

Undesirable Effects of Media on Children: Why Limitation is Necessary?

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Pervasive media environment is a social problem shared by most of the countries around the world. Several studies have been performed to highlight the undesired effects of media on children. Some of these studies have focused on the time spent by children watching television, playing with computers or using mobile media devices while some others have tried to explain the associations between the obesity, postural abnormalities or psychological problems of children, and their media use. This article discusses the recent approaches to curb influence of media on children, and the importance of family media literacy education programs with particular relevance to developing countries.

Keywords: *Children, Media effects, Media literacy.*

Teachers, pediatricians and pediatric psychiatrists agree on the fact that sustained intellectual exercise contributes to the brain growth and more sophisticated thinking, and thus brain must be challenged regularly. Communication and analytical thinking abilities of children develop if they regularly converse with their families and/or develop good reading habits. Families may unintentionally contribute to the mental deprivation and limited brain growth of their children by allowing unlimited use of media devices [1-3].

The social media network sites which have provided children with easy ways of establishing friendships, and satisfy their feelings of belonging and acceptance by others, have become more and more popular especially in developing countries [4]. However, there is no sufficient research/guideline on protecting children's safety in use of media devices in developing countries [5]. The results of the national school violence study in South Africa showed that 80.2% of secondary school learners have a mobile phone, while 54.3% have access to a computer or a tablet computer. About 70% of these children were reported to use social network sites and talk with strangers at least once a week [5]. Research findings in Vietnam have revealed that up to 25% of children in the urban areas and 20% of children in the rural areas had shared personal information such as their phone number or name of their school with strangers online. It was also reported that 49% of the urban children and 20% of the rural children in Vietnam were subjected to cyberbullying, or were threatened or embarrassed online. Unfortunately, only 1 in 10 of these victims informed a parent or an adult about this abuse [4,5]. Several studies have reported that

victims of bullying are 2 to 9 times more likely to consider committing suicide [3-5]. Families should help their children realize the danger of cyberbullying by controlling their computer/tablet computer use.

Watching television (TV) is the first-choice leisure time activity of the families, especially in the urban areas of developing countries [6]. Burdette, *et al.* [7] reported that children in urban areas spent an average of 2.2 hours per day watching TV. Children's exposure to media violence plays an important role in the etiology of violent behaviors [7,8]. TV programs in US show 812 violent acts per hour, a typical American child would have followed 200,000 acts of violence, containing more than 16,000 murders, until the age of 18 years [8]. Furthermore, 15-20% of music videos and many of video games include violence [8]. Children tend to imitate the characters they watch on TV programs or on video games because they can not distinguish between fact and fantasy until 5 years of age. They may accept the violence as an ordinary means to solve problems over the time [8,9]. Therefore, physicians, especially pediatricians, should make parents and teachers media-literate meaning that they should comprehend the risks of exposure to violence, and teach their children how to interpret what they see on TV, in the movies, or in the cartoons.

How does media affect weight in children? Watching television or playing with computer over 2 hours/day might result in obesity in children due to the lack of activity. Studies also suggest that 80% of obese children might become obese in adult life [9,10]. The incidence of childhood obesity – which may lead to hypertension, diabetes mellitus, coronary artery disease, cholecystitis,

dyslipidemia, osteoarthritis or sleep apnea in adulthood—has doubled in the last two decades in America in proportion to the increase in children's media use [11].

Moreover, American Academy of Pediatrics has declared that an average child watches 20,000 or more commercials every year, more than 60% of which promote junk foods related with obesity [12,13]. Costa, *et al.* [14] reported that 13.8% of 1369 commercials screened during 176 hours of TV programming in Brazil were related with foods as sugars, sweets (48.1%) and fats (29.1%). It has been suggested that the content and the timing of commercials should be carefully controlled because children under the age of 8 years are unable to differentiate the advertisements from the regular programs, and commercials have considerable influence on them [13].

Yousef, *et al.* reported a positive correlation between excessive TV watching (>2 h/d) and aggressive behaviors, attention problems, low self-esteem and internalizing and externalizing problems of children [15]. The use of electronic media devices beginning from the preschool age has been associated with 1.2-2 folds higher rate of emotional disorders like major depression, bipolar disorder or anxiety attacks. In addition, poorer family functioning has been reported with excessive TV watching or computer use [16].

Obesity and impaired glycemic control due to lack of exercise is one of the major risk factors for cardiovascular diseases [17]. If children's media use is not limited, they neglect regular activities as hiking, running, swimming and riding bicycle [14]. Therefore, it is important to encourage families to monitor their children's media use and to spend more time doing physical activities with their children to improve cardiovascular health in their adulthood.

Children usually sit in unsuitable body postures for a long time in front of TV or computers. Drzal, *et al.* [18] demonstrated that prolonged sitting position resulted in decreased angle of inclination of the thoracolumbar spine, reduced thoracic kyphosis and lumbar lordosis, and pelvic asymmetry in children aged 11 years to 13 years in Poland. Posture education programs should be advocated for school children to avoid such advanced spine abnormalities.

Melatonin is a very important antioxidant that protects nuclear DNA and cell membrane lipids from oxidative damage. It has been strongly suggested that prolonged exposure to magnetic fields might cause hematopoietic system cancers, especially in children, due to melatonin suppression [19].

The most effective way of protecting children from the undesired effects of media is to provide the family control via media literacy education programs. The success of media literacy education of families depends on the power of communication between parents and children. One of the most important steps of this education is to set some rules about limiting the time their children spend watching TV or playing video games. Children's media use should be limited to 1-2 hours/day after they finish their homework and/or sport activities [20]. Parents should watch TV with their children to teach them how to interpret the media messages or content of commercials. Parental supervision during watching cartoons and movies enables the children to distinguish between reality and fantasy. Families should talk with their children about how violent scenes create false excitement, and how problems can be solved non-violently [19,20]. Besides family relationships and willingness, several demographic factors such as age, educational status or income of the parents may affect the results of media literacy applications. Studies have shown that the educated parents can have a better control of children's media use and its content. On the other hand, two-thirds of 8- to 18-year-old children of the families with higher socioeconomic status have their own TV sets, computers or video game consoles, which makes family control difficult [20,21].

In conclusion, harmful effects of uncontrolled media use by children is a common problem shared by most of the countries throughout the world. It is impossible to forbid children's media use; however, physicians can promote healthy use through public education. Media organizations should also be trained to be more sensitive about the determination of program contents and timing. Pediatricians should play a key role in raising awareness of media literacy of families as well as encouraging politicians to create effective media-literacy education policies.

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