



THE ROLE OF BREAKFAST AND QUALITY SLEEP IN SUPPORTING STUDENTS' LEARNING CONCENTRATION

Adelia Falih¹, Hamidah Hamidah^{1*}, Dadang Herdiansyah², Aning Subiyatin¹

¹Midwifery Study Program, Faculty of Medicine and Health, Universitas Muhammadiyah Jakarta, Jl. Cemp. Putih Tengah No.27, Cemp. Putih Timur, Cemp. Putih, Jakarta Pusat, Jakarta 10510, Indonesia

²Faculty of Public Health, Universitas Muhammadiyah Jakarta, Jl. Cemp. Putih Tengah No.27, Cemp. Putih Timur, Cemp. Putih, Jakarta Pusat, Jakarta 10510, Indonesia

*hamidah@umj.ac.id

ABSTRACT

Students' concentration during learning can have a significant impact both in the present and in the future. Poor concentration can lead to memory issues, suboptimal learning outcomes, and if not properly addressed, can result in long-term consequences, such as a decline in the quality of human resources. The objective is to identify the relationship between students' learning concentration and nutritional status, breakfast habits, and sleep quality. Quantitative research using a cross-sectional design, on 53 elementary school students. A questionnaire was employed to measure the variables of breakfast habits and sleep quality. Anthropometric measurements were based on Z-scores according to Body Mass Index (BMI), adjusted for the students' gender and age, to assess nutritional status. Statistical analysis was conducted using the Chi-square test. A total of 78.2% of students had good concentration, 81.8% had good nutritional status, 69.1% regularly ate breakfast, and 40% had good sleep quality. A significant relationship was found between breakfast habits ($p=0.011$) and sleep quality ($p=0.008$). However, no significant relationship was found between nutritional status and concentration ($p=0.096$). There is a significant relationship between breakfast habits and sleep quality, indicating the importance of educating students and parents on these topics. Although no significant relationship was found between nutritional status and concentration, monitoring and supporting students' nutritional status should continue, with collaboration from health institutions such as local health centers (Puskesmas).

Keywords: breakfast habits; concentration; nutritional status; school environment conditions; sleep quality

How to cite (in APA style)

Falih, A., Hamidah, H., Herdiansyah, D., & Subiyatin, A. (2025). The Role of Breakfast and Quality Sleep in Supporting Students' Learning Concentration. *Indonesian Journal of Global Health Research*, 7(6), 609–614. <https://doi.org/10.37287/ijghr.v7i6.630>.

INTRODUCTION

In elementary school, this is the beginning of the child's learning process for the next level, so to support children's learning abilities, it is necessary to fulfill nutrition and other needs to help brain development (Widiastuti, 2021). Learning is a process of developing students' potential consisting of intelligence, emotion, cognitive skills, personality, and religious spirituality. This comprehensive and integrated process has obstacles to obtaining learning outcomes as expected because the child's low concentration while learning makes it difficult for the child to understand the concept of the learning objectives (Dores, Lisa, & Vorina, 2019). Learning concentration is the ability to focus attention in the process of behavioral change, which is reflected through mastery, application, and assessment of attitudes, values, knowledge, and basic skills in various fields of study (Rohmah & Febrianto, 2024).

The habit of eating breakfast regularly has a significant relationship with students' learning concentration, with a clear difference between children who eat breakfast regularly and those who do not. Children who eat breakfast regularly have better learning stamina, can pay attention to lessons, do not get tired or lethargic easily, and are active, positive, and cooperative in their activities and they also mix more easily with their peers and solve problems well (Mustikowati, Rukmana, & Karim, 2022). Nutritional problems are also an obstacle in the development of elementary school students because they can have a direct impact on children's cognition, including

their ability to concentrate while studying. Children with good nutritional status tend to have sufficient energy and more optimal thinking power, so they are able to concentrate better during the learning process (Putra, Susanto, Aini, Rasni, & Kurdi, 2022). The need for adequate rest and sleep also affects children's productivity and positive attitudes in the morning. Children who experience long-term sleep disorders are at risk of fatigue, depression, and nutritional problems, as stated by the National Sleep Foundation (Putra et al., 2022).

Students whose concentration is disturbed and there is no treatment and it continues can cause the student to have a lack of motivation in studying and completing assignments, and can cause disruption of external stimuli making students forget easily (Riinawati, 2021). The negative impact that arises when students are less able to concentrate optimally is a lack of prolonged memory causing a decrease in learning achievement and even reducing the quality of human resources (Susilowati, Lestari, & Shifa, 2021). In preparing children to face learning, support is needed for the child's readiness such as good nutritional status, fulfillment of breakfast every morning, and good quality of sleep for children. Further research is needed to determine the relationship between nutritional status, breakfast, and sleep quality with the concentration of learning of grade 5 students, so that in the future they can provide comprehensive midwifery care in monitoring the growth and development of children from an early age. This study aims to identify the relationship between students' learning concentration and nutritional status, breakfast habits, and sleep quality.

METHOD

This type of research is quantitative with a cross-sectional approach because this study records the anterior and independent variables at one time related to the relationship between nutritional status, breakfast, sleep quality, and school environmental conditions with student concentration. The location of this research was conducted in class 5 of SDN 11 Duri Kosambi 11 Petang in West Jakarta. The time of research was conducted in September 2024. The population of this study was all 61 fifth-grade students of SDN Duri Kosambi 11 Petang. The sample selection criteria included inclusion criteria, namely fifth-grade students who were able to communicate well orally and in writing. Exclusion criteria included those who were unable to participate during the study, those who did not follow the research protocol, and those who were unwilling to be respondents. This study used the Slovin formula to determine the sample size. The calculation using this formula resulted in a minimum sample size of 53 students.

This study used a questionnaire containing questions related to breakfast habits and student characteristics, student sleep quality using the Pittsburgh Sleep Quality Index (PSQI) questionnaire, and nutritional status obtained from the results of height and weight measurements. The tools used to measure height are a wireless body height meter brand Onemed and a tool to measure weight brand Han River. As well as to measure student concentration using the gird concentration test, this test is one of the measuring tools to determine the level of concentration that uses numbers, arranging non-sequential numbers by drawing lines from the smallest to the largest with a time of 2 minutes. Previous research instruments on concentration using the gird concentration test have been tested on elementary school students at Ateuk Aceh Besar. Based on the results of the gird concentration test in a study entitled "the use of brain gymnastics in improving the learning concentration of elementary school students at Ateuk Aceh Besar" using Cohen's d calculation and $r^2 = 0.95$.

The statistical analysis test used in this study was univariate analysis to determine the frequency distribution and bivariate analysis to determine whether there was a relationship between these variables. This research has obtained ethical approval from the Research Ethics Commission of the Faculty of Medicine and Health, Muhammadiyah University of Jakarta with number 135/PE/KE/FAK-UMJ/VIII/2024.

RESULT

Based on the analysis of student characteristics, the majority of respondents were 11 years old, with a total of 35 students (63.6%). Students aged 10 years were 9 people (16.4%), 12 years were 7 people (12.7%), and 13 years were 4 people (7.3%). In terms of gender, there were 31 male students (56.4%) and 24 female students (43.6%), showing a relatively balanced proportion (Table 1).

Table 1.
Characteristic Students

Characteristics	Category	f	%
Age	10 years	9	16.4
	11 years	35	63.6
	12 years	7	12.7
	13 years	4	7.3
Gender	Boy	31	56.4
	Girl	24	43.6
Nutrition status	Good	45	81.8
	Poor	10	18.2
Breakfast habits	Good	38	69.1
	Poor	17	30.9
Sleep quality	Good	22	40.0
	Poor	33	60.0

In terms of nutritional status, 45 students (81.8%) had good nutritional status, while 10 students (18.2%) showed poor nutritional status, indicating that most students were in optimal physical condition and had the potential to support concentration in learning. Breakfast habits were also analyzed, with 38 students (69.1%) having good breakfast habits, while 17 students (30.9%) had poor breakfast habits. On the other hand, students' sleep quality showed less satisfactory results, where only 22 students (40.0%) had good sleep quality, while 33 students (60.0%) had poor sleep quality. These findings indicate that although students' nutritional status and breakfast habits are generally good, significant sleep quality problems can hurt learning concentration. Further analysis is needed to explore the relationship between these factors and students' learning concentration (Table 1).

Table 2.

The Relationship between Nutritional Status, Breakfast Habits, and Sleep Quality on Students' Learning Concentration

Variable	Concentration				OR (95% CI)	p-value
	Yes		No			
	f	%	f	%		
Nutrition status					0.733	0.096
Good	33	73.3	12	26.7	(0.615-0.875)	
Poor	10	100.0	0	0.0		
Breakfast habits					0.684	0.011
Good	26	68.4	12	31.6	(0.551-0.849)	
Poor	17	100.0	0	0.0		
Sleep quality					0.144	0.008
Good	13	59.1	9	40.9	(0.034-0.622)	
Poor	30	90.9	3	9.1		

Table 2 shows that there are 33 students with good concentration and good nutritional status and 10 students with good concentration have poor nutritional status. The chi-square test results obtained a p-value of 0.096 which means that nutritional status does not have a significant effect on concentration. 26 students routinely eat breakfast with good concentration and 17 students who do not routinely eat breakfast with good concentration. The chi-square test results obtained a p-value of 0.011 which means that there is a significant relationship between breakfast and student concentration. 13 students have good sleep quality with good concentration and 30 students who have poor sleep quality with good concentration, the chi-square test results obtained a p-value of 0.008 which means that there is a significant relationship between sleep quality and student concentration.

DISCUSSION

Nutritional status is a condition of fulfilling nutritional intake over a long period of time, while nutritional disorders are malnutrition or excessive nutrition. The nutrients are carbohydrates, protein, iron, and so on. Body metabolism plays a role in the thinking process and concentration which has a close impact on the development of intelligence in elementary school students (Putra et al., 2022). Malnutrition in children can inhibit the growth and development of children by inhibiting and even decreasing the level of intelligence of school children, malnutrition in children can reduce children's productivity, and reduce children's health levels (Tambunan, Ardiansyah, & Kurniawan, 2020). In contrast to the results of research conducted by Sumarni et al (2023) at SDN 427 Malewong, which stated that there was a significant relationship between nutritional status and concentration.

Breakfast is an activity of eating and drinking in the morning with a time limit until 9 am which aims to meet 15-30% of daily nutritional needs. The best time for breakfast is at 6 - 7 am. Breakfast in children has been shown to increase concentration and improve brain function in children, while children who do not have breakfast tend to be weak, obese in children (Kemenkes RI, 2018). And the calorie needs needed by elementary school children are 1,550-2,050 calories consisting of macro and micro nutrients. The macronutrients are carbohydrates, proteins, and fats. While micro nutrients are vitamins and minerals. The amount of fluid needed by elementary school children is 2 liters of water including fluids from food and drinks (Mustikowati et al., 2022). Meanwhile, elementary school students aged 13 years need 2475 calories which are balanced through the daily menu (DP3APPKB, 2022). Several factors cause students not to have breakfast, namely, students wake up late, are busy starting activities when they wake up, are not used to having breakfast, are lazy to have breakfast, and the food is not according to their preferences. The benefits of breakfast are very important because of the many benefits obtained from having breakfast, namely; providing energy intake for the brain, increasing vitamin intake, improving memory, and increasing the body's resistance to stress.

Breakfast is also beneficial because when the body does not get nutrition during sleep which causes blood sugar to drop, breakfast can help stabilize blood sugar which has an impact on energy supplies and improves mood (Mustikowati et al., 2022). Supported by several studies stating that there is a significant relationship between breakfast and students' learning concentration (Barokah, Pratiwi, & Yatsi Madani, 2022; Virginia, Sudyasih Prodi Ilmu Keperawatan, Ilmu Kesehatan, Yogyakarta Prodi Ilmu Keperawatan, & Yogyakarta, 2024; Yenny, Putri, & Adnyana, 2022). In contrast to previous research conducted at SDN I Kalirejo Banyuwangi, it showed that breakfast was not related to students' learning concentration (Mawarni, 2021).

Sleep quality is an assessment by measures a person's sleep habits before going to bed, while sleeping, and after going to bed. The assessment measured is obtained from the length of sleep time and problems experienced while sleeping or in a conscious state sadar (Susilowati et al., 2021). There are 7 important aspects in the PSQI (The Pittsburgh Sleep Quality Index) questionnaire components, namely subjective sleep quality, sleep latency, sleep duration, sleep efficiency, sleep disturbances, drug use, and daytime dysfunction. As for meeting the sleep needs of students aged 6-13 years, namely 9-10 hours a day. Improving children's sleep quality can create calmness in children and children do not get tired easily, are full of energy in the morning, and do not experience sleep disturbances when they wake up. Children who lack sleep can experience a decrease in student function and health, namely a decrease in student cognitive function and changes in blood sugar hormones (Putra et al., 2022). This study is in line with previous studies which show that there is a relationship between sleep quality and concentration (Caesaridha, 2021; Khailanisa & Linda, 2023).

CONCLUSION

Breakfast and sleep quality factors show a relationship with student concentration. Meanwhile, there is no relationship between student nutritional status and student concentration.

REFERENCES

- Barokah, L., Pratiwi, A., & Yatsi Madani, U. (2022). Hubungan Sarapan Pagi terhadap Konsentrasi Belajar Siswa. *Nusantara Hasana Journal*, 2(6), 100–105.
- Caesaridha, D. K. (2021). Hubungan kualitas tidur dengan konsentrasi belajar pada mahasiswa kedokteran. *Jurnal Medika Utama*, 2(4), 1213–1217.
- Dores, O. J., Lisa, Y., & Vorina, O. (2019). Analisis Konsentrasi Belajar Matematika Siswa Kelas V SDN 20 SKPH Manis Raya. *J-PiMat : Jurnal Pendidikan Matematika*, 1(2), 57–68.
- DP3APPKB. (2022). Panduan Memenuhi Kebutuhan Kalori Harian Anak Berdasarkan Usia. Retrieved July 3, 2025, from Dinas Pemberdayaan Perempuan dan Perlindungan Anak, Pengendalian Penduduk dan Keluarga Berencana Kabupaten Bantul website: <https://dp3appkb.bantulkab.go.id/news/panduan-memenuhi-kebutuhan-kalori-harian-anak-berdasarkan-usia#:~:text=Kebutuhan kalori anak usia 10 tahun ke,Usia 16-18 tahun: 2675 Kkal per hari.>
- Kemenkes RI. (2018). *Petunjuk Teknis Penyelenggaraan Posyandu Remaja*. Jakarta: Kementerian Kesehatan RI.
- Khailanisa, A., & Linda, O. (2023). Hubungan Perilaku Sarapan Pagi Dan Kualitas Tidur Dengan Konsentrasi BELajar Siswa SMA Negeri 88 Jakarta Timur. *Jurnal Pendidikan Kesehatan*, 3(2), 74–81. Retrieved from <https://journal.stikespmc.ac.id/index.php/JK>
- Mawarni, E. (2021). Hubungan Sarapan Pagi Dengan Konsentrasi Siswa. *Jurnal Kesehatan Tambusai*, 2(4), 159–167. <https://doi.org/10.31004/jkt.v2i4.2900>
- Mustikowati, T., Rukmana, H. T., & Karim, U. N. (2022). Hubungan Kebiasaan Sarapan terhadap Konsentrasi Belajar Anak di Sekolah Dasar Negeri Sukawera. *Journal of Nursing and Midwifery Sciences*, 1(1), 8–12. <https://doi.org/10.54771/jnms.v1i1.488>
- Putra, A. S., Susanto, T., Aini, L. S., Rasni, H., & Kurdi, F. (2022). Optimalisasi Status Gizi Anak Usia Sekolah Dasar Melalui Konseling Keluarga Tentang Kualitas Tidur Anak: Literatur Review. *Jurnal Kesehatan Komunitas Indonesia*, 2(1), 10–21. <https://doi.org/10.58545/jkki.v2i1.20>
- Riinawati, R. (2021). Hubungan Konsentrasi Belajar Siswa terhadap Prestasi Belajar Peserta Didik pada Masa Pandemi Covid-19 di Sekolah Dasar. *Edukatif: Jurnal Ilmu Pendidikan*, 3(4), 2305–2312. <https://doi.org/10.31004/edukatif.v3i4.886>
- Rohmah, M., & Febrianto, P. T. (2024). Pengaruh Tingkat Konsentrasi Belajar Siswa terhadap Daya Pemahaman Materi Dalam Proses Pembelajaran di SDN Ponjanan Timur. *Jurnal Ilmiah Kajian Multidisipliner*, 8(4), 2118–7302.
- Sumarni, Jafar, M. A., Kartika, D. I., Polanunu, N., Royani, I., & Aisyah, W. (2023). Hubungan Status Gizi dengan Konsentrasi Belajar pada Anak di SDN 427 Malewong. *Fakumi Medical Journal*, 3(8), 593–598. <https://doi.org/10.33096/fmj.v3i8.334>
- Susilowati, F., Lestari, N. E., & Shifa, N. A. (2021). Konsentrasi Belajar pada Anak Sekolah Dasar dapat di Pengaruhi oleh Sarapan Pagi dan Status Gizi. *Open Access Jakarta Journal of Health Sciences*, 1(1), 16–24.
- Tambunan, P., Ardiansyah, M. F., & Kurniawan, M. G. (2020). Pengaruh Suasana Lingkungan

Belajar Terhadap Konsentrasi Belajar Siswa Dalam Mata Pelajaran Produktif. *Jurnal Pensil: Pendidikan Teknik Sipil*, 9(3), 165–171. <https://doi.org/10.21009/jpensil.v9i3.16674>

- Virginia, A., Sudyasih Prodi Ilmu Keperawatan, T., Ilmu Kesehatan, F., Yogyakarta Prodi Ilmu Keperawatan, A., & Yogyakarta, A. (2024). Hubungan kebiasaan sarapan pagi dengan konsentrasi belajar di SMP Muhammadiyah 1 Minggir. *Prosiding Seminar Nasional Penelitian Dan Pengabdian Kepada Masyarakat LPPM Universitas ‘Aisyiyah Yogyakarta*, 2(September), 215–219.
- Widiastuti, I. A. K. S. (2021). Modul Pemenuhan Kebutuhan Tidur Pada Anak. In Universitas Mulawarman. Samarinda. Retrieved from [https://repository.unmul.ac.id/bitstream/handle/123456789/27502/Modul Pemenuhan Kebutuhan Tidur pada anak.pdf?sequence=1](https://repository.unmul.ac.id/bitstream/handle/123456789/27502/Modul%20Pemenuhan%20Kebutuhan%20Tidur%20pada%20anak.pdf?sequence=1)
- Yenny, D. G. A., Putri, D. M. F. S., & Adnyana, I. M. M. (2022). Hubungan Sarapan Pagi Dengan Tingkat Konsentrasi Belajar Pada Anak Kelas 4-6 Sekolah Dasar Negeri 1 Tiyinggading. *Jurnal Medika Usada*, 5(1), 16–21. <https://doi.org/10.54107/medikausada.v5i1.115>