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ORIGINAL ARTICLE

Aspects associated with the use of electronic media by children seen at a school outpatient clinic in the city of Rio de Janeiro

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Abstract

Objectives: This study aims to analyze aspects of the use of different types of screens among low-income children attending an outpatient school in Rio de Janeiro. **Methods:** Descriptive cross-sectional study with information collected through an interview with the children's' guardians. All children from 6 months to 10 years of age attending the outpatient school were included. We excluded those with Autistic Spectrum Disorder, neurological disorders, blindness and deafness. We ran the statistical analysis using frequencies, median and interquartile range for continuous variables. **Results:** We analyzed 263 interviews, 225 (85.6%) were answered by the mother. The median age was 2 years, with the interviewee generally attending elementary school. Households were 71.1% in classes C2 and DE. Of the 39 children who had their own cell phone, the family did not monitor the content watched, or did so sporadically in 16 cases (41%). In 95.8% of cases, the family watched the television together, with 52% of the content being inappropriate. The median number of screen hours increases from 4 in the first year to 8 hours in the fifth year of life. **Conclusion:** Poor family perception of the risk of screen use can be identified through poor content surveillance, lack of rules for its use, number of hours of screen exposure per age group, and exposure to adult or violent content when watching television with the family.

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INTRODUCTION

"Digital natives are those who were born and raised with the digital technologies in their lives, using them as part of their daily routine[1]. These new habits impose on parents a responsibility to oversee these practices as to content, quantity and context in which they are used, key elements of media exposure. This supervision will be dictated by several interconnected factors such as personal experiences, beliefs, socioeconomic status, skills, and knowledge about the effects of media on the child[2]. Other factors may facilitate or hinder the use of digital media by children, such as availability of devices at home, internet access and encouragement for other modes of entertainment, among others[3,4]. In addition to fun and entertainment, digital media is also an instrument of learning and information, being a school resource today[5]. Thus, the child's relationship with this digital world will have a positive or negative impact depending on the mediation of the adult, the quality of the content, the amount of time that negatively displaces other activities of their routine, as the most relevant factors[6].

National and international Pediatric Societies underline the importance of health promotion and well-being by healthcare professionals, particularly pediatricians, through recommendations to parents about physical activities, healthy nutrition, good sleep practices and a caring social environment; and respect for children, in order to balance the potential negative effects of electronic media on the health of these young people[7,8].

This study aims to analyze aspects of the use of different types of screens (computer/tablet, mobile phone, television) among low-income children attending an outpatient clinic at school.

METHODS

Descriptive study, with information collected prospectively through an interview applied to guardians who brought the child for care at the outpatient school, Municipal Health Center (CMS) Itanhangá, from 07/06/2017 to 05/06/2018. All children from 6 months to 10 year of age who attend the outpatient clinic at school during the mentioned period and who participated most of the time in child care were included; excluding those with developmental disorders such as Autistic Spectrum Disorder, neurological disorders, blindness and deafness.

The economic classification used followed the Brazilian economic classification criteria from the Brazilian Association of Research Companies (ABEP)[9]. This entity uses the possession of durable household consumption items, plus the declared education level of the head of household, transforming these items in a scoring system, whose sum results in the classification into economic classes A, B1, B2, C1, C2 and DE. The variable "Television (TV) on all day" was defined as TV on while the child was at home. The variables "own your own cell phone" and "watch programs without adult supervision" were analyzed in children from 24 months. The variables "there are rules to see: TV, using the cell phone, sleeping and playing in the neighborhood" were analyzed in children aged 60 months or older. In this variable, the respondent could answer between 3 possibilities: always, sometimes and never. The data contained in the tables refer to the existence of consistent rules defined by the answer "always". The variable "play family sports" refers to the family doing some activity together such as playing ball, going to the pool ... ". The variable "family stroll" refers to the family visiting relatives, picnicking, shopping, that is, any other activity that was not included in the previous one. The variable "reading habits by parents/older siblings" refers to the family reading newspapers, magazines, books or comics at any frequency. The variable "average hours children spend using screens in any mode" (tablet, computer, mobile phone, television) was defined based on the number of hours stipulated by the interviewee. Descriptive statistical analysis was performed using frequencies and proportions, median and interquartile range (QII) for continuous variables, because the sample was not homogeneous. We analyzed the data using the SPSS version 20.0 statistical program. The Research Ethics Committee of the Souza Marques School of Medicine under protocol number 2224.084 approved the study.

RESULTS

We analyzed 263 interviews. These were answered by the mother in 225 interviews (85.6%), followed by the father in 19 (7.2%), grandparents in 15 (5.7%) and uncles in 4 interviews (1.5%). The median age of the children was 2 years, and 55.1% of respondents had completed elementary school. The vast majority (71.1%) of the interviewed families belong to economic classes C2 and DE; and there were no families belonging to classes A and B1 (table 1). When we analyzed the 39 children who had their own cell phone, their family did not watch monitor the content they viewed, or did so sporadically in 16 cases (41%). In 95.8% of cases, the family watched television together; however, 52% of the content was adult soap operas, horror movies, fight channel and the news. In 17 cases, the children are alone at home, and of these 74.5% (13/17) were older than 5 years (table 2). When grouping the use of any type of screen viewed by the child, the median number of hours increases proportionally with age (table 3).

DISCUSSION

The outpatient clinic in the school is located amidst a poor community. The socio-demographic profile of respondents reflects this reality, in which 71.1% of the families belonged to classes C2 and DE. This profile also shows crowding as a characteristic of these households: median of 3 people per room, 90.9% shared the room with another person and 26.2%

Table 1. Socio-Demographic characteristics (n=263)

Demographic characteristics	N (%)
Age of the Children in months (median, IIQ)	48 24-84
Interviewee's Schooling years (median, IIQ)	9 7-11
Economic Class	
B2	13(4.9)
C1	63(24)
C2	122(42.6)
DE	65(24.7)
Persons per room (median, IIQ)	3 2-3
Sleeping room together with the living room 63(24)	63(24)
Shares the room with another person	239(90.9)
Shares the room with more than two people	68(26.2)

Table 2. Issues associated with screen use in family activities

Screen use	Total	N(%)
TV on the entire day	263	101(38.4)
Having Internet at home	263	205(77.9)
Internet Access at home through the cell phone	263	178(67.7)
Having one's own cell phone (≥24months)	214	39(18.2)
Watches shows without adult supervision (≥24m)	214	28(13)
There are rules to watch TV (≥60m)	118	49(41.5)
There are rules to use the cell phone (≥60m)	118	66(55.9)
There are rules for going to bed (≥60m)	118	70(59.3)
There are rules for playing in the neighborhood (≥60m)	118	86(72.9)
Reading habits of the parents/older sibling (never or <1x/sem.)	263	129(87.1)
Watch TV with the family (never or <1x/week)	263	11(4.2)
Practice sports with the family (never or <1x/week)	263	232(88.2)
Go out with the family (never or <1x/week.)	263	212(80.6)

shared the room with more than two people. In a recent study involving children and adolescents, ran by the Brazilian Toy Manufacturers Association (ABRINQ) and the United Nations Children's Fund (UNICEF) show that the problem of children and adolescents in the southeastern region is housing[10,11]. It is estimated that in 2016 the population between 0 and 19 years of age was 68 million and that more than 1/3 of them are in the southeastern region[10]. Half of young Brazilians aged 0 to 17 who live in slums in Rio de Janeiro make up 19.9% of the percentage of the southeast region[11].

Our data show that Internet access is predominantly made by mobile phones, and this finding is in line with other Brazilian and worldwide studies. In Brazil, the use of mobile phones as a tool for Internet access grew from 76% in 2014 to 93% in 2016, while computer use fell in the same period from 80% to 57%, with television showing a slight increase of 7% to 17%[12]. In the world, mobile phones are the means to access the Internet by 51.7% in 2018, while computers and tablets account for 44.1% and 4.2% of accesses, respectively. In addition, we note that 18.2% of 2-year-old children already have their own cell phone; but more worrisome is the fact that analyzing this particular group, 44.1% watch content without adult supervision, making this a risk of exposure to inappropriate content. However, when analyzing children 2 years of age and older, 13% have no adult supervision. Despite being a small percentage, our population is still very young, pointing to a low perception by guardians of the risk of screen use. Reinforcing our data, the TIC_KIDS_ON LINE survey shows that 8 out of 10 children aged between 9 and 17 years are Internet users, and 91% of them make use of their cell phones for such access, and they are the main source of internet access in DE classes (61%)[13].

In our study, this low perception by those responsible is also found when comparing the situations in which rules exist. In situations where there is a better-known risk of dangerous situations for the child, such as playing in the neighborhood, the rules are present in 72.9% of cases. However, this percentage goes down from 59.3% to sleep, to 55.9% to use the phone. The lowest percentage found was rules for watching TV. In this sense, the present study shows that watching TV is the most frequent family activity, when compared to going out or playing sports; however, 52% of the watched content is inappropriate for children. The low perception of the risk of unsupervised screen use is found in other studies, in an association with socioeconomic status, as described by other authors, in which parents with lower education levels have lower perception of online safety than parents with higher education.[13,14]

Our study showed that infants from 6 months of age are already using the Web, with a median of 4 hours per day. Despite the recommendation of national and international pediatric societies of not using electronic media under 2 years of age, the literature has shown that its use in this age group is of concern. Parent-child interaction is still the main form of verbal and nonverbal learning. Children in this phase are still building their cognitive, motor, socio-emotional and language developments, needing to experiment manually and learn through interaction with the adult, the meanings and possibilities for problem solving. These daily tasks, including

Tabela 3. Número de horas que a criança passa visualizando tela por faixa etária N(%).

	6-12 months N=33(12,5)	13-24 months N=35(13,3)	25-60 months N=87(33,1)	61-133 months N=68(41,1)
Number of hours the child spends using the screen (any type) – Median; IIQ	4	6 4-8	6 5-8	8 6-10

imitation, are the building blocks of a child's development. Moreover, at this stage children have difficulties transferring knowledge from a three-dimensional model (such as the canvas) to a real-life model, which underlines the importance of active exploration and interpersonal interaction[7,8]. Studying children under 2 years of age using mobile digital devices, Kabali et al. found that of 350 children, 43.5% under 1 year of age had used electronic media daily, increasing to 76.6% by age 2[15]. Most 1-year-olds received from their parent's mobile devices such as mobile phones, tablets, intended to be digital pacifiers, to calm, distract or control the child's behavior. In an observational study with children under 2 years, Goh et al., found that of 725 children, 30% of them fewer than 6 months and 90% between 18 and 24 months, watched content on screens of any kind (television, tablets, mobile phone etc. ...) daily, and of the total population, 16.3% did so for more than 2 hours/day[16].

However, our data points to the limited possibilities of fun for these children, with few opportunities for spending time with and playing sport with the family, with restricted experience at home concerning other forms of learning, such as reading. Thus, it can be speculated that Internet access and television provide entertainment for these children, and may amount to approximately 8 hours of screen use for children over five in our sample. Crowding provides content sharing not always appropriate for these children, aggravated by the low perception of those responsible for the risks associated with this practice. Children under 10 years of age do not have critical skills about the content presented, as well as socio-emotional and cognitive skills to decode content that can pose a challenge to their experiences, and to interpret negative messages such as violence, sex scenes and nudity, among others[17].

On the other hand, 38.4% of households reported that the television was permanently on. This practice also causes harm, impairing parent-child interaction, both in the quality and quantity of interaction, as well as playing, reducing the time of play, with constant interruptions caused by the distraction that television causes, reducing leisure time[18,19]. In addition, sensory overload due to excessive noise and the speed of pixels on the screen and bright light, as excessive visual stimulation is described.[20] Ultimately, the practices for good media use by children, both digital or traditional, such as television, should be directed not only at the individual level, i.e. the child; but to the family, the community (due to lifelong interpersonal relationships that influence choices and preferences) and the government through educational, economic, healthcare and leisure policies.

This study has limitations due to the use of non-validated structured interviews, based on the interviewees' reports, which provides for information biases. However, it provides an overview of a local reality, albeit restricted to a particular age group and economic class.

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