

## THE VIEW OF THE NURSE SPECIALIST IN CHILD AND PEDIATRIC HEALTH UNDER THE INFLUENCE OF INAPPROPRIATE USE OF SCREENS BY CHILDREN AGED 0 TO 5 YEARS AND THE IMPACT ON THEIR DEVELOPMENT

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**Abstract: Goal:** To identify the influence of inappropriate use of screens on the development of children up to 5 years of age. **Method:** A literature review was carried out through a search in the EBSCO database with the Health Sciences Descriptors screen time, child and child development and nursing. Boolean operators AND / OR applied. **Results:** A negative influence of the use of screens was found on cognitive development, working memory and processing speed, development of socio-emotional skills and problem-solving capacity, language development, communication and social interaction skills, motor development and index of body mass. Symptoms of attention deficit, hyperactivity, problematic behaviors and later symptoms of autism spectrum disorder were also associated. As positive aspects, if the content viewed is of quality, a positive influence on educational values, expansion of vocabulary at key ages, offering of diverse experiences, exposure to cultural and linguistic diversity and as entertainment in a safe place can be found. **Conclusion:** Screens negatively influence child development when used abusively, however they can also produce positive effects if used appropriately. **Keywords:** Child development, screen time, nursing

## INTRODUCTION

Child development assumes its greatest relevance in the first years of a child's life. At this stage, there is faster brain and body development, and the opportunities and experiences they experience serve as a pillar for them to grow, learn, relate and prepare for school. <sup>(1)</sup>

It is a sensitive period for the acquisition of various skills, if not managed appropriately by caregivers, there may be poor development of these skills. <sup>(2)</sup>

Currently, children are spending more and

more time on screens, meaning screen time is the time spent on any screen, including television, computer, cell phone or games. <sup>(3)</sup>

According to Rodrigues et al. (2020), in a study carried out in Portugal, children aged 3 to 5 spend an average of 183.15 min/day on the weekend and 97.59 min/day during the week using screens, with the percentage of children that exceeds the recommended time of 93.7% on weekends and 73.1% on weekdays. Many questions were raised about the threshold for excessive screen use and how this could be harmful to children's development. There were several guidelines that emerged in the search for a safe definition of the time of use that would be harmful, such as those from the American Association of Pediatrics in 2016, revised in 2018, from the Canadian Society of Pediatrics in 2019, also in 2019 from the World Health Organization and recently, in 2022, from the General Directorate of Health. The most recent recommendations from these entities are similar, stating that children up to 2 years of age must not use screens, with the exception of video calls with reference people, and that children from 2 to 5 years of age must not view more than one hour a day, the shorter the better.

In addition to time limits, it is recommended not to use screens during meals and at least 1 hour before bed, co-viewing and that caregivers act as the main models <sup>(3)</sup>. The knowledge about the influence of inappropriate screen use on child development allows caregivers and professionals to act accordingly to prevent the negative impact that could arise from this.

In particular, the Nurse Specialist in Child and Pediatric Health, responsible for the adequate promotion of child development, as well as for detecting changes in it through the exercise of their skills that allow them to have a broader view of the child's health status and the consequences that the adopted lifestyle can provide <sup>(4,5)</sup>.

## METHODOLOGY

This literature review aims to identify the influence of inappropriate use of screens by children aged 0 to 5 on their development. In order to adequately respond to this objective, it was outlined as Population children from 0 to 5 years of age, Intervention to inappropriate use of screens, Comparison of the appropriate use of screens and as a result their influence on child development, the following question arising through the acronym: P.I.C.O. <sup>(6)</sup>: How does the inappropriate use of screens by children aged 0 to 5 influence their development?

The research was carried out on the EBSCO platform using Health Sciences Descriptors <sup>(7)</sup>, screen time, child and child development and nursing. In order to guide the search, we used the Boolean operators AND / OR.

The following limitations were also added to the final equation: full text; articles published from January 2018 to November 2022; and articles in Portuguese and English. As inclusion criteria, qualitative and quantitative studies were defined, published in databases, in Portuguese or English, in the last 5 years and articles related to the use of screens by children. Exclusion criteria were articles such as advertisements, letters to the editor, editorials and opinion articles.

When carrying out the research using the defined equation, 299 articles were obtained. After applying the delimiters, 62 articles were obtained, from which 10 repeated articles were removed, leaving a total of 52 articles. Of these, 19 were excluded after applying inclusion and exclusion criteria, 10 after reading the title and abstract, and 7 after reading the entire text. A total of 16 studies were included in this review. The selection of articles is summarized according to the PRISMA diagram <sup>(8)</sup>, (*Preferred Reporting Items for Systematic Reviews and Meta-Analyses*).

## DISCUSSION

From the analysis of the articles, questions arise such as the beginning of the use of screens, whether there are differences in development whether this exposure is high early on, whether it increases later in the child's life or whether it remains low throughout the child's growth.

In Zhao's study, the authors analyzed the trajectory of exposure to screens and its impact on child development. It was evidenced that at an early age (12 months) there were no differences between the groups, however, at 72 months, children belonging to the high early and high exposure groups late high exposure had significantly lower results in cognitive development, working memory and processing speed compared to the group in which exposure remained low, just as the early high exposure group showed greater difficulty in developing socio-emotional skills <sup>(9)</sup>.

Other authors <sup>(2,10,11)</sup> also relate early viewing of television programs negatively with the acquisition of cognitive skills, which may be associated with a longer sleep onset and reduced sleep duration.

Socio-emotional development has been found to decrease with increasing screen time <sup>(2,9,12)</sup>, decreasing social skills <sup>(13)</sup> and problem-solving ability <sup>(12)</sup>.

To watch television early was related to symptoms of attention deficit, hyperactivity and problem behaviors <sup>(14)</sup>. As well as, online activities associated with violent behavior, anxiety and stress due to possible contact with strangers and cyberbullying, in combination with immaturity, lack of experience and development of social skills <sup>(15)</sup>.

The deficit in child development was recorded in groups of children under and over 2 years of age, where the delay in the development of language, communication <sup>(12)</sup> and social interaction skills were significantly associated with increased screen viewing

time<sup>(11)</sup>.

It was found that longer screen time was inversely associated with lower language ability <sup>(2,12,16,17)</sup>, however, watching quality programs and co-viewing with reference adults can increase language skills <sup>(16)</sup>. This increase, however, is nullified if use is excessive. <sup>(17)</sup>.

At an early age, children may experience a deficit in the transfer of information transmitted through screens, which limits their understanding, however, when viewing is done together, the adult can help the child to deconstruct the information. <sup>(15,17)</sup>.

It has been shown that children as young as 2 and a half can increase their vocabulary and language production skills when exposed to screens at key ages <sup>(16)</sup>.

Lifestyles also influence child development. Appropriate habits regarding the use of screens are relevant as excessive use of them represents a 3 times greater risk of overweight and obesity in children <sup>(18)</sup>. The increase in body mass index occurs due to the decrease in the feeling of satiety caused by watching screens during meals and a greater propensity to consume less healthy foods and drinks combined with a decrease in physical activity. <sup>(2)</sup>, there is also a greater likelihood of delay in motor development <sup>(2,11,19)</sup>.

Evidence was found that greater exposure to screens at an early age is strongly associated with later symptoms of autism spectrum disorder <sup>(20)</sup>.

In general, the possibility of excessive use of screens affecting children's development has been reported, however it is not a unanimous conclusion. In some studies, a significant relationship with the early childhood development index was not found. <sup>(21, 22)</sup>. These are cross-sectional studies and in one of which the type of visualization in data collection was not specified.

This lack of unanimity may be due to the fact that although most studies describe negative

associations with screen viewing, there are also positive aspects if the content viewed is of high quality. <sup>(2)</sup>. Screens can positively influence educational values, expand vocabulary at key ages, provide diverse experiences, expose children to cultural and linguistic diversity or as a form of entertainment in a safe place <sup>(16)</sup>.

This evidence leads us to the importance of key periods for development and the hypothesis that screens can deprive children of experiencing moments that lead to the acquisition of skills. <sup>(19,17,9)</sup>.

## FINAL CONSIDERATIONS

Screens negatively influence child development when used abusively, in addition to the recommendations, they can hinder sleep, the acquisition of cognitive skills, socio-emotional skills, problem-solving capacity, linguistic and communication skills, motor development, increase the risk of overweight and obesity. We also found an association with symptoms of attention deficit, hyperactivity, problematic behaviors, violence, anxiety, stress and autism spectrum disorder.

However, they can also produce positive effects if used appropriately, they can influence educational values, expand vocabulary at key ages, provide diverse experiences, expose children to cultural and linguistic diversity or as a form of entertainment in a safe place.

The Nurse Specialist in Child and Pediatric Health is responsible for acquiring self-knowledge and disseminating knowledge, ensuring that all links in the child's life come together to provide adequate development. Therefore, knowledge about the appropriate use and effects of inappropriate use of screens on child development is important for promoting health literacy among professionals, families and children, in order to encourage the adoption of healthy lifestyles and prevention of consequences. in development.

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