Food advertisement has been proved to be highly associated with childhood obesity rate. Studies also support that reducing the time that children can see the advertisement can reduce the calories they intake significantly. Therefore, regulation on food market to addressing childhood obesity is very important.

Currently, there is no such an act to regulate food industries to stop marketing on children with unhealthy food. The companies self-govern system didn't address the problem. Children are frequently expose to food advertisement after the regulation has been applied. WHO provides three ideas about how to construct an effective regulation policy for food companies to reduce the children exposure rate to unhealthy food? Nutrient criteria should be defined for unhealthy food so that companies can follow the exact guideline to prevent the promotion of unhealthy food. The exact age range of children who are under the protection of unhealthy food advertisement should be confirmed to set the rigid regulation. Finally, types of marketing that are prohibited from being used to promote unhealthy foods and beverages, including marketing specifically aiming at children should be acknowledged. Childhood obesity is a serious problem because it can affect children's mental and physical development. Children have higher risk at developing diabetes, cardiovascular disease, and other breath problems when they are obese. Therefore, US government should act to actively intervene the food companies to lower the rate of childhood obesity. Further research is required to examine the effectiveness of different food policies that contribute to reducing the number of advertisements that can be seen by children and improve the dietary quality.

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