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# PREFACE

Praise be to the presence of Allah SWT, to the abundance of His grace and grace so that the STRADA Jurnal Ilmiah Kesehatan (SJK) Institut Ilmu Kesehatan STRADA Indonesia can be organized and resolved in accordance with the schedule in order to become a forum for the activities of the Tri Dharma College Indonesia.

The STRADA Jurnal Ilmiah Kesehatan is a journal published by the Editorial Team of Institut Ilmu Kesehatan (IIK) STRADA Indonesia. This journal serves as a forum for research results for the entire academic community both from within and outside the Institut Ilmu Kesehatan STRADA Indonesia, while the scope of this research focuses on health.

Quality and published research is also able to improve and develop knowledge, especially in nursing science in facing the global challenges of the ASEAN Economic Community (MEA).

We realize that this journal is far from perfection, so we hope for constructive advice and criticism.

Kediri, November 2020

Editor in Chief

STRADA Jurnal Ilmiah Kesehatan

Prima Dewi Kusumawati, S.Kep., Ns., M.Kes

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# **Relationship of Gadget Use With Sleep Quality in Pandemy Covid-19 In School Age Children in State Elementary School Goa Jereweh District West Sumbawa**

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## **ABSTRACT**

Around 1.5 billion children have been dismissed from school due to the outbreak of Covid-19, as a result of which many of them are spending more time using electronic devices during the lockdown. According to data from the American Children's Academy, 75% of 9-10 year olds experience sleep deprivation due to unsupervised use of technology. The purpose of this study was to determine the relationship between gadget use and sleep quality in school age children at Jereweh Goa state elementary school, Regency West Sumbawa. This study used a correlation design with a cross sectional approach. The data collection tool used a questionnaire. Data analysis used the Spearman-rho test. The results of this study found that there was no relationship between the use of gadgets and the quality of sleep during the Covid-19 pandemic in school-age children Goa Jereweh at state elementary school in 2020 with a P-Value of  $0.653 > 0.05$  (insignificant). Recommend that parents can increase their activities and activities with children, such as involving children in home activities and exercising together to distract children from gadgets.

**Keywords:** School age children, Sleep Quality, Use of Gadgets

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**BACKGROUND**

The Covid-19 pandemic is an event that the 2019 coronavirus disease has spread throughout the world. This disease is caused by a new type of coronavirus called SARS-CoV-2. The Covid-19 outbreak was first detected in Wuhan City, Hubei Province, China in December 2019, and was declared a pandemic by the World Health Organization (WHO) on March 11, 2020 ([id.wikipedia.org](https://id.wikipedia.org)). Since April 2020, approximately 1.5 billion children have been dismissed from school and as a result many of them are spending more time using electronic devices to complete school assignments as part of learning from home, communicating with peers, or playing video games remembering activities. restricted outdoors due to lockdown. ([www.emro.who.int](http://www.emro.who.int)).

Continuous use of gadgets will have a bad impact on children's behavior patterns in their daily lives, children who tend to use gadgets constantly will be very dependent and become activities that children should and routinely do in their daily activities. playing gadgets more often than learning and interacting with the surrounding environment (Moh. Saifullah, 2017). School-age children are children aged 6-12 years who have been able to react to intellectual stimuli or carry out learning tasks that require intellectual or cognitive abilities (Yusuf, 2011). The characteristics of school age children are generally like to play, like to move, like to work in groups, and like to practice directly (Abdul Alim in Erick Burhaen, 2017). School-aged children need nutritious food intake, exercise, a healthy environment, and adequate rest (Metta, 2013).

The American Academy of Pediatricians and the Canadian Children's Society emphasize that children aged 0-2 should not be exposed to technology at all. Children aged 3-5 years are limited to using technology one hour per day, children aged 6-18 years are limited to 2 hours per day. Children can experience sleep deprivation and lack of focus which leads to unhealthy sleep cycles as children are more sleepy during the day and sleep less at night. If every 15 minutes a child uses a gadget it means they lose 60 minutes of sleep time. According to data from the American Academy of Children, 75% of children aged 9-10 years experience sleep deprivation due to unsupervised technology use. (The Asian Parent Insight, 2018).

The use of gadgets is prohibited in early childhood under 12 years of age due to negative impacts on children such as brain growth that is too fast due to stimulation from gadgets, barriers to child development that have an impact on language skills and achievement at school, risk of obesity, sleep disorders, disease mental, aggressive, digital senility, addiction or dependence, radiation, education from gadgets will not last long in children's memories (Muhimmatul Hasanah, 2017). Another effect caused by the use of electronic media on sleep is the continuous stimulation of the brain, so that people who use it find it difficult to relax and tend to stay awake (National Sleep Foundation, 2014).

The NSF (National Sleep Foundation) released the Annual Sleep in America Poll in 2011 to look at the effects of using electronic media before bedtime. The survey results showed 95% of the total respondents, aged 13-64 years, use electronic media before going to bed and 43% of them complain that they rarely or never get satisfying sleep. Even 7% of respondents aged 13-18 years admit that they sleep less than 6 hours at night (Saifullah, 2017).

Sleep is very important for the biopsychosocial development of children. Children who have difficulty sleeping experience lack of sleep time so that the child becomes hyperactive and acts excessively near bedtime. Signs of a child experiencing lack of sleep include frequent drowsiness, difficulty waking up in the morning, and irritability and irritability during the day (Moh. Saifullah, 2017). The causes of reduced quality of sleep in children, namely the use of electronic media are often associated with reduced sleep

duration, waking up early, sleepiness during the day, nightmares at night, and sleepwalking (Arora et al., 2014).

Based on a preliminary study conducted at SDN Goa Jereweh, the number of students who have personal cell phones is as many as 36 students, while 71 students use their parents' cellphones, using them to communicate with friends and to play games. There are 10 students who have tablets at home, while 28 students have laptops at home. Based on the results of the interview, it was found that children in Goa Village during the Pandemic used gadgets as a medium for learning. But apart from that, children use gadgets for entertainment such as playing games, watching videos without parental control which results in the child's learning quality being not optimal. In addition, it was found that children had a lack of sleep where the children slept after 10 at night and had to wake up at 5 or 6 in the morning.

## METHODS

This study used a correlation design with a cross sectional approach. This research was conducted on September 7 - 9 2020. The variables in this study were the use of gadgets and sleep quality. The population of students in grades 1-6 at Jereweh Goa state elementary school with a total sample of 100 respondents. The sampling method used in this research is Proportional Stratified Random Sampling. The data used in this study are primary data, namely the use of gadgets using a questionnaire from The American Academy of Pediatrics (AAP), while the quality of children's sleep uses the Pittsburgh Sleep Quality Index (PSQI) questionnaire.

Univariate data analysis was carried out on each variable from the research results by looking for the distribution and percentage of research results so that they could describe the respondents in this study. Meanwhile, bivariate data analysis was conducted to determine the relationship or correlation between two variables, namely the use of gadgets and sleep quality. The bivariate data analysis used was Spearman-rho.

## RESULTS

Characteristics of respondents based on age.

Table 1. Distribution of respondents by age.

No.	Age (Year)	N	%
1.	6	1	1
2.	7	18	18
3.	8	16	16
4.	9	15	15
5.	10	26	26
6.	11	17	17
7.	12	7	7
Total		100	100

Source: Primary Data 2020

Table 1 above shows that the largest number of respondents were in the 10 year age group, namely 26 respondents (26%).



Characteristics of respondents based on gender

Table 2. Distribution of respondents based on gender.

No.	Gender	N	%
1	Man	47	47
2	Woman	53	53
Total		100	100

Source: Primary Data 2020

Table 2 above shows that most of them are female, namely 53 respondents (53%).

Characteristics of respondents based on the type and need for using the gadget they have

Table 3. Frequency distribution of types of gadgets owned by Goa Jereweh primary school students

No.	Gadget	N	%
1.	Kind of Gadget Handphone	99	99%
2	Tablet	1	1%
Total		100	100%
The need for using gadgets			
1	Searching for information	64	64
2	Playing social media	9	9
3	Watching video	17	17
4	Playing games	11	11
Total		100	100

Source: Primary Data 2020

Table 3 above shows that the most types of gadgets owned are Mobile as many as 99 respondents (99%) with 64 respondents (64%) using gadgets to find information.

Table 4. Overview of the use of gadgets

No.	Use of Gadget	N	%
1.	Low	25	25%
2.	Modrate	66	66%
3	High	9	9%
Total		100	100%

Source: Primary Data 2020

Table 4 above shows that the most gadget usage is in the medium category as many as 66 respondents (66%).

No.	Sleep Quality	N	%
1.	Good	96	96
2.	Bad	4	4
Total		100	100

Table 5. Overview of sleep quality

Source: Primary Data 2020

Table 5 above shows that most of the sleep quality was in the good category as many as 96 respondents (96%).

Table 6. The relationship between gadget use and sleep quality during the Covid pandemic 19

		Use of Gadget	sleep quality
Spearman's rho	Use of Gadget	Correlation	1,000
		Coefficient	-,046
		Sig. (2-tailed)	,653
		N	100
	Sleep quality	Correlation	-,046
		Coefficient	1,000
		Sig. (2-tailed)	,653
		N	100

Table 6 above shows that the Spearman's rho r value is -0.046 with Sig. (2-tailed) 0.653 greater than  $\alpha = 0.05$ , which means that there is no relationship between the use of gadgets and the quality of children's sleep during the Covid-19 pandemic in school-age children at Jereweh Goa State Elementary School.

**DISCUSSION**

**1. Use of Gadgets**

The results showed the use of gadgets during the Covid-19 pandemic as many as 25 respondents (25%) were included in the low category of gadget users, 66 respondents (66%) were included in the medium category of gadget users, and 9 respondents (9%) were included in the category gadget users. high. The results of research on the use of gadgets in GOA Jereweh State Elementary School, West Sumbawa in 2020, it was found that the most types of gadgets they owned and the most widely used were the types of mobile phones, which were 99 students (99%).

Mobile is an innovation of the latest technology with better capabilities and the latest features that have a more practical and also more useful purpose and function. According to Kumiko Aoki and Edward J. Downes (2003), there are 9 reasons that encourage someone to use a cellphone, namely security where cellphones are seen as providing psychological security if someone is on a trip or away from family, cellphones are used because they are cheap and practical, the need for access to information encourages people, especially young people to use cellphones, supports social interaction, communicates with families, reasons for time management and coordination, maintains privacy, supports self-existence, and is addicted to mobile phones (Hendra Wardhana, 2013).

On average students use gadgets for information seeking purposes with a frequency of 64 students (64%), then watch videos as many as 17 children (17%), play games as many as 11 children (11%), and the least for the needs of playing social media

is 9 children (9%). Based on observations made at GOA Jereweh State Elementary School, West Sumbawa, it was found that some children used gadgets for learning and looking for subject matter. This can be caused by the ongoing pandemic situation which requires children to do learning from home in the context of distance learning (PJJ).

If gadgets are used for educational purposes, it will have a positive impact on children, namely, they can increase knowledge, expand friendship networks, facilitate communication, and train children's creativity. The Asian Parent Insight with Samsung Kidstime through Mobile Device Usage Among Young Kids conducted a survey of 500 parents in Indonesia which resulted in several findings, namely, 80% of parents allowing their children to use smartphones for educational purposes. In fact, 72% of children use smartphones / tablets for playing games, 57% for educational applications, and 14% for book applications.

This is in line with research conducted by Muhammad Zaini and Soenarto (2019) regarding Parents' Perceptions of the Presence of the Digital Technology Era in Early Childhood, where it was found that 50% of children play smartphones and tablets for the benefit of education and games, 28% of children play smartphones and tablets for educational purposes, 22% of children play smartphones and tablets to play games. The percentage of smartphone and tablet usage for educational purposes is somewhat higher than games.

## 2. Sleep Quality

The results of the study using the PSQI (Pittsburgh Sleep Quality Index) questionnaire found that 96 students (96%) had good sleep quality and 4 students (4%) had poor sleep quality. School-age children sleep between 8-12 hours a night without naps. 8 year olds need at least 10 hours of sleep per night. In children aged 11 to 12 years they often sleep at 10 at night. REM sleep in children this age is reduced by about 20%. Although some children still experience waking up at night and nightmares, this problem will get better by itself with age (Moh. Saifullah, 2017).

This is in line with research conducted by Adi et al (2018), where it is said that children aged 9-12 years need sufficient sleep to improve their health and body condition to stay healthy. This research is proven by the results of research which states that as many as 57.4% of children in State Elementary School 1 Petungsewu, Dau District, Malang Regency, experience good sleep quality and 44% of children with good emotional intelligence. This is due to environmental support and good motivation.

From the demographic data based on gender, it can be seen that the highest value of sleep quality variables is in female respondents as many as 53 people (53%). This is due to the habits of men and women living in the night. Overall tolerance for late night activity in men will cause sleep management to be different from sleep management for women. One of the observations states that boys can tolerate late night playtime, whereas girls are more regular in managing sleep time (Fuad, et al, 2005).

## CONCLUSION

Based on the results of bivariate data analysis research, it was found that the p-value was  $0.653 > 0.05$ , so it was said to be insignificant. Therefore, it can be concluded that there is no relationship between gadget use and sleep quality during the Covid-19 pandemic in school-age children at Jereweh Gowa State Elementary School regency West Sumbawa in 2020. The use of gadgets by students at Jereweh Gowa State Elementary School during the Covid-19 Pandemic is in the moderate category as much as 66%. Likewise with the quality

of sleep in school-age children in Jereweh Gowa State Elementary School students during the Covid-19 Pandemic, which is as many as 96% of students get good quality sleep.

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