

Original Research

Implementation of Screen Time Danger Education to Increase Mothers' Knowledge about Screen Time in Children Aged 2-5 Years

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rontalo.ac.id**Abstract****Background:** Screen time or digital screen is the time spent by a child or individual using electronic or digital media such as television, smartphones, tablets, or computers, the negative impact of children who use too much screen time that is seen in aspects of language development other than language delays is videos accessed using languages other than those used by people around them, especially English.**Objective:** To find out the Implementation of screen time danger education to improve mothers' knowledge about screen time in children aged 2-5 years in Bulango Timur Health Center**Methods:** This design used a descriptive case study method to describe the Implementation of Screen Time Danger Education to improve mothers' knowledge about screen time in children aged 2-5 years in Bulango Timur Health Center. This case study was carried out for one week with three meetings, which guided researchers to assess mothers' knowledge of the dangers of screen time in children aged 2-5 years. Direction were given in the form of questionnaires to the three respondents.**Results:** The implementation of education about the dangers of screen time on mothers' knowledge in children aged 2-5 years in the seven mother respondents during three meetings a week increased with results in Mrs. W.M as much as 80%, in Mrs. Y.K, Mrs. N.H, and Mrs.S as much as 90% and in Mrs. A.Y and Mrs. W.T as much as 100%. All are in the good category.**Conclusion:** Based on the results of the case study, it can be concluded that the implementation of screen time education can increase mothers' knowledge about the dangers of screen time in Bulango Timur Health Center.**Keywords:** Children Aged 2-5 Years; Maternal Knowledge; Screen time

Introduction

The most recent advancements in technology have made it possible for digital devices to be interactive and entertaining. Televisions, laptops, tablets, mobile phones, and PCs are now commonplace items in daily life. But as technology has advanced and become more widely available, kids' screen time has surpassed WHO recommendations (Simanjuntak, 2023). Children today are growing up in environments saturated with technology, and early screen exposure is linked to several developmental concerns, including behavioral issues and language delay (Domingues-Montanari, 2017). According to the World Data recapitulation statistics for 2021, there were more toddlers globally in 2019 when there were 690.36 million newborns, while in 2020, there were 679.15 million less babies than in 2020. The population of Gorontalo by age group for children ages 0 to 4 reached 97,119 thousand in 2021, according to census data from that year.

The Indonesia Survey Center estimates that there are 266.91 million people living in the country, 196.71 million of whom utilize the internet. This indicates that 73.3% of Indonesians have active internet access, which is facilitated by the usage of technology (BPS, 2021). According to survey data, internet users' ages range from 0 to 4 years old (8.23%), 5 to 9 years old (8.24%), 10 to 14 years old (8.31%), and 15 to 74 years old (75.22%) (Widyaningrum, 2023). States that children, especially young ones, should spend no more than an hour staring at displays on gadgets since physical activity is essential for a child's healthy growth and development. The recommended daily usage of devices for young children (ages 3 to 5) is one to two hours in order to prevent early gadget addiction. The term "screen time" or "digital screens" refers to the amount of time a child or adult spends using electronic or digital media, such as computers, smartphones, tablets, or televisions (Wahyuni & Fajrah, 2022). Studies have found that children with more than two hours of screen time per day show poorer performance on developmental screening tests (Madigan et al., 2019). Children who use excessive amounts of screens have negative

effects on language development that go beyond language delays, such as when they watch videos in languages other than those used by people around them, especially English (Widyaningrum, 2023).

Parents should be able to control how their own devices are used, as well as provide sufficient and ongoing supervision and support for their children when they use technology. Parents should also understand the good and proper use of gadgets for their children. Children's conduct is greatly influenced by their parents' actions, so parents should model good technology use for their children by using them themselves (Faizah et al., 2022). Research emphasizes the importance of parental mediation in managing children's media use to mitigate adverse outcomes, including emotional or attention-related problems (Nathanson, 2015). The effects of children's excessive screen time, according to research, include behavioral abnormalities in children, effects on academic achievement, obesity, sleep difficulties, and violent conduct (Farizal, 2018). In fact, long screen time without adult interaction has been associated with increased risks of anxiety, poor social skills, and attention deficits (Twenge & Campbell, 2018).

From a sociocultural standpoint, this implies that kids are morally degraded, feel they don't need friends or other people, and essentially have no relationship with their surroundings. As such, parents and educators have good reason to be concerned about this. Reports show that 41% of children use electronic gadgets for less than an hour, and 98% of children use them at all (Haura et al., 2022). By the end of 2020, BPS (Central Statistics Agency) data showed that up to 20.1% of preschoolers had used the internet. This is one of the things that affects kids psychologically, along with screen time, physical activity, and the length of their nightly slumber. Since kids use electronics to view movies and play games so frequently, it's common to see negative impacts in kids who use them. However, replacing screen time with outdoor activities and interactive play has been shown to improve children's emotional regulation and social skills (Barr et al., 2020). Many kids use technology too much; kids under the age of two should not be around it at all; kids between the ages of three and five should only use it for one hour a day; and kids between the ages of six and eighteen can only use it for two hours. According to data from the Bulango Timur Health Center, 248 children were still actively participating in the integrated health post. In the village of Bulotalangi Timur, 48 children did not understand the concept of screen time, and seven parents did not either, according to a questionnaire given to 48 parents of village children. The author's interest in conducting a case study research on the implementation of screen time danger education to improve mothers' knowledge stems from the background description provided above. The research aims to understand how this program is being implemented in the Bulango Timur Health Center Work Area to improve mothers' knowledge of their children, who are between the ages of two and five.

Methods

Study Design

This case study design used a descriptive case study method to describe how the Implementation of Screen Time Danger Education to improve mothers' knowledge about screen time in children aged 2-5 years in the Bulango Timur Health Center Work Area.

Samples/Participants

The subjects of this case study consisted of seven respondents, mothers who have children aged 2-5 years at Bulango Timur health center during the period of March to April 2024. The inclusion criteria included mothers who had children aged 2-5 years, owned gadgets, were willing to participate as case study subjects, followed the given procedures, and had limited knowledge about screen time. The exclusion criteria consisted of mothers who were ill. Respondents provided informed consent before participating to this study.

Instruments

The data source was obtained through interviews with parents of children at the Bulango Timur Health Center using a questionnaire as a measuring tool to determine the level of knowledge of mothers at the Bulango Timur Health Center. This questionnaire was adapted from Screen time of adolescents (STA) a source taken adopted from Lani, (2019) with a guttman scale.

Intervention

The intervention was health education about screen time danger for children. Data were collected before and after intervention. The health education was delivered by the researchers themselves and was measured using a questionnaire consisting of seven questions.

Data Collection

The data were analyzed by calculating the total frequency distribution of mothers' pre- and post-intervention knowledge regarding the impact of screen time.

Data Analysis

Analysis by calculating the total frequency distribution of pre-post knowledge of mothers on the impact of screen time.

Results

This study involved seven mothers who had children aged 2–5 years as respondents. The age range of the mothers in this study varied, from 30 years to 47 years. The youngest mothers were Mrs. NH and Mrs. NR, each aged 30 years, while the oldest mother was Mrs. AY who was 47 years old. Judging from the age of the children, there were three children aged 5 years, namely the children of Mrs. WM, Mrs. YS, and Mrs. NH. The other two children, namely the children of Mrs. NR and Mrs. AY, were each aged 4 years. Meanwhile, the children of Mrs. BC and Mrs. WT were still 3 years old.

Table 1 Characteristics respondents

Mother's initials	Mother's age	Child's age
Mrs. WM	41 years	5 years
Mrs. YS	42 years	5 years
Mrs. NH	30 years	5 years
Mrs. NR	30 years	4 years
Mrs. AY	47 years	4 years
Mrs. BC	35 years	3 years
Mrs. WT	35 years	3 years

Source: Primary Data, 2024

The results of measuring the level of knowledge of mothers about the dangers of screen time before and after the educational intervention showed a significant increase in all respondents. Before the intervention, the pretest score showed that most mothers had a low level of knowledge, with Mrs. WM obtaining the lowest percentage of 20%. Meanwhile, Mrs. YS and Mrs. BC obtained the highest score in the pretest, 60%. After the intervention in the form of education for one week through three meetings, the posttest score showed a very significant increase. Most respondents achieved a level of knowledge above 90%, and even three respondents, namely Mrs. NR, Mrs. AY, and Mrs. WT, achieved a perfect score of 100%. This shows that the educational intervention provided is very effective in increasing mothers' understanding of the dangers of screen time in children aged 2-5 years. Overall, these data show that education about screen time can increase parents' awareness and knowledge, especially mothers', about managing their children's use of digital devices to be healthier and more controlled.

Table 2. Distribution frequency mother's knowledge before and after intervension

Subject Initials	Mother's Knowledge Level	
	Pretest	Post test
Mrs. WM	20%	80%
Mrs. YS	60%	90%
Mrs. NH	30%	90%
Mrs. NR	40%	100%
Mrs. AY	50%	100%
Mrs. BC	60%	90%
Mrs. WT	40%	100%

Source: Primary Data, 2024

Discussion

From the description of the questionnaire results before the education about the dangers of screen time for mothers with children aged 2-5 years to measure the level of knowledge of mothers, the category of knowledge level was obtained which was still lacking. What caused the increase in knowledge in the seven mother respondents was because the researcher provided education that could be easily understood by the seven mother respondents so that the mother respondents could fill out the questionnaire properly. Parents need to understand the good and proper use of gadgets for their children after parents understand it can apply the use of gadgets to their children of course there must be adequate and consistent supervision and support for children in using 3 gadgets, parents must be able to control the use of their own devices (Ismail et al, 2019). Parental behavior has a major influence on children's behavior, so good and proper use of gadgets should not be allowed to only apply to children without

practicing it themselves. Based on research argues that screen time in children has positive and negative impacts.

The benefits include encouraging creative expression and critical thinking in children without limiting them to the limitations of the real world. The negative impacts of screen time outweigh the positive impacts, namely addiction, lack of concentration, speech delays and radiation exposure (Azlina and Surjadi, 2023). The use of gadgets in children has a significant negative impact, where toddlers spend most of their time just playing gadgets, making them tend to be lazy to move and do activities that can interfere with gross motor skills. Slowly, toddlers will forget the pleasure of playing with their friends, which will disrupt social interactions. Thus, it can be concluded that the application of education about the dangers of screen time on maternal knowledge in children aged 2-5 years in the seven mother respondents during three meetings in a week after the implementation of education, it can be concluded that the application of the education provided can change knowledge patterns and can increase maternal knowledge about the dangers of screen time in children in the Bulango Timur Health Center Work Area.

Conclusion

Based on the results of the case study that has been conducted, it can be concluded that the implementation of education about the dangers of screen time has been proven to be able to increase mothers' knowledge about screen use in children aged 2-5 years in the work area of the East Bulango Health Center. This education is provided in a structured manner through three meetings over one week, with material discussing the negative impacts of excessive screen time use on children. After the educational intervention was given, there was a significant increase in the level of mothers' knowledge about the dangers of screen time. This shows that providing appropriate information and education can increase mothers' awareness of controlling and limiting the use of digital devices in their children. Thus, the implementation of this education can be an effective strategy in promotive and preventive efforts against the risks posed by screen time in early childhood.

References

- Azlina, F., & Surjadi, L. M. (2023). *Screen exposure time and developmental delay in toddlers at Tanjung Duren – West Jakarta*. 5(2), 136–145.
- Badan Pusat Statistik Provinsi Gorontalo. (2021). *Number of population by age group and gender (soul), 2019–2021, 2019–2021*. <https://gorontalo.bps.go.id>
- Barr, R., Lauricella, A., Zack, E., & Calvert, S. (2020). Infant and early childhood exposure to interactive media: Evidence from research on screen time and social-emotional outcomes. *Pediatrics*, 145(2), e20193518. <https://doi.org/10.1542/peds.2019-3518>
- Domingues-Montanari, S. (2017). Clinical and psychological effects of excessive screen time on children. *Journal of Paediatrics and Child Health*, 53(4), 333–338. <https://doi.org/10.1111/jpc.13462>
- Faizah, F., Rachman, Y. A., & Azizah, F. N. (2022). *Cultural literacy based on local wisdom as an activity to reduce screen time in early childhood*. In *Annual Conference on Islamic Early Childhood Education (ACIECE)* (Vol. 6, pp. 67–74).
- Farizal, & Binti Ekry. (2018). *The relationship between parents' knowledge about gadget use for children aged 2–5 years and the impact of gadget use in the working area of Berseri Pangkalan Kerinci Health Center, Pelalawan Regency in 2018*. *Menara Ilmu*, 12(9), 140–147. https://bit.ly/replace_with_valid_url
- Haura, F. M., Kurniawati, Y., & Pranoto, S. (2022). *The role of screen time and gadgets on language skills in early childhood*. *Proceedings of the National Seminar of Postgraduate Students, Universitas Negeri Semarang*, 396–401. <http://pps.unnes.ac.id/prodi/prosiding-pascasarjana-unnes/396>
- Ismail, M., Sumarni, T., & Sofiani, I. K. (2019). *The influence of gadgets in parenting patterns on early childhood (Case study of parents of 5-year-old children at TKIT Ibu Harapan, Bengkalis District)*. *Al-Ishlah: Jurnal Pendidikan*, 11(1), 96. <https://doi.org/10.35445/alishlah.v11i1.104>
- Madigan, S., Browne, D., Racine, N., Mori, C., & Tough, S. (2019). Association between screen time and children's performance on a developmental screening test. *JAMA Pediatrics*, 173(3), 244–250. <https://doi.org/10.1001/jamapediatrics.2018.5056>
- Nathanson, A. I. (2015). Media and the family: Reflections and future directions. *Journal of Children and Media*, 9(1), 133–139. <https://doi.org/10.1080/17482798.2015.997144>
- Setyarini, D. I., Rengganis, S. G., Ardiani, I. T., & Mas'udah, E. K. (2023). *Analysis of the impact of screen time on tantrum potential and development of early childhood*. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, 7(2), 2496–2504. <https://doi.org/10.31004/obsesi.v7i2.3376>
- Simanjuntak, S. (2023). *Literature review: The effect of screen time on children's behavioral problems*. *Jurnal Keperawatan*, 11(1), 64–80. <https://doi.org/10.35790/j-kp.v11i1.48465>

- Twenge, J. M., & Campbell, W. K. (2018). Associations between screen time and lower psychological well-being among children and adolescents: Evidence from a population-based study. *Preventive Medicine Reports*, 12, 271–283. <https://doi.org/10.1016/j.pmedr.2018.10.003>
- Wahyuni, & Fajrah, S. (2022). *Parents' knowledge and attitudes about the dangers of gadget use on brain development in toddlers aged 3–5 years in Bambalemo Village, Parigi District, Parigi Moutong Regency*. *Jurnal Ilmiah Kesmas IJ (Indonesia Jaya)*, 22(2), 7–13.
- Widyaningrum, R. (2023). *The impact of excessive screen time on children's language development at Toddlers Posyandu Tunas Mekar Monggang*. *Jurnal Abdimas Madani*, 5(1), 48–54. <http://abdiasmadani.ac.id/index.php/abdimas/article/view/133>