

It is Necessary to Encourage Children and Adolescents Obese to Practise Physical Activity, So Why Not Allow them to Use Movies and Other Mediums to Learn?

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Abstract

Obesity in childhood and adolescence is becoming an increasing interest in worldwide and has been associated with sedentary lifestyle patterns in these populations. Childhood obesity has been associated with several environmental factors, such as low physical activity and eating disorders. The time spent watching Television (TV) is the sedentary behaviour most commonly investigated. This overview summarizes the knowledge about TV viewing, videogames playing, and computer using and their interactions with different variables in children and adolescents. Rapid and extensive achievements are required for to decrease time expended at the TV, videogames, and computer. Nutritional team must to inform their patients of the role that video games can play in a sedentary lifestyle in youths. At the same time, since video games are such a draw to children, nutritional teams may consider adding interactive, educational games to their ever-growing repertoire of dietetics knowledge, skills, and patient education. It is necessary to encourage practising physical activity, so why not allow them to use videogames and other mediums to learn? Several studies are required, but we will have more insight into the use of video games for healthful influence, not just for leisure activity.

Keywords: Obesity; Television watching; Computer usage; Video games usage; Physical activity

Abbreviations: TV: Television; BMI: Body Mass Index; SES: Socio-Economic Status

Introduction

Obesity in childhood and adolescence is becoming an increasing interest in worldwide [1-3] and has been associated with sedentary lifestyle patterns in these populations [4]. Childhood obesity have been associated with several environmental factors [4,5], such as low physical activity and eating disorders. The time spent watching Television (TV) is the sedentary behaviour most commonly investigated [6]. It has been shown that the odds risk of being overweight is about five times greater in those patients commonly watching TV more than 5 h/d compared with those watching less than 1 h, as reported by the AVENA study [7]. This is of great concern because it has been showed that the number of children watching TV for more than 4 h/d is increasing too [7,8].

It is not clear whether other sedentary activities are alone associated with obesity and it is not known if greater physical activity linked with common activities such as active commuting to school could counterbalance the negative effect of TV and electronic device use, as reported by the AVENA study [7]. This overview summarizes the knowledge about TV viewing, videogames playing, and computer using and their interactions with different variables in children and adolescents. It's known that physical activities such as active commuting to school could have a protective effect.

Physical Inactivity and Sedentary Behaviours

Sedentary behaviours are risk factors for many chronic diseases, such as type II diabetes, coronary heart disease, cancer and obesity. The obesity epidemic is caused by several causes [9], but for somebody [10], obesity is determined only an environmental factor. Rey-Lopez et al. [11] shown that current children and adolescents fail to meet the recommended physical activity level (at least 1 h/d of moderate-vigorous physical activity) with more time spent on sedentary behaviours (FORM TEXT 2 h/d of total screen time) [11-16]. Sedentariness may be analysed considering individuals not meeting the physical activity

(assessed by questionnaires or objective methods) guidelines, or by the assessment of different sedentary behaviours, such as TV viewing, computer use and playing electronic games, as reported by Rey-Lopez et al. [11]. When attempting to study each approach, they present different determinants [11]. For example, in US adolescents' physical activity was associated with environmental factors and sedentary behaviours with socio-demographic factors [11,17]. Adolescents, that have daily sedentary behaviours, present a poor health status [11,18-21]. TV viewing is associated with adiposity [11,18], an impaired metabolic risk-score [11,19], hypercholesterolemia [19], high Body Mass Index (BMI) [11,20], a low cardio respiratory fitness [20] and hypertension [11,21]. Socio-Economic Status (SES) and gender are important factors that seem to determine the type and the level of sedentary behaviours [11,17]. Several studies have found an inverse association between adolescent sedentary behaviours (TV viewing and electronic games) and SES [11,17,22-27]. Nevertheless, there is a poor understanding about the influence of SES on other forms of sedentary activities (such as computer use and study). Some data concluded that children who come from higher SES watch less TV but are more likely to live in a home with a computer or internet connection [11,28].

Few researches have been carried out in Europe about the prevalence and determinants of sedentary behaviours in children and adolescents, as reported by Rey-Lopez et al. [11]. In a large survey conducted in several European countries [11,29], boys were more likely to watch TV regularly than girls [11].

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Parental Status and Sedentary Behaviours

Patriarca et al. [30] shown that public health and preventive campaigns targeted to childhood and adolescence have mostly focused on reducing insalubrious behaviours such as physical and sport inactivity, eating patterns, TV viewing, and videogame playing. Really, an inverse correlation exists between the amount of time spent watching TV and children and adolescents health status, including overweight/obesity [30-35], school and verbal performance [30,36,37], perceived cognitive and attention abilities [30,38,39], and violence or bullying [30,40,41].

The family structure is also probably to have an important influence on sedentary behaviours, and parental status, family size, and number of siblings may be related with higher levels of TV viewing, as reported by Patriarca et al. [30].

The American Academy of Pediatrics has declared concerns nearly the amount of time that children and adolescents expend viewing TV and has issued guidelines urging parents to limit total media time per day of quality programming, to remove TV from children's bedroom, and to monitor the shows children and adolescents are watching, as remembered by Patriarca et al. [30]. The American Academy of Pediatrics offers a list of recommendations on this issue for paediatricians and for parents, the federal government, and the entertainment industry [42]. Likewise, *Physical Activity and Fitness Objectives in the Healthy People 2010* has recommended that the proportion of students in grades 9 through 12 who view TV for two or more hours should be less than 25% [30,43]. In Italy, among children and adolescents, 54.1% and 61% always ate lunch or dinner in front of the television, 89.5% had a television in the bedroom while 52.5% of them always watched television there, and 49% indicated that parents controlled the content of what was watched on television [30], and the computer was used by 85% of the sample for 1.6 daily hours and those older, with a computer in the bedroom, with a higher number of computers in home, who view more television and play videogames were more likely to use the computer [30]. Recently, in Sicilian, Parrino et al. shown that the increase of trends in the prevalence of obesity was significantly higher in males (9.7% vs. 17.6%) than in females (6.3% vs. 9.8%) and was slightly higher in urban areas (8.8% vs. 14.3%) than in rural areas (7.8% vs. 13.0%) [44]. Moreover, the male gender was associated with a higher risk of being overweight or obese (odds ratio: 1.63; 95% confidence intervals: 1.24-2.15) in 2009-2010 than in 1999-2001, after adjusting for age and the residence area, as reported by Parrino et al. [44]. Finally, Bertonecello et al. [45] shown that among boys the prevalence of overweight was 21.06%, while obesity prevalence was 5.92%; among girls overweight prevalence was 21.30%, while obesity prevalence was 5.15% and the prevalence was higher among 11-year-old boys and 9-year-old girls. Children resident in rural areas presented a higher risk of overweight and obesity compared with children resident in mountain areas and in urban areas, as reported by Bertonecello et al. [45].

Actually, some previous epidemiologic survey has overall determined TV viewing, videogames playing, and computer use in children and adolescents in Italy. Therefore, as reported by Patriarca et al. [30], since it would be useful to obtain such data, the purposes of this study conducted in one region in Italy among a large sample of children and adolescents were: (a) to describe usual practices about TV, videogames, and computer; (b) and to determine what association exist between these behaviours and different aspects of the family structure.

Discussion

Home video game systems have rarely been associated with good health. With perceived ties to violence and social maladjustment in youths who play video games, there is also a perceived association between video games and childhood obesity, their popularity coinciding with the jump in obese and overweight children 2 decades ago, as reported by Brown [46].

"[The] association of electronic game use with obesity was . . . significant, with a nearly two-fold increased risk for obesity by hour per day spent playing electronic games," as reported by Stettler et al. [47]

"Therefore, use of electronic games should be considered as another sedentary activity to be targeted for obesity prevention in children" [46,47].

Another study [46,48] found that "while television use was not related to children's weight status, video game use was. Results also indicated that children with higher weight status spent more time in sedentary activities than those with lower weight status." Lastly, Hancox and Poulton [46,49] found that childhood body mass index was directly proportional to the mean hours of television viewing. "Time spent watching television is a significant predictor of [body mass index] and overweight in childhood," researchers said. Video games by their very nature require television viewing [46,49].

However, these studies do not mention games that are specifically made to educate children on diet, and some doctors and fitness experts now argue that video games can be a legitimate tool to create health-conscious children, as observed by Brown [46].

It is necessary to encourage children and adolescents to practise physical activity, so why not allow them to use videogames and other mediums to learn? Therefore, instead of fighting it and to let them use different things as resources, recently, Sween et al. [50] showed that exergaming (active videogame systems) is a new and exciting strategy to potentially improve physical activity levels and reduce obesity among Americans.

Conclusive Remarks

Brown [46] observed that being experts in nutrition and how that is influenced by behavioural modification, dietetics professionals may want to inform their patients/clients of the part that video games can play in a sedentary lifestyle in youths. At the same time, since video games are such a draw to children, dietetics professionals may consider adding interactive, educational games to their ever-growing repertoire of dietetics knowledge, skills, and patient/client education [46]. Recently, Tierney et al. [51] believe appropriate use of the electronic medical record and related technologies in medicine can offer clinical educators and trainees a rich and promising platform to use in pursuit of a positive and effective educational experience. Several studies are required, but we will have more insight into the use of video games for healthful influence, not just for leisure activity.

Disclosure Statement

The authors declare that there are no conflicts of interest. All authors equally contributed to draft the manuscript. All authors gave final approval of the version to be published.

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