

Intensity of The Use of Gadgets to Attention Deficit Disorder in Children

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Abstract

The demands of the times and the many benefits of gadgets make many parents start introducing gadgets from an early age. The use of gadgets can have an impact on children, be it a negative impact or a positive impact. The negative impact felt by children in terms of motor, accepting learning and difficulties in socializing with other people. Attention disorder is one of the main psychiatric problems that is often found in children under 7 years of age. In some people, they still cannot recognize this disorder even though this disorder can be found in everyday life, both in preschool children, adolescents, and even adults. The purpose of this study was to determine the effect of the intensity of the use of gadgets on disruption of concentration of attention in elementary school children. This type of research is a quantitative study with a correlational analytic design and a cross sectional approach. Respondents taken in this study were students in elementary schools in the Sleman Regency in the age range 7-10 years and their mothers using the quota sampling technique. Data analysis using chi square. Based on the results of the calculation of the chi square test, it is known that the p value is 0.000 so that it can be concluded that the p value is 0.000 <0.05. From the results of the bivariate analysis, it can be concluded that there is an effect of the intensity of the gadget on attention disruption in school-age children. It is hoped that parents and teachers can monitor the intensity of the use of gadgets in children.

Keywords: intensity of gadgets use, attention disorder, elementary school children

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Introduction

The development of the times is undeniable that the development of information and communication technology is taking place more rapidly and its use has reached various walks of life. In the past, gadgets / cellphones were only used among adults to communicate and work matters only. But now, not only among adults, but teenagers and schoolchildren have also used gadgets / cellphones (Syahra, 2016).

The demands of the times and the many benefits of gadgets have made many parents who have begun to introduce gadgets from an early age. Nowadays we can see firsthand that many children under the age of 6 years are already good at using gadgets. This is in accordance with the results found by the Kapersky Lab that children prefer to spend their time watching movies, listening to music and browsing social media during their school holidays (Fachrizal, 2018).

The use of gadgets can have an impact on children, be it a negative impact or a positive impact. This is supported by the results of Simamora's research (2016) that the use of gadgets in children according

to parents is more negative. As for the negative impact felt by the child in terms of motor, accepting learning and difficulties in terms of socialization with others (Simamora, A. S. M. T., Suntoro, I., & Nurmalisa, 2016).

Each individual will go through stages of growth and development in his life, that is, from the time of the embryo until the end of his life the individual will experience changes both in size and development. The speed of growth and development of each individual from one another varies, depending on the factors that influence it during the growth and development process (Supartini, 2014).

Special attention to the child as an individual who is still in developmental age is certainly no less important, since childhood is a process to maturity. Some cases that are often found in society such as events that can cause trauma to children include anxiety, anger, and others. If this is allowed to continue, it can have an impact on the child's psychology and will certainly interfere with the child's development. In addition to physiological needs, the child is also an individual who needs psychological, social and spiritual needs. Meanwhile, the

child is said to be prosperous if the child does not feel a psychological disorder (Hidayat, 2019).

Attention deficit disorder is one of the main psychiatric problems often found in children under the age of 7 years. In some communities, both in the family environment, schools, and clinics are still unable to recognize this disorder even though this disorder can be found in everyday life, both in preschool age children, adolescents, and even adults. If this disorder does not get an early intervention then it can lead to worse psychosocial problems (Novriana et al., 2014) (Amiri et al., 2013).

Method

This type of research is quantitative research with a research design using correlational analytics and a cross-sectional approach. The respondents taken in this study were students in elementary schools located in the Sleman Regency area in the age range of 7-10 years and their mothers with quota sampling techniques. Data collection was carried out online, namely through the Whatsapp application and through google forms considering that the

research was carried out during the Covid-19 pandemic. Before conducting the research, the researcher also conducted ethical clearance at the Health Research Ethics Committee of 'Aisyiyah University Yogyakarta, which was recorded in number 1621 / KEP-UNISA / IV / 2020. Data analysis using chi square.

Result and Discussion

From the results of the study, the following data were obtained:

Table 1. Characteristic of Responden

Characteristic	Frequency	Percentage
Age of children		
7 years old	27	33,8%
8 years old	39	48,8%
9 years old	14	17,4%
Total	80	100%
Sex of children		
Boy	23	28,8%
Girl	57	71,2%
Total	80	100%
Age of mother		
25 – 30 years	32	40%
old		
31 – 35 years	40	50%
old		
36 – 40 years	7	8,8%
old		
>40 years old	1	1,2%
Total	80	100%
Education of		
mother		
Diplome	18	22,5%
Bachelor	10	12,5%

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	Characteristic	Frequency	Percentage
	Primary School	2	2,5%
	High School	49	61,2%
	Junior High	1	1 20/
	School	1	1,3%
	Total	80	100%
	Work of		
	mother		
	Working	77	96,2%
	Not working	3	3,8%
	Total	80	100%
	The biological		
	mothers		
	Biological	80	100%
	mothers	٥٥	100%
	Jumlah	80	100%

(Primary Data, 2020)

Based on table 1, it is known that the age frequency distribution of students who are the most respondents is with the age of 8 years as many as 39 people (48.8 %), the sex of students is the most girl as many as 57 people (71.2%), the age of mothers is the most in the range of 31-35 years as many as 40 people (50%), the most maternal education is high school there are

49 people (61.2%), working mothers as many as 77 people (96.2%), and all were the biological mothers of all 80 students (100%).

In addition to the characteristics of respondents, in this study, data on parenting from parents to children were also obtained. The following is data on parental parenting:

Table 2. Parental parenting

Frequency	Percentage
57	71%
23	29%
80	100%
	57 23

(Primary Data, 2020)

Based on table 2 of 80 respondents, it was found that as many as 57 people (71%) applied democratic parenting in parenting their children, while the remaining 23 people (29%) adopted non-democratic parenting, which in this case was authoritarian and permissive.

Table 3. Crosstab of intensity of the use gadget to attention deficit disorde

Intensity of the use of gadgets	Attention Deficit Disorder		Percentage
	attention deficit disorder suspected	Not attention deficit disorder	_
Ideal	16	19 (23,75%)	35
	(20%)		(43,75%)
Not ideal	40	5	45
	(50%)	(6,25%)	(56,25%)
Total	56	24	80
	(70%)	(30%)	(100%)

(Primary Data, 2020)

Table 4. Result of chi square analysis
Asymp. Sig. Contingency Coefficient
(2-sided)
0,000
0,423
(Primary Data, 2020)

From the data above, data was obtained that as many as 35 children (43.75%) use gadgets ideally, namely ≤ 1 hour / day, while 45 children (56.25%) use gadgets not ideally, namely the duration of > 1 hour / day. In the data on attention centering disorder, it was found that as many as 56 children (70%) were likely to have attention deficit disorder and 24 children (30%) had no possibility of attention deficit disorder.

Based on the calculation results of the chi square test, it is known that the p value is 0.000 so that it can be concluded that the p value is 0.000 < 0.05 . From these results it can be stated that there is an influence of gadget intensity on attention deficit disorders in school-age children.

Discussion

1. Characteristic of responden

The majority of children's ages in this study were 8 years old 39 years old (48.8%). Schoolchildren are children who are between the ages of 7-12 years.

Schoolchildren are usually at that age entering in elementary school. At the age of 7-12 years is a golden age with a golden growth period of children that occurs once in human life. Children respond and quickly learn new things by exploring the surrounding environment (Suana, 2014). The results of a similar study conducted by Trinika (2015) regarding the negative impact of gadget use obtained significant results between the use of gadgets on psychosocial development the of schoolchildren with a p value of 0.005 and OR 0.303 and with high exposure to gadgets of 42.1% in school-age children. Children of school age are more likely to use the internet/gadgets to watch videos. Gadgets provide stimuli through visual and auditory senses that can cause the child's mental instability and inattention to other things (Nurmasari, 2016).

This is in accordance with the results of Jamieson (2013) research which states that there have been significant changes in children over the past four decades, including children's entertainment media (e.g. cartoons, TV shows, and computer games) that can more quickly affect violence. Therefore, at

the age of 7-12 years is very prone to emotional mental deviations, one of which is the disturbance of concentration of attention in school-age children (Bushman et al., 2013).

Based on the results of research on gender, it was found that the majority of children with a girl gender got higher results than the boy sex, namely 57 children (71.2%). Research explains that sex differences in media preferences and behaviors related to attention deficit disorder in children. The results of this study are inconsistent with previous studies showing that, compared to girls, boys more often show attention deficit disorder-related behaviors (Anderson et al. 2010). A similar prevalence was also obtained in a study in 2005-2006 at Sanglah Hospital, there were 43 boys with attention deficit disorder (38.7%) and the number of girls with attention deficit disorder 8 children (7.2%) (Indriyani et al., 2016). Based on other literature, the ratio of men and women suffering from attention deficit disorder is dominated by men where the diclinic is 9:1, while in the community it is around 4:1 (Hebrani & Behdani, 2007).

The next characteristic is the age of the mother, in this study the majority of mothers aged 31-35 years as much as 40 (50%). Where it is concluded that the mother's age of 31-35 years has a great of influence on the disturbance concentration of attention in children. The age of the mother in this category, the attention and vigilance of the use of gadgets towards children is not paid attention to, especially mothers who carry out tasks or work outside the home.

Another characteristic that can influence the occurrence of attention deficit disorder in schoolchildren is the mother's education. The results of this study, the majority of maternal education was high school as many as 49 (61.2%). Maternal education in respondents to this study greatly influenced the length of time for gadget use in children. This is expected to be allowed by mothers to get sufficient information about the effective length of time to use gadgets. This is in accordance with Ariani's research (2012) the level of parental education is very influential on child development. The level of education of high school parents is a

risk for developmental delays in children. This is due to the knowledge and ability to provide less stimulation than mothers with a high level of education. The level of education of parents, especially mothers, greatly affects the parenting style of their children, healthy living behaviors, their education and another (Ariani & Yosoprawoto, 2012).

The majority of maternal occupations in this study were working mothers with a total of 77 (96.2%). This agrees with the research of Murtaza (2017) which found that the length of time worked affects parents' attention to children about excessive use of gadgets will increase behavioral disorders in children (Murtaza, 2017).

Another characteristic that can influence the occurrence of attention deficit disorder in children is the biological mother. With attention and motivation and supervision from biological mothers, the use of gadgets can be reduced in duration ≥ 2 hours. This study generally aims to determine the effect of the intensity of gadget use on attention deficit disorders in children. The results of

the study were supported by previous research which explained the results of the chi-square statistical analysis test, which found that there was an influence between the intensity of gadget use and attention deficit disorders in schoolchildren. According to (Beyens et al., 2018) the study concluded that there is a relationship between the use of screen media in children and attention deficit disorder behavior (Beyens et al., 2018).

2. Parental parenting

Parental parenting or parenting, namely how parents treat children, educate, guide and discipline and protect children in achieving the maturation process to efforts to form good development in children.

The results of this study also explained that parental caregiver patterns can affect the occurrence of suspected attention deficit disorder. Based on the results of the study, it was found that there were as many as 57 people (71%) applying democratic parenting in parenting their children, while the remaining 23 people (29%) applied non-

democratic parenting, which in this case was authoritarian and permissive.

The results of previous studies that are appropriate so that they can be supportive are the studies carried out showing that authoritarian and permissive parenting patterns have a meaningful relationship with rebellious behavior in children with attention deficit disorder, both towards parents and teachers at school. This happens because authoritarian parenting makes the child have to definitely follow the parents' orders while the parents do not accept the child's reason for not following the orders. Permissive parenting, parents always fulfill the child's orders without knowing the impact that will occur. Caring for and protecting children is the main obligation as a parent. Permissive parenting usually has a dispute with the child before fulfilling the child's will. This can make the child a rebellious child (Kaunang et al., 2016).

According to Dariyo (2017) permissive parenting is a parenting style that shapes a child's personality by providing very loose supervision. In addition, permissive parenting also gives

their children the opportunity to do things without sufficient supervision from parents. As for the tendency of parents not to reprimand and warn children when the child is in danger, very little guidance is given. These are some of the factors that can influence the occurrence of emotional deviations, including in the case of suspected attention deficit disorder (Dariyo, 2017).

The family is the first environment that influences various aspects of an individual's development, including his social development. The conditions and procedures of family life are a conducive environment for socialization. The educational process aimed at developing the personality of the toddler is more determined by the family, social patterns, the ethics of interacting with others are largely determined by the family.

Parental care or better known as parenting, namely how parents treat children, educate, guide and discipline and protect children in achieving the maturity process, to efforts to form norms expected by society in general (Casmini, 2017).

Yusuf (2010) concluded into three parenting patterns, namely authoritarian, permissive and authoritative/democratic parenting. Authoritarian parenting has characteristics of 1) low "acceptance" attitude, but high control, 2) likes to punish physically, 3) be commando (requires/instructs the child to something without compromise), 4) be rigid (hard), 5) tend to be emotional and be resistant. Then, permissive parenting has the characteristics of 1) a high "acceptance" attitude, but low control, and 2) gives the child the freedom to his motivation/desire. express Meanwhile, authoritative parenting has characteristics 1) the attitude of "acceptance" and control is high, 2) being responsive to the needs of the child, 3) encouraging the child to express opinions or questions, and 4) providing an explanation of the impact of good and bad deeds (Yusuf, 2010).

3. Intensity Of The Use Of Gadgets To Attention Deficit Disorder In Children

This study shows that the use of gadgets is high, namely ≥ 1 hour / day and there is a disturbance of concentration of

attention in school children. The results of this statistical analysis used are chi-square tests with a p-value of 0.000, there is a significant influence between the intensity of gadget use on attention deficit disorders in schoolchildren. The intensity of gadget use ≥ 1 hour / day is likely have disturbances to in concentration of attention in children.

Based on the results of the study, it is explained that exposure to television and video games has a great influence on attention disorders. The average number of exposures to television and video games that cause attention disorders in children (Swing et al., 2010).

The results of this study are in accordance with the research of Sari and Mitsalia (2016), where the average child uses gadgets to play games instead of being used for other things. Few use to watch cartoons when using gadgets. The applications that children access are mostly watching animated videos / movies and playing games and only a few are used for learning media. Even though gadgets can have a positive impact on children such as being an interesting learning medium, learning English easier,

improving logic through educational interactive games (WIJANARKO, I. J., & Setiawati, 2016).

Children's with interaction electronic technology reduces movement activity because the concept of technology is to facilitate human life so as to limit physical activity (Firdastin Ruthnia Yudiningrum, 2011). Negative impacts can arise, including that children's growth and development are not optimal because children sit too long engrossed in gadgets. The growth of the child becomes difficult to speak clearly due to watching too many cartoons or online games for which there is no verbal communication, the child becomes aggressive, the child becomes less concentrated in learning and the child experiences addiction to always use gadgets (Mardiya, 2017).

The results of this study are supported by research conducted by Beyens, Valkenburg, Piotrowski, (2018) obtaining the result that there is a relationship between the use of screen media in children and the behavior of attention deficit disorder (attention problems, hyperactivity, and impulsiveness). The violent nature of the

media screen affects children. Induced media can in fact increase the likelihood of behaviors related to attention deficit disorder. Children who are unable to control their desires when using media screens (Beyens et al., 2018).

In addition, there are several factors that indicate a positive relationship between media use and behaviors related to attention deficit disorder (i.e. attention problems, hyperctive and impulsiveness). The use of screen media can inhibit disorders due to language visual processes and the use of language such as adults that are not in harmony with the child's cognitive abilities. Media-induced language development is assumed to interfere with the consolidation of selfregulation so as to lead to behavior related attention deficit disorder (Nikkelen et al., 2014)

Another study explained that after exposure to the effects of the media can affect 3 responses that occur, namely cognitive (paying attention and processing certain media content), emotional (affective reactions, such as fear and sadness during or after watching or playing), and stimuli (physiological arousal

temporarily or only after watching or playing) [24]. It can lead to the performance of aggressive behavior characterized by impulsivity and poor inhibitory control, in the end it can lead to the behavior attention deficit disorder (Beyens et al., 2018).

Research by Sukmawati (2019) regarding the influence of gadgets on attention deficit disorders, subjects have a high intensity in playing gadgets so that they have a negative impact such as decreased concentration, laziness in doing physical activities, decreases in socialization, addiction, radiation disorders cause obstacles in brain development, cognitive development becomes hampered, inhibits language ability, children imitate the behavior of existing gadgets (Sukmawati, 2019).

The results of Khayati research (2018) also concluded that there is a relationship between gadget use and the risk of attention deficit disorder and hyperactivity in pre-school age children in ABA III Gunungan Kindergarten, Bareng Lor. There are 81.1% of children using gadgets < 2 hours per day and 82.2% of children are normal and do not have the

risk of attention deficit disorder. The significance value is p=0.000 so p < α (α = 0.05) (Setianingsih, 2018).

Gadgets, whose applications use the internet, at first glance, have many uses and advantages, but it is undeniable that gadgets also have a negative impact (Oneto E, 2019). Children are considered to have played excessively with gadgets if in a day playing with gadgets for more than two hours. If the gadget is taken away, the child will be very angry, cry excessively or shout (tantrum) [20]. Emotional behavior (in relation to oneself) that begins to diverge, if it is not immediately overcome, then the next level is a disturbance in social behavior. The most noticeable impact of gadgets on the child is a decrease in sociability. Children who are too engrossed in playing with gadgets become indifferent to the surrounding environment, so they do not understand the ethics of socializing (Febrino MA, 2017).

Conclusion

From the results of this study, it was obtained:

- 1. Most of the age of students who were the most respondents were with the age of 8 years as many as 39 people (48.8 %), the sex of students was the most girl as many as 57 people (71.2%), the age of the most mothers in the range of 31 35 years as many as 40 people (50%), the most maternal education of high school was 49 people (61.2%), there were 77 working mothers (96.2%), and all were biological mothers of all 80 students (100%).
- 2. Total of 57 parents (71%) adopted democratic parenting in parenting their children, while the remaining 23 parents (29%) adopted non-democratic parenting, which in this case was authoritarian and permissive.
- 3. As many as 35 children (43.75%) use gadgets ideally, namely ≤ 1 hour / day, while 45 children (56.25%) use gadgets not ideally, namely the duration of > 1 hour / day. In attention deficit disorder, it was found that as many as 56 children (70%) were likely to have attention deficit disorder and 24 children (30%) had no possibility of attention deficit disorder.

4. Based on the results of the chi square test, it is known that the p value is 0.000 so that it can be concluded that the p value is 0.000 < 0.05. From the results of the bivariate analysis, it can be concluded that there is an influence of gadget intensity on attention deficit disorders in children.

For parents and teachers, it is expected to be able to monitor and limit the intensity of gadget use in children, although on the other hand sometimes gadgets can help children in the learning process, so that the use of gadgets in children can be done ideally and effectively.

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