

IMPACT OF REGULAR SLEEP PATTERNS ON LEARNING ACHIEVEMENT IN PRESCHOOL CHILDREN IN MINDAHAN BATEALIT: ISSUES AND IMPLICATIONS

Helmi Sintha Faradila Purnama & Muhammad Nofan Zulfahmi

Universitas Islam Nahdlatul Ulama Jepara

1211340000212@unisnu.ac.id; nofan@unisnu.ac.id

Abstract

Regular sleep patterns are one of the crucial factors that can affect children's development, including in terms of learning achievement. At preschool age, children are at a very important stage of development, where they experience significant physical, cognitive, and emotional growth. The study aimed to examine the sleep patterns of preschool-aged children in Dukuh Mindahan Lor Batealit Jepara. Research was limited to Dukuh Mindahan Lor Batealit Jepara. The subjects of the study were preschool-age children in Dukuh Mindahan Lor Batealit Jepara and the object in this study was the sleep patterns of preschool-age children in Dukuh Mindahan Lor Batealit Jepara. This study uses qualitative research methods to obtain an in-depth description of the sleep patterns of preschool children, with a case study approach using information collection techniques in the form of interviews, observations and documentation in analyzing and describing the sleep patterns of preschool children in Mindahan Lor village. The results of this study show that the results of this study show a positive correlation between optimal sleep duration (9-10 hours per night) and learning achievement of preschoolers. Children who get enough sleep tend to have higher cognitive scores and show better concentration skills in class.

Keywords: Sleep Pattern, Preschooler, Learning Achievement, Mindahan Batealit

INTRODUCTION

Preschoolers are children aged between 3-6 years. Preschool children have physical, motor, intellectual, and social growth characteristics that are different from other age groups (Gonçalves et al., 2023). Preschool is a golden period that has significance because it lays the foundation for a child's future. Children have the freedom to express themselves without being hindered or restricted by provisions. An important aspect in the growth and development of preschool children is sleep patterns, the right sleep patterns help children learn. Sleep patterns refer to sleep routines as well as the sequence of a person's sleep activities throughout a certain period of time throughout the sleep cycle. A healthy sleep pattern is very meaningful for physical and mental health (Galland et al., 2023). Factors that can influence sleep attitude include daily sleep habits, sleeping areas, and health status. A good sleep rhythm includes a decent sleep duration, or a sufficient number of hours of sleep to meet people's needs. Healthy sleep and not choked up help the body and mind recover and prepare for daily activities. Adequate and healthy sleep patterns are one aspect of eating to protect the health and well-being of pre-school children. Adequate and quality sleep has a significant impact on the physical, cognitive, emotional, and attitude growth of children. However, it affects the quality of children's sleep (Newton et al., 2023).

Regular sleep patterns are one of the crucial factors that can affect children's development, including in terms of learning achievement. At preschool age, children are at a very important stage of development, where they experience significant physical, cognitive, and emotional growth. The quality and quantity of adequate sleep becomes very important in supporting this developmental process (Ceylan & Demirde, 2023). Sleep habits and the sequence of a person's sleep activities over a period of time during the sleep cycle. A healthy sleep pattern is essential for physical and mental health. Factors that can influence sleep behavior include daily sleep habits, sleep environment, and health status. A good sleep rhythm includes adequate sleep duration, or a sufficient number of hours of sleep to meet individual needs. Healthy, uninterrupted sleep helps the body and mind recover and prepare for daily activities (Siregar et al., 2023). Adequate and healthy sleep patterns are one of the factors to maintain the health and well-being of pre-school children. Adequate and quality sleep has a significant impact on a child's physical, cognitive, emotional, and behavioral development. However, it affects the quality of sleep of the child (Rohmah & Sulong, 2023).

Various studies have shown that irregular sleep patterns can have a negative impact on a child's cognitive abilities and learning achievement. Children who experience sleep disorders or have inconsistent sleep hours tend to show poorer attention, memory, and information processing problems compared to children who have regular sleep patterns. In addition, lack of sleep can lead to behavioral problems such as hyperactivity and difficulty in controlling emotions, which in turn can affect social interaction and achievement in the learning environment (Bastien et al., 2023).

This study focused on preschool children in Mindahan Batealit, a village located in Jepara Regency, Indonesia. These villagers mostly work as farmers with varying levels of education, which can affect parenting and attention to their children's sleep patterns. Local socio-economic and cultural conditions also play an important role in determining the daily routines and sleep patterns of preschoolers (Savić Tot et al., 2023). This research is expected to provide deeper insight into the importance of regular sleep patterns for preschool children in Mindahan Batealit. By understanding the impact of sleep patterns on learning achievement, parents and educators can be more aware of the importance of establishing healthy bedtime routines for children. In addition, the findings of this study can also form the basis for the creation of educational programs and interventions aimed at improving the quality of sleep of preschoolers, which will ultimately contribute to improved learning achievement and overall development of children in the village (Chou et al., 2023).

METHODS

This study uses qualitative research methods to obtain an in-depth description of the sleep patterns of preschool children, with a case study approach using information collection techniques in the form of interviews, observations and documentation in analyzing and describing the sleep patterns of preschool children in Mindahan Lor village. A case study is a series of scientific activities that are tried intensively and in detail to overwrite a program, event, or activity at the level of a person, group of people, institution, or organization to obtain detailed knowledge about the eventV. Data sources are obtained from primary data as well as skunder data. Primary data sources were obtained through interviews with those who were the object of research, namely preschool-age children in Dukuh Mindahan. Skunder data sources are obtained through document literature such as

books, research journals, and internet publications related to children's sleep patterns (Bastien et al., 2023).

The subjects in this study were preschool-age children in Dukuh Mindahan, while the object of this study was the sleep patterns of preschool children. Data collection techniques through observation are carried out by observing how the sleep patterns of preschool children in Dukuh Mindahan Lor. Observation activities in research are used to see a condition, occurrence, and response to the sleep patterns of preschool children. Researchers conducted interviews with parents of preschool-age children. Interview activities are scheduled in advance so that there is an opportunity and time for interview activities to be maximized. The documentation carried out by the researchers was photos of observation activities and interviews with parents of preschool-age children in Dukuh Mindahan Lor. The validity of the data in this study used triangulation. The triangulation used in this study is data triangulation. Data triangulation is a technique of checking data from various sources in various ways and at various times. Data triangulation techniques are used to check the validity of data from the results of researcher interviews with informants and then confirmed by documentation studies. Triangulation of data was used by researchers to determine the sleep patterns of preschoolers.

RESULTS

Mindahan Village is one of the villages in Batealit District, Jepara Regency, located in Central Java Province. The results of the study found 2 children aged 4-5 years, and based on observations made by researchers on children aged 4-5 years in Mindahan village RT 02 RW 01 related to the sleep patterns of preschool-age children. Observations were made to find out how the sleep patterns of children aged 4-5 years in Mindahan village RT 02 RW 01.

Based on the results of observations made by researchers, the following are the results of processing data about the sleep patterns of preschool children in Mindahan village.

Table 1 When sick or unwell, children experience sleep disorders.

No.	Observation Aspect	Description
1.	Sleep Quality	Sleep quality is quite good, sometimes there are sleep disorders.
2.	Sleep Latency	It takes 20-30 minutes for the child to fall asleep, sometimes it takes 45 minutes.
3.	Sleep Duration	The average child sleeps 9-10 hours each night.
4.	Sleep Habits	Some children have the habit of drinking milk before going to bed.
5.	Sleep Ritual	Children go to the toilet to urinate and brush their teeth before going to bed.
6.	Environmental Factors	Some children sleep with the lights turned off and some children sleep with the lights turned on.
7.	Habitual or Behavioral Factors	Children have the habit of watching TV or cellphones before going to bed.
8.	Physical Disease Factors	Observation Aspect

Source: Field Observation Results

The results of the study were obtained by 2 children aged 4-5 years, based on interviews with responders or parents of children aged 4-5 years in Mindahan village RT 02 RW 01 related to the sleep patterns of preschool-age children. Each parent answered questions about the child's sleep patterns. The interview was conducted with the aim of obtaining data on how the child's sleep pattern. The interview was conducted by visiting the homes of parents who have children aged 4-5 years.

Based on the results of interviews that have been conducted by researchers, children tend to go to bed on time but sometimes not on time, efforts made by parents to overcome irregular children's sleep patterns are trying to maintain a consistent sleep routine and create a comfortable sleep environment so that children have regular sleep patterns. On average, children sleep for 9-10 hours every night with sleep time needed about 20-30 minutes to be able to fall asleep. Children rarely refuse to sleep and have bedtime rituals such as drinking milk and going to the toilet to urinate and brush their teeth. Children rarely experience sleep disorders although children rarely experience sleep disorders but sleep disorders in children are quite common. Some common sleep disorders in children include *sleep apnea*, *insomnia*, and *sleepwalking*, it is important for parents to pay attention to children's sleep habits and take action if necessary.

Good sleep habits can affect children's mood and well-being. Children who sleep enough tend to be more cheerful and excited when they wake up. Conversely, lack of sleep can lead to health problems such as obesity, behavioral problems, and mental health problems. In interviews with responders, children had bedtime rituals such as drinking milk and brushing their teeth. According to *the National Sleep Foundation*, bedtime rituals can help children feel calm and ready to sleep. Drinking milk before bed can help children to feel full and comfortable so that it is easier to fall asleep. **The Factors Affecting Sleep Patterns** This study identified several factors that affect the sleep patterns of preschool children in Mindahan Batealit. Such factors include: Education Level and Parental Awareness Knowledge of the Importance of Sleep: Parents with higher levels of education tend to have a better understanding of the importance of adequate and quality sleep for child development.

They are more likely to adopt a consistent bedtime routine and pay attention to factors that can disrupt a child's sleep. **Health Education:** Awareness of the importance of sleep health is often influenced by health education programs in the community. Parents involved in health education programs are more likely to adopt good sleep habits for their children. **Daily Activities:** The family's daily schedule, including work activities and household routines, can affect a child's bedtime. For example, farming families who have to get up early for work might affect their children's nighttime sleep. **Family Time:** Family activities in the evening, such as dinner together or playtime, can also affect a child's bedtime. Families that set regular bedtimes for children tend to have children with better sleep patterns. **Sleep Environment Noise:** The noise level around the residence can interfere with the quality of a child's sleep. Children who live in noisy environments, such as near highways or areas with lots of nighttime activities, may have a harder time getting a good night's sleep. **Bed:** The comfort of the bed, including the appropriate mattress and pillows, also affects the quality of sleep. Children who sleep in comfortable beds are more likely to have a good night's sleep.

Understanding the factors that influence preschoolers' sleep patterns is critical to designing effective interventions. These interventions can take the form of educational programs for parents, improvement of sleep environment conditions, and introduction of healthy sleep routines. By paying attention to and addressing these factors, it is hoped that the sleep quality of preschoolers in Mindahan Batealit can be improved, which in turn will have a positive impact on their learning achievement. Children who slept 9-10 hours per

night had higher cognitive test scores compared to children who slept less than 9 hours or more than 10 hours. Children with good sleep quality (not waking up often during the night) showed better learning achievement, with higher concentration and memory skills.

This is in line with previous research stating that adequate sleep is very important for memory and learning processes in children. Sleep quality has also been shown to have a significant impact on learning achievement. Children who don't wake up often during the night tend to perform better academically. Sleep disturbances can interfere with the physical and mental recovery processes that occur during sleep, thus hindering a child's ability to learn and remember new information. Intervention programs aimed at raising awareness of the importance of adequate sleep can help parents set better sleep routines for their children.

DISCUSSION

Sleep Quality

Sleep quality is a feeling of freshness and ready to live a different life after waking up. Sleep quality mixes several components, such as the time needed to fall asleep and the level of tranquility at rest (Adrianti, 2017). Sleep quality is an action where a person can justify that he is starting to feel sleepy and explore his rest hours. The quality of a person's sleep can be interpreted from the distribution of time needed to fall asleep and the discomfort experienced at rest or after waking up. Sleep quality is the satisfaction of people at rest, so that the person does not have feelings of lethargy, fussiness, drowsiness and emotionlessness, dark roundabouts near the eyes, dilated eyelids, red conjunctiva, eye pain, out of concentration, headaches and yawning always, or lethargic again (Español-Martín et al., 2023). Sleep quality is not only determined by its duration but by REM sleep, its frequency and duration. REM sleep is useful for building brain cells while maintaining them. During REM sleep, one falls asleep deeply, without REM sleep, one feels that one has not slept at all (Qu et al., 2024).

Based on the results of interviews with several parents of children aged 4-5 years in Mindahan Village RT 02 RW 01, the sleep quality of children aged 4 to 5 years tends to be good with rare sleep disorders. Pesponder reports that children usually sleep well throughout the night and rarely wake up in the middle of the night. Factors that can affect the quality of sleep of children in Mindahan village are a quiet environment, away from

noise, as well as healthy eating habits and physical activity. Parents should continue to pay attention to the quality of children's sleep by providing adequate sleep time and creating a comfortable sleep environment. Thus, it can be concluded that the sleep quality of children aged 4-5 years in Mindahan RT 02 RW 01 village tends to be good and parents pay attention to the importance of adequate and quality sleep for my child (Sella et al., 2023).

Sleep latency

Sleep latency is when a person begins to fall asleep. A person needs a good quality rest period of less than 15 minutes to have the opportunity to explore the next total rest session. Again, more than 20 minutes of sleep deprivation, is a person facing difficulty penetrating the next rest session (Liu et al., 2024). Sleep latency is the time it takes for a child to fall asleep since he starts lying down.

a. Sessions 1 and 2: Light sleep

Feeling sleepy, when the brain begins to feel sleepy, in session 2 brain waves begin to slow down significantly causing all parts used when waking up rest.

b. Stages 3 and 4: Get a good night's sleep

Its duration decreases with age due to frequent awakenings. Both of these steps have the effect of refreshing the body. REM sleep and stages 3 and 4 are regulated by the body's homeostasis, meaning if a person does not pass one of these stages until the process will always be intertwined when falling asleep again. This step is very meaningful in the process of sleep and has many benefits.

Based on the results of interviews with parents in Mindahan village RT 02 RW 01, children aged 4-5 years need 20-30 minutes to fall asleep, sometimes 45 minutes to fall asleep due to changes in the area of condition or condition.

Sleep duration

Sleep needs are affected by the amount of physical activity, the amount of energy used to exercise or exercise, the amount of mental activity, and whether you are sick. The more physical and mental activity, the greater the need for sleep. The same is true if you are sick. The function of sleep is to replenish the body's energy reserves. Toddlers (1 to 3 years) need about 10 to 12 hours of sleep a day. About 20 to 30% of sleep is REM sleep (Tatar et al., 2023).

Based on the results of interviews conducted by researchers and respondents, the average sleep time of children aged 4 to 5 years in Mindahan Village RT 02 Rw 01 is 9 to 10 hours per night. The average child goes to bed at 9 p.m. and wakes up at 7 a.m. According to responders interviewed, children wake up happily every morning.

Sleep habits

Based on observations on children aged 4-5 years in Mindahan Village RT 02 RW 01, it is known that positive sleeping habits are passed on to children by parents. A common habit is drinking milk, children aged 4-5 years in Mindahan village RT 02 RWRT 01 have the habit of drinking milk before going to bed, good habits that ensure children get adequate nutrition throughout the night, other habits are the habit of going to the toilet and urinating before going to bed. In addition, children also learn to brush their teeth before going to bed.

Factors affecting sleep patterns

Changes in wakefulness and sleep conditions are complex neurological processes that can be intervened by many internal and external factors. In fact, all factors affecting the *ascending reticular* activation system "ARAS" can increase alertness and reduce the likelihood of drowsiness (Tanjung & Sekartini, 2016). Here are some factors that can affect sleep:

1. Milieu

Aspects of the area can support or limit the sleep process. In quiet areas, people can get a good night's sleep. On the other hand, people cannot sleep in noisy as well as noisy areas. A quiet and safe area allows a person to intensify the sleep process (Rina, 2019).

2. Routines and behaviors

Various habits and behaviors of a person are related to sleep constraints, such as very often watching television or watching television while sleeping. A person's daily habits affect his sleep patterns. People whose working hours are not orderly every day often face difficulties getting used to changing their sleep habits. Other changes that can affect sleep patterns include unusual hard work, social activities until late at night, and changes in dinner time.

3. Physical Illness

Complaints that arise due to a disease that is again experienced by the sufferer. Client discomfort is also often caused by disease processes or medical actions. Various medical procedures require sufferers to wear features that help them perform normal physiological uses. Functional changes are naturally replaced by features that certainly cause discomfort for sufferers. The concept of comfort is subjective, just like pain which is one type of discomfort (Rina, 2019).

With these measures, it is hoped that preschool children in Mindahan Batealit can have better sleep patterns, which will ultimately improve their learning achievement and overall development. This study shows that regular and quality sleep patterns have a positive correlation with the learning achievement of preschool children in Mindahan Batealit. Children who slept for 9-10 hours per night showed higher cognitive scores compared to those who slept less than 9 hours or more than 10 hours. Adequate and quality sleep helps the memory and learning process, so that children can focus more and have better memory during learning activities in preschool. This is in line with previous research that confirms the importance of adequate sleep for a child's cognitive development (Bastien et al., 2023).

Factors that influence the sleep patterns of preschoolers in Mindahan Batealit include the level of education and awareness of parents, family routines, sleep environment, physical and mental health of children, and habits and behaviors of children. Older people with better knowledge of the importance of sleep tend to establish consistent bedtime routines and create a conducive sleep environment. However, local socio-economic and cultural conditions, such as the work of parents as farmers who have erratic work schedules, can affect children's sleep patterns. In addition, sleep disorders caused by noise or uncomfortable bedroom conditions can reduce the quality of a child's sleep (Brackx et al., 2023).

The implications of these findings are critical for intervention programs that can help improve the sleep quality of preschoolers in Mindahan Batealit. Education for parents about the importance of adequate sleep and how to overcome sleep disorders can be an effective first step. In addition, creating a comfortable sleep environment and implementing a healthy bedtime routine can also help improve the quality of a child's sleep. With these measures, it is hoped that preschool children in Mindahan Batealit can achieve

better learning achievements, which will contribute to their overall development (Moshayedi et al., 2023).

CONCLUSION

Based on the results of research conducted in Mindahan Village, children aged 4-5 years tend to sleep on time but sometimes not on time. Parents strive to maintain a consistent bedtime routine and create a comfortable sleeping environment so that the child has a regular sleep pattern. On average, children sleep for 9-10 hours every night with sleep time needed about 20-30 minutes to be able to fall asleep. Children rarely refuse to sleep and have bedtime rituals such as drinking milk and going to the toilet to urinate and brush their teeth. Children rarely experience sleep disturbances although sleep disorders in children are quite common. Some common sleep disorders in children include sleep apnea, insomnia, and sleepwalking. Good sleep habits can affect children's mood and well-being. Children who sleep enough tend to be more cheerful and excited when they wake up. Sleep deprivation can lead to health problems such as obesity, behavioral problems, and mental health problems. Bedtime rituals such as drinking milk and brushing teeth can help children to feel calm and ready for bed. The results of this study showed a positive correlation between optimal sleep duration (9-10 hours per night) and learning achievement of preschoolers. Children who get enough sleep tend to have higher cognitive scores and show better concentration skills in class.

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