Obesity And Media

ebook.ecog-obesity.eu/chapter-society-communication-environment-obesity/obesity-and-media

Artur Mazur
Medical Faculty University of Rzeszów, Poland
e-mail: drmazur@poczta.onet.pl

Igor Radziewicz – Winnicki
Undersecretary of State, Ministry of Health of the Republic of Poland
Introduction

The concept of mass media refers collectively to all media technologies, which are used for mass communication as well as to all social organisations which control these technologies. Mass-media technologies may be divided into two major groups: traditional media: newspapers, books, magazines and radio, television which are characterised as providing one-way transmission of messages from sender to audience and so called “new media”, providing interactive cooperation between two or more people transferring and receiving messages simultaneously. Historically mass communication originated when humankind developed their communicational skills. This process started with early hominids who used non-verbal communication: screaming, shouting, squealing, gestures, mimicking, and/or whistling. But the real communication revolution occurred approximately 90000-40000 B.P. when humankind invented language and this fact, according to anthropologists, meant transforming Homo sapiens into Homo loquens – the language-skilled humankind. The next milestone was reached when about 5000 years ago an alphabet was invented in ancient Mesopotamia and the Script epoch commenced. Barely 500 years ago in 1455, Johannes Gutenberg designed the printing press which started a real informational revolution. Since that time humankind has irreversibly been living in the epoch of mass communication which has continuously influenced religious, political, scientific, social, cultural and health issues aspects of our life. The invention of interactive mass media started in 1832 when Baron Schilling von Canstatt designed the telegraph, opening the gate to successive development of new inventions which widely extended into the 20th century [1,2,3]. That is the reason why mass media affects human health and why it probably plays one of the most important roles in the process of epidemiological transformation.

Epidemiology

Children’s contact with mass media starts soon after they are born. A child's early contact with media, in most cases trough pictures taken while still in the delivery room and spreading them through world wide web, is widely spread. Contact of a child with television begins in the newborn stage and tends to increase continuously.. In the first year of life children react to the screen characters with mimics and voice. Infants are mostly attracted by advertisements. Toddlers spend approximately 1 hour a day watching television, and from the 4th year of life the exposure to other type of media expands and rises significantly to reach 7 out of 24 hrs per day. The link between TV viewing and obesity is clearly a concern, as TV viewing is a popular leisure-time pursuit for children across the globe. In the UK, children watch an average of 17 h per week of TV programming (both children’s and family), a majority of which
is commercial adverts [4,5,6,7]. In a cross-cultural study which included data from the USA, Australia and eight European countries, a significant association between advert exposure and childhood obesity has been demonstrated [9]. In USA, 80% of adolescents own at least one modern mass-media device such as cell phone, tablet and/or computer [10,11,12]. Presence of these devices in children’s and adolescent’s bedrooms increases exposure to media by 1-2 hours per day. Since 75% of American households have at least three televisions, television is estimated to be present in the bedrooms of 19% of the infants, 29% of the children aged 2-3 years old, 43% of children aged 4-6 years old children and 68% of those of 8 years old and beyond. Half of American children have either a DVD, video or game console in their bedroom and a third a computer with access to Internet [10,11,12]. The well-known UNESCO multicultural study of 5,000 12-year old adolescents from 23 countries representing different world regions varying in social development stages, cultures, economic and social conditions has revealed, that the pattern of children’s exposure to mass media is similar globally. This survey found that 91% of sampled children had access to a television set at home and spent a daily average of three hours in front of the TV set, which was at least 50% longer than those dedicated to any other out of school activity, including homework [8]. According to Kaiser Family data, American adolescents may even spend almost 12 hours a day using different types of mass media. After sleeping, mass-media use is the second major activity in adolescents’ life [10]. International comparative survey of children’s TV advertising showed that exposure varied between 10 and 12 adverts (ads) per hour in Australia, the USA and the UK, two times less in France, Germany and Denmark and 2–3 ads per hour in Austria and Belgium. The lowest amount of food advertising was found in Sweden with almost no food commercials (<1 ad/hour) [13]. The American average estimated media exposure for children 8-18 years old in 2010 rose to 10 hours 45 minutes a day, with a significant dominance of television. Media exposure has been continuously and significantly rising over the last 10 years. Media use is markedly higher in single parent families and in households with lower levels of education and/or lower income [10,11,12,14,15].

**TV watching and Childhood obesity**

One of the best documented impacts of mass media on children’s health is an increased risk of overweight and obesity [5,6,7,9]. The prevalence of obesity in children and adolescents has increased significantly in recent decades and has become a major public health problem [16]. According to WHO and European Childhood Obesity Surveillance Initiative there are at least 15%-32%, overweight and obese children in Europe, the average being 24%. This proportion is still increasing [16,17]. Many studies have shown a positive correlation between time spent by children watching television, BMI increase and unhealthy nutritional behaviour. Some well designed longitudinal studies such as the Framingham Children Study,
provided evidence that the increase in time spent by children viewing television is an independent risk factor that predicts increase in BMI [15,16]. Dietz and Gortmaker identified for the first time an association between the amount of time spent watching television and obesity among children aged 12–17 years [18]. In a large cross-sectional study of teenagers, they found a dose–response relationship, with a 2% increase in the prevalence of obesity for each additional hour per day of television viewing [11,12,13]. The Viner and Cole study suggested that television viewing in childhood is an independent risk factor of increased BMI in adults [6]. Other authors suggested that children who saw a videotape with embedded food commercials were significantly more likely to select the advertised product than children who had not seen the commercials. Other studies reported that children preferred the taste of food and drink items displaying the McDonalds branded packaging to identical products in matched, but unbranded, packaging [19,20,24]. TV viewing behaviour predicts later adiposity, suggesting a causative role. However this relationship is partly mediated by exercise and associated with specific differences in food intakes and diets. Increased TV viewing in children and adolescents is associated with reduced fruit and vegetable consumption, more snacking, and increased intakes of unhealthy and decreased intakes of healthy foods. TV viewing is thus related to both the type and the amount of food consumed. Some studies showed that obese children recognised a greater number, and a greater proportion, of TV food adverts compared with non-food TV adverts. They also recognised more TV food adverts than the normal-weight children [20,21,22,23,24]. Typically, increases in caloric intake associated with television viewing are mostly due to increases in the consumption of foods that are both energy dense and low in nutrients. Altogether, television viewing is associated with poor overall diet quality. Other studies have shown that television viewing is inversely associated with fruit and vegetable intakes. Children in particular seem to consume a substantial proportion of their daily energy whilst watching television, up to 20% and 25% during weekdays and weekends respectively. Television viewing may have a significant impact on the overall level of energy consumption [24,25,26,27,28]. Children’s and adolescents’ nutritional behaviour is affected not only by time spent connected to media, but also independently by the content of the programs. Children who listen to music tend to eat less than those who watch television [27,28].

Media viewing also contributes to childhood obesity by reducing time that could be spent engaged in physical activity. Food advertisements on television encourage children to make unhealthy food choices while cross-promotion of food products and television/movie characters leads children to buy and consume low nutrient, high-calorie foods [22,23,27,28,29]. Several studies have found that the association between television viewing and obesity remains significant even when potential confounding variables such as socioeconomic status, familial tendency to overweight and, critically, levels of physical activity are taken into account. One review reported that, in 18 of 22 longitudinal studies, time spent
exposed to media predicted increased weight gain over time [24,26]. A small minority of studies have produced non-significant results. However, these null findings are most often attributed to limitations in defining and measuring time spent using screen media, among other confounding factors [24].

**TV food marketing**

Nutrient profile models classify or rank foods according to their nutritional composition for reasons related to prevention of disease and promotion of health. Such profile models could be used to support the regulation of food advertising to children by identifying those foods that should (or should not) be advertised to children [30]. Data from Europe and USA have shown that advertisers are targeting younger and younger children in an effort to establish “brand-name preference” at as early an age as possible. The majority of foods and food products promoted to children in Europe and USA are energy dense, high fat, sugar, and/or salt, in sharp contrast to national and international recommendations. This targeting occurs because advertising is a $250 billion/year industry with 900,000 brands to sell. Children and adolescents are attractive consumers: teenagers spend $155 billion/year, children younger than 12 years spend another $25 billion, and both groups influence perhaps another $200 billion of their parents’ spending per year [10,13,15,21,22,23]. It is essential to notice that every child in western countries is estimated to watch about 40,000 commercials each year, of which approximately 4,500-7,500 are advertisements for unhealthy food, thus influencing children’s nutritional expectations [10,13,15]. Below the age 7 or 8 years, children tend to view advertising as fun, entertaining, and unbiased information. Beginning around the ages of 8-10, children can develop the ability to process advertisements, but do not necessarily do so. From early adolescence (11-12 years), children's thinking becomes more multidimensional, involving abstract as well as concrete thought [14,19,20]. As previously reported, children who saw videotapes with embedded food commercials were significantly more likely to select the advertised products than children who had not seen the commercials [10,14,19,20,22]. They also preferred the taste of food and drink items displaying the McDonalds branded packaging to identical products in matched, but unbranded, packaging [19,20,24]. Advertising clearly influences the short-term consumption of children aged 2 to 11 years and there is moderate evidence that advertising influences the regular diet of children 2 to 5 years of age and also seems to influence older children 6 to 11 years of age. Other studies convincingly showed that exposure to advertising is associated with adiposity from childhood (2 to 11 years) to teenage (12 to 18 years of age) [19,20,24]. The need for introducing international regulation for advertising high-energy and nutrient-poor foods was proposed in 2004 with the WHO document Global Strategy on Diet Physical Activity and Health [31]. Despite rising social and institutional awareness and many prompts to introduce legislative protection against the excessive influencing of the young generation’s food consumer
behaviour, there are still many advertisements dedicated to children that exploit their inexperience and credulity [32,33,34]. Moreover, in order to strengthen the effect of sales campaigns, producers offer many attractive gadgets like stickers and toys, and promote their collection through purchase of their brand products such as packages of cereals, sweets or fast foods. Video games, cuddly toys, teddy bears and other animated characters used in cross-promotions link junk food and popular film characters, encouraging children to buy food since the same characters are presented on TV ads for cereals, chocolates, chips and other kind of mostly unhealthy foods [9,10,23,24,25]. The majority of such cross-advertisements promote the following food products: sweets (32%), cereal (31%) and fast food [23,24,25]. The number of advertisements that a child is exposed to may rise to as many as 11 per hour during Saturday morning TV programmes [9,10,23]. Not surprisingly, there is a significant relationship between time spent watching TV and the number of attempts made upon parents to influence the purchase of some products.

Television viewing is not only a tool which is able to induce higher energy intake by snacking while watching programs and the desire for foods, but it builds attitudes and long lasting beliefs about normative nutrition standards [10,23,24]. The information given by electronic media, especially television, is usually so quick that it does not leave time either for critical analysis of the content or to create one’s individual attitudes. Seventy per cent of 6 to 8 year old children believed that fast-foods were more healthy than home-made food. This misconception was statistically related to the amount of time of media exposure. Two to eight year old children exposed to commercials during children’s television programmes exhibit a significant tendency to choose food of those brands promoted during advertisements, even after one short exposure [14,15,19,20]. Some studies suggest that the number of advertisements seen by children has a direct impact on their purchasing requests. A study showed that as many as three out of four requests made by children are for food products seen on television [10]. Another study reported that students in grades seven to twelve who consumed fast food at least three times per week spent more time watching television than students who rarely consumed fast food or tended to consume a greater amount of soft drinks than their peers of similar age range. In conclusion, children’s food purchasing decisions rely on misleading advertisements and they are far more influenced by what children see on television than are adults’[10,11,12].

**Schools**

Children spend a large part of their weekdays in schools environments which influence both the children and the local communities. These environments may become obesogenic: in the last 20 years, marketing
companies have developed strategies focusing exclusively on schools. Almost 20% of US high schools offer brand-name fast foods, such as Pizza Hut, Taco Bell, or Subway [10]. Similar trends have been observed in Europe [24]. Many types of direct advertising in schools exist, such as soft drink, fast food, or snack food corporate logos on athletic scoreboards, sponsorship banners in gyms, ads in school newspapers and yearbooks, free textbook covers with ads, and screen-saver ads on school computers for branded foods and beverages. Food advertisements can also be delivered into school media. Another way of advertising in schools includes corporate-sponsored educational materials or corporate-sponsored incentives and contests. On the other hand schools can play a critical role in reshaping social and physical environments and providing information, tools, and practical strategies to help students adopt healthy lifestyles. More than 95% of young people are enrolled in schools. Students have the opportunity to eat a large portion of their daily food intake and to be physically active at school. Schools are an ideal setting for teaching young people how to adopt and maintain a healthy, active lifestyle. Research shows that well-designed, well-implemented school programs can effectively promote physical activity and healthy eating [10,15,17,24,29,33,34,35].

**Internet and new media**

Computer mediated communication has recently emerged as a viable means to both gather and disseminate medical information. Advertisers and marketers have begun to target the rapidly growing number of children online with a variety of new interactive advertising and marketing techniques. A majority of the big companies that advertise and market to children have created their own websites, designed as "branded environments" for children. These sites offer games, word-find puzzles, contests, quizzes, riddles, music, email cards, clips of commercials, sweepstakes, downloadable recipes, desktop wallpaper and screensavers that feature their products, and on-line stores that sell licensed merchandise. Approximately 1.2 million children aged 6–11 years visited food company-sponsored adverts game sites every month in 2009, spending up to 63 minutes per month on one site. Children can also sign up to receive electronic newsletters with news about products and promotions. Several commercial sites directed to children include targeted food product adverts. Food companies use social media to promote marketing messages directly to young people, including the 12 largest fast-food restaurants and 33 brands of sugar drinks. For example Coca-Cola is the number one brand on Facebook, with 56 million likes to date. Around 37% of children aged 10–12 years have an account on social networks. One of the newest forms of marketing enables food companies to reach young people on their mobile devices (cell phones, tablets, and IPods) through text messages, e-mails, social networks, and mobile apps, including advert games. Fast-food, soda, energy drink, snack food, and candy companies are early adopters of mobile
marketing to appeal to youth. However these new media may also play a positive role in supporting obese people. Internet programs and mobile phone access may overcome traditional barriers to weight loss treatment because of 24 hour a day accessibility, affordability and anonymity for those who may avoid seeking treatment due to embarrassment or to other reasons. These media provide a forum for social support through e-mail, bulletin boards, chat rooms, group forums and web-hosted meetings. New media can minimize trouble to participants associated with physical visits to clinics, avoiding waste of time and has the potential to be used in a broad range of settings aiming at optimizing weight outcomes. [10,24,36,37,38,39,40].

Regulations on Advertising to Children

In the United Kingdom, Greece, Denmark, and Belgium advertising to children is restricted while in Quebec, Sweden and Norway advertising for children under the age of 12 years is illegal. The European Union also has introduced minimum provisions on advertising to children for its 27 member States. Article 9 point 2 of Directive 2010/13/EU of the European Parliament and of the Council of 10 March 2010 on the coordination of certain provisions laid down by law, regulation or administrative action in Member States concerning the provision of audiovisual media services (Audiovisual Media Services Directive) provides an attempt to protect children against advertising unhealthy food and drinks in children's programmes with the following regulation: Member States and the Commission shall encourage media service providers to develop codes of conduct regarding inappropriate audiovisual commercial communications, accompanying or included in children’s programmes, of foods and beverages containing nutrients and substances with a nutritional or physiological effect, in particular those such as fat, trans-fatty acids, salt/sodium and sugars, excessive intakes of which in the overall diet are not recommended [32]. The Directive introduces some general rules for advertisements dedicated to minors, i.e. protecting them from direct exhortation to buy certain products, or from exploitation of their trust in important persons, but it doesn’t directly outlaw all advertisement of inappropriate food nor does it provide specific rules on the type of food or extent of promotion of nutritional habits. Instead of creating a clear European food advertisement policy the Directive shifts the accountability for creating codes onto the broadcasting companies, without indicating any necessity to cooperate with organisations of health professionals and/or public health administrations in creating the codes. The majority of regulations implemented deal only with television and advertisements at school, leaving almost unregulated the space of internet, sponsorships and cross-promotions. In European countries as well as in the US mutual social and industrial commissions are handling marketing codes through the so called “self-regulatory system”, which in fact constrain the development of governmental statutory regulations,
despite strong advocacy by public health and consumer groups. Usually such self-regulatory institutions are funded and administered by the industry. In a global perspective, it is worth underlining that such regulations barely exist in middle- and low income countries, leaving the highest burden of child-targeted advertisements in those countries [31,32,33,34,40,41].

**Considerations for health care systems**

Health care professionals are in a special position to inform parents and children about challenging social and health issues connected to digital and classical media. They should encourage parents to control not only time spent by their children interacting with mass media, but also to control the content of broadcasts viewed. Media literacy should be introduced as standard to health promotion services delivered to families by health workers. It is essential to encourage parents and children to watch media together and to help children to create abilities to filter the informational flood, to analyse critically and to discuss the meaning of information. Parents should be advised not to allow children to have mass media devices in their bedroom, especially television and unlimited access to the internet. Paediatricians ought to encourage whole families discussions about web use and enhancement of online activities supervision as opposed to electronic blockades or spying applications (like V-chip and parental control systems), which are less effective and may result in worsening communication within the families. Possibilities to initiate preventive and educational programmes enhancing cognitive competences of children and raising their awareness about using mass media should be sought at community levels. Such programmes should preferably develop cooperation with kindergartens, schools and even start to raise parents’ consciousness during childbirth preparation classes. Communities should also be equipped with the skills and knowledge of how to seek professional health information in mass media and how to avoid misleading myths and distorting advertisements. At the state level it is essential to raise awareness of the society and stakeholders on the negative impact of uncontrolled exposure of children to the harmful influence of mass media which is a form of emotional abuse and neglect. Awareness and lobbying for introducing children’s protection regulations need to be increased according to the European policy statement “Health in all policies” and including all significant mass-media. The occurrence and development of new communication technologies requires that states pay a special attention to the introduction of health promoting programmes into the world wide web. Health protection policies should also provide scientific information about potential health hazards connected with mass media exposure and analyse potential benefits of introducing health protection regulations focusing on the internet, especially through blogs and social media content.
References

32. Directive 2010/13/EU, OJ L 95, 15.4.2010
34. Sharma LL, Teret SP, Brownell KD: The food industry and self-regulation: standards to promote success and to avoid public health failures, Am J Public Health 2010;100:240-246

40. Set of recommendations on the marketing of foods and non-alcoholic beverages to children, WHO, Geneva 2010

~ About the Authors ~

Artur Mazur

Education and Training
Degree in Medicine: Jagiellonian University, Krakow, Poland
Residence in Paediatrics: 1994 – 1998 with award
Residence in Endocrinology: 2010

1998: PhD, Medical University of Silesia, Katowice, Poland.
2010: D.Sc., Medical University of Silesia, Katowice, Poland.
2011: Professor University of Rzeszow

Professional Position
Dean Faculty of Medicine University of Rzeszow
Head of Pediatric Unit – Department of Pediatrics, Regional Hospital 2, Rzeszow, Poland

Publications
Over 150 articles/abstracts on national and international scientific journals.
Editor of 3 books on obesity, nutrition, and public health.

Board Member Of Scientific Societies
From 2013: President European Childhood Obesity Group
From 2010: Vice President, Polish Pediatric Society
From 2010: Board member, European Academy of Pediatrics

Igor Radziewicz-Winnicki

Language Abilities:
English: Speak, Read, Write
German: Speak, Read, Write
Russian: Speak
Czech: Speak, Read

Professional Education:
Specialist in public health, Medical University of Warsaw, Institute of Social Medicine,
Warsaw, Poland – 2011
Specialist paediatrician, Children’s Clinic of the Medical University of Silesia, Katowice, Poland – 2008
PhD in medical sciences, Medical University of Silesia, Katowice, Poland – 2006
MD, Medical University of Silesia, Katowice, Poland – 2001

Professional Career:
Undersecretary of State, Ministry of Health of the Republic of Poland – 2012 – to date
Lecturer at the School of Health Sciences of the Medical University of Silesia, Katowice, Poland – 2008 – to date
Assistant Professor at the Social and Economic Sciences Faculty of the Silesian School of Management, Katowice, Poland – 2007 – 2012
Assistant at the Children’s Clinic of the Medical University of Silesia, Katowice, Poland – 2002 – 2007

Experience of working for and with international organizations:
Head of the Polish Delegation to the 66. WHA – 2013
Head of the Polish Delegation to the 62. Regional Committee – 2012
Head of the Polish Delegation to the Employment, Social Policy, Health and Consumer Affairs Council of the European Union – 2012
Delegate of the Polish Paediatric Society to the European Academy of Paediatrics – 2010 – to date
Member of the European Society for Social Paediatrics and Child Health (currently: International Society for Social Paediatrics and Child Health) – 2008 – to date
Member of Strategic Paediatric Alliance for the Future Health of Children in Europe – 2011-2012
Delegate of the Polish Paediatric Society to the European Confederation of Primary Care Paediatricians – 2011-2012

Experience of acting as Chairperson of high-level political and technical committees at national and/or international level:
Chair, the Polish Committee on the prevention and control of human infections and human infectious diseases – 2013 – to date
Chair, the UNAIDS Programme Coordinating Board – 2012
Secretary General of Polish Paediatric Society – 2011 – 2012
Chair of the National Board for Drugs Prevention – 2012 – to date
Chair of the Commission for Ethics in Medicine- 2013 – to date
Chair of Steering Committee of National Programme for In Vitro Fertilization Treatment – 2013 – to date
~ How To Use This article ~

You are **free to use, share and copy this content** by quoting this article as follow:


Also make sure to **give appropriate credit** when using this content. Please visit [ebook.ecog-obesity.eu/terms-use/summary/](http://ebook.ecog-obesity.eu/terms-use/summary/) for more information.

~ Final Word ~

Thank you for reading this article.

If you have found this article valuable, please share it with someone that will be interested in.

Also make sure to visit [ebook.ecog-obesity.eu](http://ebook.ecog-obesity.eu) to read and download more childhood obesity-related articles.