

PERSONAL HYGIENE BEHAVIOR RELATED TO THE INCIDENCE OF DIARRHEA IN SCHOOL-AGE CHILDREN AT BANTUL

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ABSTRAK

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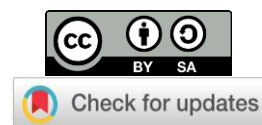
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Abstract:

Diarrhea is a significant health problem in children as it poses a risk of death. In Indonesia, the prevalence of diarrhea in school-aged children (6-12 years) ranges from 2-20%, with 28.9% of children affected, making it the second highest cause of death in this age group. One main contributing factor is the lack of personal hygiene behavior, which plays an important role in maintaining health, safety, and well-being. This study aimed to determine the relationship between personal hygiene behavior and the incidence of diarrhea in primary school children at SD Negeri Banguntapan Bantul. Method : Using a quantitative approach with a cross-sectional design, this study involved 77 respondents selected through total sampling and measured using a questionnaire. The Result : showed that 66.2% of respondents had poor hygiene behavior, and 75.3% experienced diarrhea. The contingency coefficient test showed a p-value of 0.000, indicating a significant relationship, with an r-value of 0.594 indicating a moderate relationship. In Conclusion : there is a significant relationship between personal hygiene behavior and the incidence of diarrhea in school-age children at SD Negeri Banguntapan Bantul.

Abstrak:

Diare merupakan masalah kesehatan yang signifikan pada anak-anak karena dapat menimbulkan risiko kematian. Di Indonesia, prevalensi diare pada anak usia sekolah (6-12 tahun) berkisar antara 2-20%, dengan 28,9% anak terpengaruh, menjadikannya penyebab kematian kedua tertinggi pada kelompok usia ini. Salah satu faktor yang berkontribusi adalah kurangnya perilaku higiene pribadi, yang berperan penting dalam menjaga kesehatan, keselamatan, dan kesejahteraan. Penelitian ini bertujuan untuk mengetahui hubungan antara perilaku higiene pribadi dan kejadian diare pada anak sekolah dasar di SD Negeri Banguntapan Bantul. Metode: Menggunakan pendekatan kuantitatif dengan desain potong lintang, penelitian ini melibatkan 77 responden yang dipilih melalui total sampling dan diukur menggunakan kuesioner. Hasil: menunjukkan bahwa 66,2% responden memiliki perilaku higiene yang kurang baik, dan 75,3% mengalami diare. Uji koefisien kontingensi menunjukkan nilai p sebesar 0,000, yang mengindikasikan hubungan yang signifikan, dengan nilai r sebesar 0,594 menunjukkan hubungan yang sedang. Kesimpulannya: terdapat hubungan yang signifikan antara perilaku kebersihan pribadi dan kejadian diare pada anak usia sekolah di SD Negeri Banguntapan Bantul.



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INTRODUCTION

Diarrheal disease remains a major public health problem affecting all ages, particularly children. Diarrheal disease is also categorized as an outbreak of a disease that often occurs only in certain areas and still contributes to the death rate in Indonesia, second only in school-age children (6-12 years old) [1], [2]. Among children aged 6-12 years, 28.9% experience diarrhea. Data from the Yogyakarta Health Office indicate an increase in diarrhea cases across almost all regions, with the highest number in Bantul Regency, at 5,751 cases in 2022. The highest prevalence in children aged 6-12 years was recorded in the Banguntapan District, Bantul, with 54 cases [3].

The high incidence of diarrhea and deaths due to diarrhea in school-age children can be classified by several factors, one of which is the lack of personal hygiene practices [4]. A low level of personal hygiene coverage is often a risk factor for diarrhea among school-age children [5]. At this age, children require adequate health supervision because school-age activities usually involve unsanitary environments, increasing their vulnerability to disease [6], [7]. Personal hygiene refers to the practice of maintaining the body clean and healthy. This is the first step in maintaining health, as personal hygiene can reduce the risk of disease, particularly those associated with poor personal hygiene.

School-age children who experience diarrhea often exhibit poor personal hygiene. Some children do not wash their hands after playing, and those who do so improperly. These children wash their hands only with running water, without using soap. Maintaining hand hygiene through handwashing has become a daily activity for most children. However, some children sometimes ignore this habit. Washing your hands with soap is essential to eliminate viruses and bacteria that can cause various diseases, especially those that affect the

digestive tract, such as diarrhea [8], [9], [10].

The purpose of this study is to determine whether a behavioral practice related to personal hygiene is associated with the incidence of diarrhea among elementary school-age children at SD Negeri Banguntapan, Bantul.

RESEARCH METHOD

This study employed a quantitative, cross-sectional design and was conducted at Banguntapan State Elementary School, Bantul, from January 2024 to January 2025. The population of this study comprises 2nd-, 3rd-, and 4th-grade students at Banguntapan State Elementary School, Bantul, with a total of 77 respondents. The sample in this study uses total sampling [11]. The data were collected using a structured questionnaire on personal hygiene behavior. The researcher did not conduct a validity test in this study, as the questionnaire had previously been validated by Rizka (2021) [12], [13]. Based on the results of that validity test using Pearson's correlation, all 18 items were declared valid, with correlation coefficients ranging from 0.617 to 0.850, exceeding the r-table value of 0.3610.

Univariate analysis in this study includes demographic data (name, gender, age, class, parental education, occupation, number of children from the school) and data on the incidence of diarrhea, behavior, and *personal hygiene* [14]. Bivariate analysis in this study uses the *contingency coefficient*.

RESULT AND ANALYSIS

Table 1.
Characteristic Responden

Characteristics	(n)	(%)
Gender		
Man	38	49.4%
Woman	39	50.6%
Age Years		
5 – 6 years	1	1.3%
7 – 8 years	28	36.4%
9 – 10 years	48	62.3%

Class/Grade		
2 nd	28	36.4%
3 rd	22	28.6%
4 th	27	35.1%
Total	77	100,0%

The results indicate that the respondents were almost equally distributed between male (49.4%) and female (50.6%) students. Most children (62.3%) were aged 9–10 years, representing the dominant age group in this study. By grade level, the largest proportion of respondents was in 2nd grade (36.4%), followed by 4th grade (35.1%) and 3rd grade (28.6%). These findings suggest that the majority of participants were in the middle to late childhood stage, an age group considered more susceptible to poor hygiene-related health outcomes such as diarrhea.

Table 2.
Distribution of Frequency of Diarrhea Incidence in School-Age Children at SD Negeri Banguntapan Bantul.

Incidence of Diarrhea	(n)	(%)
No diarrhea	19	24,7%
Diarrhea	58	75,3%
Total	77	100,0%

Table 2 shows that 75.3% of participants experienced diarrhea in the last 5 months.

Table 3.
Results of the Contingency Coefficient Test on the Relationship between Personal Hygiene Behavior and the Incidence of Diarrhea in School-Age Children at SD Negeri Banguntapan Bantul

Personal Hygiene	No	Yes	P value	R value
	F (%)	F (%)		
Good	18 (23,4)	8 (10,4)		
Not Good	1 (1,3)	50 (64,9)	0,000	0,594
Total	19 (24,7)	58 (75,3)		

Based on Table 3, the statistical test (*p-value*) indicates a significant relationship between *personal hygiene* and the occurrence of diarrhea ($p < 0.05$). Value *r* (*Contingency Coefficient*) 0,594.

According to the interpretation of this value, it shows the close relationship between *personal hygiene* with the occurrence of diarrhea. Meaningful positive correlation values; *Hygiene Staff*: good; no diarrhea.

DISCUSSION

Frequency of Diarrhea Incidence in School-Age Children of State Elementary School Baguntapan Bantul

This study shows that 75.3% of respondents experienced diarrhea. Similar findings were reported by Cahyani (2022), who noted that 74.6% of children in her study experienced diarrhea, who reported a 57.9% incidence rate attributable to poor personal hygiene [15]. The similarity across these studies suggests that diarrhea incidence remains consistently high among school-age children, largely due to inadequate hygiene practices, including poor handwashing, unsafe snacking, and inadequate nail care [16]. At this developmental stage, children often engage in outdoor activities and consume food from vendors, increasing their exposure to pathogens [17]. Furthermore, while children may have some knowledge about hygiene, they often fail to apply it consistently. These factors explain why comparable results are observed across studies, reinforcing the conclusion that awareness and consistent daily hygiene practices are crucial for reducing diarrhea incidence [6], [18].

Despite good personal hygiene, respondents still experience diarrhea. In addition to a lack of hand hygiene, defecation, snack, and nail hygiene behaviors, diarrhea can occur. According to [19]. Although most children have good *personal hygiene* and are in the good category, diarrhea still occurs. This study shows that other factors such as diet, environmental sanitation, immunity level, and maternal knowledge level, also contribute to the incidence of diarrhea.

Diarrhea is a condition characterized by an increased frequency of bowel

movements, more than three times a day, accompanied by a liquid or runny stool consistency [20]. Diarrhea can be caused by infections of microorganisms such as bacteria, viruses, or parasites as well as indigestion or factors of unhygienic practices, such as preparing food with unwashed hands after a bowel movement or cleaning the stool [21], [22], [23], [24].

Diarrhea can occur in all age groups, including school-age children. School-age childhood is a period of adjustment to a new pattern of life [25]. Therefore, it is important to build positive habits, especially related to hygiene and health. Lack of knowledge of the child's behavior *personal hygiene* can affect their habits, thus increasing the risk of diarrhea [26], [27]. The incidence of diarrhea in school-age children can be influenced by several factors, including poor handwashing behavior, poor nail hygiene, and consumption of snack foods [20], [28].

Based on the data obtained, the incidence of diarrhea at SD Negeri Banguntapan, Bantul, is high. This is due to limited awareness among children of *personal hygiene behaviors*, such as not washing their hands with soap before and after eating, and not maintaining nail hygiene. Many children also snack at street vendors.

The Relationship between Personal Hygiene Behavior and the Incidence of Diarrhea in School-Age Children at SD Negeri Banguntapan Bantul

Based on the results of the Contingency Coefficient test conducted on 77 respondents, the *p-value* is 0.000, indicating $p < 0.05$. This suggests a relationship between personal hygiene and the incidence of diarrhea at SD Negeri Banguntapan, Bantul.

The results of this study are consistent with research by Syam DM (2021) on the personal hygiene of school-age children and the incidence of diarrheal diseases in the Bonobogu District, Buol Regency. The study found a significant

association between personal hygiene among school-age children and the incidence of diarrhea; 35% of school-age children had poor personal hygiene. This study also supports the findings of Rizka Andini (2021), who examined the relationship between hygiene behavior and the incidence of diarrhea at Al-Washliyah Private Elementary School 30, Medan Labuhan, and found a significant association.

In this study, the incidence of diarrhea in boys who experienced diarrhea was 30 children (51.7%). Children aged 9-10 years accounted for the largest *proportion* (68.6%) with poor personal hygiene. In school-age children in the range of 9-10 years, they are in the stage of cognitive development. In this phase, children begin to think logically about real-world phenomena, but they still have difficulty understanding concepts. Their physical, social, and emotional development is also significant: children start to form more complex social relationships, understand social norms, and learn to work together in groups [29].

Results Sulandari, (2020), concluded that one of the factors of the inter *personal hygiene* is not good so that the incidence of diarrhea is children aged 9-10 years [30].

The Relationship between *Personal Hygiene Behavior* and the Incidence of Diarrhea in School-Age Children at SD Negeri Banguntapan Bantul

The *r* value (*contingency coefficient*) in this study is 0.594, indicating a moderate relationship between *personal hygiene behavior* and the incidence of diarrhea among school-age children at SD Negeri Banguntapan, Bantul.

The results of this study are supported by Syam (2021), who reported a significant relationship between personal hygiene and the incidence of diarrhea among school-age children (7–12 years) in Bonobogu District, Buol Regency. The Chi-Square test yielded a *p-value* of 0.001 (<0.05), with an odds ratio (OR) of 1.286,

indicating that children with poor personal hygiene were 1.286 times more likely to develop diarrhea than those with good personal hygiene. However, it is important to note that the relationship between hygiene and diarrhea may also be influenced by confounding factors, such as dietary habits, environmental sanitation, and the child's immune status. These factors can interact with hygiene behaviors, either amplifying or reducing the risk of diarrhea. Therefore, interventions should not only focus on improving personal hygiene but also address broader determinants of health, including nutrition, sanitation, and immunization[19].

CONCLUSION

Based on the findings of research and discussion related to the relationship *between personal hygiene* behavior and the incidence of diarrhea in school-age children at SD Negeri Banguntapan Bantul, the conclusions are as follows:

1. *Personal hygiene* among school-age children at Banguntapan State Elementary School, Bantul, in the poor category was 66.2%.
2. The incidence of diarrhea among school-age children at Banguntapan State Elementary School, Bantul, is 75.3%.
3. Results of *the statistical test of contingency coefficient* The results of the statistical test of *p-value* (Significance) 0.000 ($p < 0.05$), there is a significant relationship between *personal hygiene* and the incidence of diarrhea.

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REFERENCES

- [1] R. Kemenkes, "Profil Kesehatan Indonesia Tahun 2020," *Kementrian Kesehat. RI*, 2020.
- [2] Yulia Rahmaniu, Muhammad Siri Dangnga, and Abdul Madjid, "Hubungan Pengetahuan Ibu Dengan Kejadian Diare Pada Balita Di Wilayah Kerja Puskesmas Lapadde Kota Parepare," *J. Ilm. Mns. Dan Kesehat.*, vol. 5, no. 2, pp. 217–224, 2022, doi: 10.31850/makes.v6i2.930.
- [3] D. I. . Y. Dinkes, "Profil Kesehatan Kota Yogyakarta," *Dinas Kesehat. D. I . Yogyakarta*, 2022.
- [4] D. Prasetyo, D., Wibowo, A., & Sari, "Hubungan kebersihan pribadi dengan kejadian diare pada masyarakat di Kecamatan X.," *J. Kesehat. Masy.*, vol. Vol 8 No 2, 2022.
- [5] R. G. P. P. & Y. Maiditasari Ade, "Survei Diare pada Siswa Sekolah Dasar di Wilayah Singkawang Selatan," *J. Vokasi Kesehat.*, vol. 05, 2019.
- [6] M. Z. Dissyifa R, "Hubungan Pengetahuan Ibu Tentang Diare dengan Tanda Diare pada Anak Usia Sekolah (6-12 tahun) di Lingkungan RW 03 Kelurahan Cipinang Muara.," *J. Afiat Kesehat. Anak*, vol. Vol 5 No 1, 2019.
- [7] J. J. Kaunang, P. V Pangemanan, M., Bokau, "Faktor-Faktor Yang Berhubungan Dengan Kejadian Diare Pada Siswa SD GMIM 46 Sukur," *Ilmu, S., Masyarakat, K.,Jurusan,), Kesehatan, P., Rekreasi, D.*, vol. Vol 02, 2021.
- [8] S. Syam Dedi Mahyudin, Andi Bungawati, Tjittrowati Dja'afar, Maryam, M., Ros Arianty, & Saharudin, "Hubungan Hygiene Perorangan Anak Usia Sekolah dengan Kejadian Penyakit Diare di Kecamatan Bonobogu Kabupaten Buol," *J. Kesehat. lingkungan. banua palu*, vol. Vol.1, no. Vol 1. No 1, 2021.

- [9] P. Astuti, "Pengetahuan, Sikap Ibu Rumah Tangga Mengenai Perilaku Pencegahan penyakit di Kelurahan Sanur, Kecamatan Denpasar Selatan, Kota Denpasar," *Kesehat. Masy.*, vol. 1, no. 3, p. 3, 2013.
- [10] & D. D. Sunardi, S., Listyono, H., Nugroho, K., Anis, Y., "Pedampingan Instalasi Kran Otomasi Guna Menumbuhkan Budaya Gemar Mencuci Tangan Bagi Siswa SDN Pekunden Semarang.," *J. Penamas*, no. Vol 8 No 1, 2024.
- [11] Sugiyono, *Metode Penelitian Kuantitatif, Kualitatif dan R&D*. Bandung, 2020.
- [12] A. Rizka, "Hubungan Perilaku Hygiene dengan Kejadian Diare di Sekolah Dasar Al- Washliyah 30 Medan Labuhan.," *Univ. Islam negeri sumatera utara*, 2021.
- [13] S. HATMAWAN, A.A., RIYANTO, "METODE RISET PENELITIAN KUANTITATIF PENELITIAN DI BIDANG MANAJEMEN, TEKNIK, PENDIDIKAN DAN EKSPERIMEN," *JAKARTA TRANS INFO MEDIA*, 2020.
- [14] Notoadmojo, *Metodologi Penelitian Kesehatan*. Jakarta, 2018.
- [15] N. N. H. Istianah Surury, "Hubungan Personal Hygiene Dengan Kejadian Diare Pada Santri Di Kota Tangerang Selatan," *J. Kesehat. Lingkung. J. dan Apl. Tek. Kesehat. Lingkung.*, vol. Vol 19, 2022.
- [16] J. Shufiyani & Aminah, "Pemeriksaan Kuku dan Penyuluhan Memotong Kuku yang Benar pada Anak-Anak di Panti Asuhan Assomadiyyah.," *J. Abdidas*, vol. 1 No. 3, 2020.
- [17] N. Asda, P., & Sekarwat, "Perilaku cuci tangan pakai sabun (CTPS) dan kejadian penyakit infeksi dalam keluarga di wilayah desa Donoharjo kabupaten Sleman.," *J. Media Keperawatan Politek. Kesehat. Makassar*, vol. 11, No 1, no. 2087-0035, 2020.
- [18] & S. F. Putri Syafira Salsabilla, "Gambaran Personal Hygiene Pada Anak Berkebutuhan Khusus Dengan Tunagrahita di SLB Kota Surakarta.," *Quantum Wellness J. Ilmu Kesehat.*, vol. 1 (3), 2024.
- [19] S. Wibawa, A., & Purnomo, "Hubungan Kebersihan Pribadi dengan Kejadian Diare pada Anak di Desa Sukamakmur, Kabupaten Cirebon.," *J. Kesehat. Masy.*, vol. vol 17 no, 2021.
- [20] I. Ibrahim and R. A. D. Sartika, "Faktor-Faktor yang Berhubungan dengan Kejadian Diare pada Siswa Sekolah Dasar di Kabupaten Lebak, Provinsi Banten, Indonesia," *Indones. J. Public Heal. Nutr.*, vol. 2, no. 1, pp. 34-43, 2021, doi: 10.7454/ijphn.v2i1.5338.
- [21] WHO, "Diarrhoeal Disease," World Health Organization. [Online]. Available: <https://www.who.int/news-room/fact-sheets/detail/diarrhoeal-disease>
- [22] N. Ernawati, *Buku Ajar Konsep dan Aplikasi Keperawatan dalam Pemenuhan Kebutuhan Dasar Manusia*. 2021.
- [23] P. & P. A. Perry, *Buku Fundamental Keperawatan: Konsep, Proses Dan Praktik*, 12 Volume. Jakarta: EGC, 2010.
- [24] A. G. A Potter, & Perry, *Buku Ajar Fundamental Keperawatan: Konsep, Proses, Dan Praktik*, Edisi 6. 2016.
- [25] S. Mukaromah, "Pendidikan Kesehatan (Personal Hygiene) Terhadap Tingkat Pengetahuan, Sikap Dan Tindakan Personal Hygiene Anak Usia Sekolah," *Karya Ilm. Kesehat.*, vol. Vol 5 No 1, 2020.
- [26] R. F. Nasution, Z & Samosir, "Pengetahuan dan Sikap Ibu Tentang Penanganan Diare di Puskesmas Polonia Medan.," *J. Darma Agung Husada*, vol. Vol 5 No 1, 2019.
- [27] G. K. Khasanah, U., & Sari, "Hubungan Tingkat Pengetahuan Ibu Tentang Diare dengan Perilaku Pencegahan Diare pada Balita," *J. Kesehat. "Samodra Ilmu"*, vol. Vol 07,

- 2015.
- [28] F. Ersa, “Pengembangan Nugget dengan Penambahan Tepung Okra Sebagai Makanan Jajanan Sehat Anak Sekolah Dasar,” *Skripsi Thesis, Poltekkes Kemenkes Kendari*, 2021.
- [29] R. D. Aneke, “Pengaruh Pendidikan Karakter dengan Media Ular Tangga terhadap Perilaku Bullying Anak Usia Sekolah,” *J. Univ. airlangga*, 2021.
- [30] T. M. Sulandari Cia, Aliana Dewi, “Hubungan antara tingkat pengetahuan tentang personal hygiene dengan kinerja personal hygiene siswa,” *J. Mhs. Binawan*, vol. 2 (3), no. 333–340, 2020.