

ANALYSIS OF MOTHERS' KNOWLEDGE AND FOOD STORAGE BEHAVIOR WITH THE INCIDENCE OF DIARRHEA IN TODDLERS IN KUNJANG VILLAGE KEDIRI REGENCY

Bayu Agung Prasetyo^{1*}, Setyo Budi Susanto¹, Ema Mayasari¹, Saheri¹, Reny Mareta Sari¹

Program Studi S1 Kesehatan Masyarakat, Fakultas Kesehatan,
Universitas STRADA Indonesia

*Correspondensi author: prasetyo.bayu111@gmail.com

ABSTRACT

Diarrhea remains a global health problem, where according to WHO this disease is the third cause of death in children under five years old with a death rate of around 443,832 children annually. In Indonesia, the Ministry of Health reported 212,576 cases of diarrhea in May 2023. In the Kunjang Community Health Center area, in 2024 there were 313 cases of toddler diarrhea recorded, with Kunjang Village as the highest village, with 91 cases with an increase of 5.94%. This study aims to determine the relationship between maternal knowledge and food storage behavior with the incidence of toddler diarrhea in Kunjang Village, Kediri Regency. The study used a cross-sectional design with a sample of 45 respondents selected using a simple quota sampling technique. The independent variables were maternal knowledge and food storage behavior, while the dependent variable was the incidence of diarrhea. Data collected by the questionnaire diarrhea in toddlers. Data analysis using the Chi-Square Test showed that of the 45 respondents, toddlers who experienced diarrhea were 25 respondents (55.6%) and those who did not experience diarrhea were 20 respondents (44.4%). The test results showed a significant relationship between maternal knowledge and the incidence of diarrhea ($p = 0.006$) and food storage behavior with the incidence of diarrhea ($p = 0.004$). Thus, it can be concluded that maternal knowledge and food storage behavior are significantly related to the incidence of diarrhea in toddlers in Kunjang Village, Kediri Regency.

Keywords: Diarrhea, Food Storage, Knowledge, Toddlers

INTRODUCTION

According to WHO (2024). Diarrhea is a disease that is the third leading cause of death in children under 5 years of age, killing approximately 443,832 children annually. Diarrhea can last for several days and deprive the body of water and salts necessary for survival.

Based on Ministry of Health (2023) diarrhea is a digestive tract infection that is a global health problem, including in Indonesia. Diarrhea is defined as a condition in which a person experiences increased frequency of bowel movements with loose or watery stools. This can be accompanied by other symptoms such as nausea, vomiting, abdominal cramps, and sometimes weight loss. Diarrhea is also, according is a disease characterized by changes in the shape of the stool with excessive frequency of defecation (more than 3 times a day)

Within one day, rapid treatment is essential for treating diarrhea, as delayed treatment can lead to dehydration, which can lead to death. In developing countries, diarrhea is the second leading cause of illness and death in toddlers.

Based on data Ministry of Health (2023), incidence and period prevalence of cases Diarrhea cases among all age groups in May 2023 totaled 212,576 cases. This figure decreased to 182,260 cases in June 2023 and again to 177,780 cases in July 2023, while cases increased

in August 2023 to 189,215 cases. Based on the causes of the increase in infant mortality in Indonesia, the main cause is diarrhea, which has the potential to cause extraordinary events along with the increase in the Case Fatality Rate (CFR).

The Kunjang Community Health Center covers twelve villages. In 2024, data on cases of toddler diarrhea at the Kunjang Community Health Center reached 313, with Kunjang Village having the highest incidence of toddler diarrhea. In 2024, 91 toddlers in Kunjang Village experienced diarrhea, an increase of 5.94%. This demonstrates that the incidence of diarrhea in Kunjang Village, Kunjang District, Kediri Regency continues to increase (UPTD Puskesmas Kunjang, 2024).

Parents' involvement is essential in guiding, providing understanding, and reminding children to maintain environmental cleanliness and to educate them on how to consume healthy foods. Furthermore, parents also play a significant role in preventing diarrhea in their children. Parents with limited knowledge about environmental and food hygiene are predisposing factors to behaviors that are not conducive to environmental and food health (Meilita & Dissyifa, 2019).

Sanitary food storage is considered crucial in preventing diarrhea in toddlers. Sanitary food storage is an effort aimed at maintaining food safety to prevent toxicity and foodborne illness. Besides dietary factors, another common cause of diarrhea in toddlers is poor personal hygiene by caregivers, particularly mothers (Wati & Handayani, 2018).

Based on the description above, the researcher is interested in conducting research on the phenomenon of mothers' complexity in food storage sanitation in the occurrence of diarrhea in toddlers in Kunjang Village, Kediri Regency.

METHODS

The research design used in this study is observational analytic using a cross-sectional approach, which is a study to study the dynamics of the correlation between risk factors and effects, by means of an approach, observation or data collection simultaneously at a single point in time (point-time approach). This means that each research subject is only observed once and measurements are made on the character status or variables of the subject at the time of the examination (Abduh et al., 2022).

The population in this study were all mothers who had toddlers in the working area of the Kunjang Community Health Center in Kunjang Village, Kediri Regency, totaling 164 toddlers. Sampling using the Quota Sampling Technique, a non-probability sampling method in which researchers determine the number of samples to be taken. In this study, researchers took 45 subjects. The consideration of using quota sampling is the population of mothers who have babies under 5 years old which always changes in age and the number of visits/data is not fixed. Primary data was obtained by means of

Conducted direct interviews using a pre-arranged questionnaire containing questions and statements to gather information on the variables to be analyzed in this study, which are closely related to the incidence of diarrhea in toddlers. Data processing included editing, coding, entry, and tabulation. Data analysis for this study used univariate and bivariate analysis. Categorical data were presented in the form of frequencies and percentages, while bivariate analysis used the chi-square test. Data analysis used SPSS.

RESULTS

A. Characteristics of Maternal Age in Kunjang Village, Kediri Regency in 2025

Table 1 Characteristics of Maternal Age in Kunjang Village, Kediri Regency in 2025

Mother's Age	Frequency	Percentage (%)
Less than 20 Years	1	2.2%
20-35 Years	30	66.7%
Over 35 Years	14	31.1%
Total	45	100.0%

Based on Table 1, it can be explained that the characteristics of respondents based on maternal age are less than 20 years old, as many as 1 respondent (2.2%), characteristics of respondents based on age 20-35 years as many as 30 respondents (66.7%), characteristics based on age more than 35 years as many as 15 respondents (31.1%).

B. Characteristics of Mothers' Work in Kunjang Village, Kediri Regency in 2025

Table 2 Characteristics of Maternal Age in Kunjang Village, Kediri Regency in 2025

Work	Frequency	Percentage %
Housewife	37	82.2%
Farmer	1	2.2%
Private	4	8.9%
Self-employed	2	4.4%
civil servant	1	2.2%
Total	45	100.0%

Based on Table 2, it can be explained that the characteristics of respondents based on their occupation are as housewives as many as 37 respondents (82.2%), the characteristics of respondents based on their occupation as farmers as many as 1 respondent (2.2%), the characteristics based on private workers as many as 4 respondents (8.9%), the characteristics based on self-employed workers as many as 2 respondents (4.4%), and the characteristics based on their occupation as civil servants as many as 1 respondent (2.2%).

C. Characteristics of Education in Kunjang Village, Kediri Regency in 2025

Table 2 Characteristics of Education in the Kunjang Village Area, Kediri Regency in 2025

Last education	Frequency	Percentage %
Elementary School	5	11.1%
Junior High School	14	31.1%
High School/Vocational School	23	51.1%
D3/S1	3	6.7%
Total	45	100.0%

Based on Table 3, it can be explained that the characteristics of respondents based on their last education were Elementary School (SD), namely 5 respondents (11.1%), characteristics based on their last education were Junior High School (SMP) as many as 14 respondents (31.1%), characteristics based on their last education were Senior High

School/Vocational School (SMA/SMK) as many as 23 (51.1%), and characteristics based on their last education were College, namely 3 respondents (6.7%).

D. Age characteristics of toddlers in Kunjang Village, Kediri Regency in 2025

Table 4 Age characteristics of toddlers in the Kunjang Village area, Kediri Regency in 2025

Toddler Age	Frequency	Percentage %
0-12 Months	15	33.3%
1-3 Years	15	33.3%
3-5 Years	15	33.3%
Total	45	100.0%

Based on Table 4, it can be explained that the characteristics of respondents with toddler age are 0-12 months, namely 15 toddlers (33.3%), the characteristics of respondents based on toddler age are 1-3 years, namely 15 toddlers (33.3%), the characteristics of respondents based on toddler age are 3-5 years, namely 15 toddlers (33.3%).

E. The Relationship between Mother's Knowledge and the Incidence of Toddler Diarrhea in the Kunjang Village Area, Kediri Regency in 2025

Table 5 Relationship between Mother's Knowledge and the Incidence of Toddler Diarrhea in the Kunjang Village Area, Kediri Regency in 2025

Knowledge Relationship	Diarrhea Incident				Chi-Square	P Value
	No Diarrhea		Diarrhea			
	f	%	f	%		
Low	8	28.6%	20	71.4%	-0.410	0.006
Tall	12	70.6%	5	29.4%		
Total	20	100.0%	25	100.0%		

Based on the results of the analysis it can be seen that $p \text{ value} = 0.006 < \alpha = 0.05$ which means the hypothesis in this variable is accepted where statistically there is a significant relationship between Mother's Knowledge and the incidence of diarrhea. It can also be seen that maternal knowledge with the High category who experienced diarrhea was 5 respondents (29.4%) and did not experience diarrhea was 12 respondents (70.6%), maternal knowledge with the low category who experienced diarrhea was 20 respondents (71.4%) and did not experience diarrhea was 8 respondents (28.6%). Judging from the closeness of the relationship obtained from the results of data processing, the magnitude of -0.410 indicates a strong closeness of the relationship between maternal knowledge and the incidence of toddler diarrhea. The direction of the correlation is negative which indicates that the higher the mother's knowledge, the toddler is less likely to experience diarrhea.

F. The Relationship between Food Storage Behavior and the Incidence of Toddler Diarrhea in the Kunjang Village Area, Kediri Regency in 2025

Table 6 Relationship between Food Storage Behavior and the Incidence of Toddler Diarrhea

in the Kunjang Village Area, Kediri Regency in 2025.

Relationship between food storage behavior	Diarrhea Incident				Chi-Square	P Value
	No Diarrhea		Diarrhea			
	f	%	f	%		
Not enough Good	5	22.7%	17	77.3%		
Enough Good	15	65.2%	8	34.8%	-0.427	0.004
Total	20	100.0%	25	100.0%		

Based on the results in Table 4.10 above, it can be seen that the results of the chi-square test between food storage behavior and the incidence of diarrhea in the Kunjang Village Area obtained a correlation value of -0.427 and a p value of 0.004. Based on the results of the analysis, it can be seen that the p value = 0.004 < α = 0.05, which means that the hypothesis in this variable is accepted where statistically there is a significant relationship between food storage behavior and the incidence of diarrhea. It can also be seen that food storage behavior with a fairly good category experienced diarrhea as many as 8 respondents (34.8%) and did not experience diarrhea as many as 15 respondents (65.2%), food storage behavior with a less good category experienced diarrhea as many as 17 respondents (77.3%) and did not experience diarrhea as many as 5 respondents (22.7%). Judging from the closeness of the relationship obtained from the results of data processing, the value of -0.427 indicates a strong closeness of the relationship between food storage behavior and the incidence of toddler diarrhea. The direction of the correlation is negative, indicating that the better the food storage behavior, the less likely the toddler is to experience diarrhea.

DISCUSSION

A. Mothers' Knowledge About Toddler Diarrhea

Based on research conducted on mothers of toddlers in Kunjang Village, Kediri Regency, it was found that knowledge about toddler diarrhea among 45 respondents was mostly in the low category, namely 28 respondents (62.2%). This research result is in line with research conducted by (Amallia, 2020) at the Mangkang Health Center in Semarang. The results of the study showed that out of 30 mothers with poor knowledge, 21 (70%) toddlers had diarrhea, while out of 20 mothers with good knowledge, 5 (25%) toddlers had diarrhea. The results of this study are different from those reported in the previous study (Meilita, 2019). School students (6-12 years old) in RW 03, Cipinang Muara Village, East Jakarta. Most of the respondents had high or good knowledge, namely from 73 respondents there were 39 people with a percentage of 53.4% and less good knowledge with a percentage of 46.6%. This is also different from the results of research in the working area of Busungbiu II Health Center, Buleleng Regency, which stated that most mothers (70%) had good knowledge about diarrhea (Santini et al., 2020).

Knowledge is defined as the result of processing information that has been understood and absorbed by an individual., and can be used for decision-making and action. Knowledge can be explicit (easily communicated and documented) or tacit (stored in a person's experience and intuition). Therefore, knowledge is not only about what is known, but also how and when it is used effectively (Sol & Heng 2022).

The difference in the results of this study with other studies can be caused by differences in the research instruments used and the assessment methods and also the lack of understanding of respondents regarding Toddler Diarrhea. From the questionnaire instrument in this study there are several problem points from respondents who do not understand about: signs and symptoms experienced by toddlers when infected with diarrhea, general symptoms of diarrhea, the appropriate period of breastfeeding is important for toddler immunity against diarrhea, lack of understanding about giving oral rehydration salts when toddlers experience diarrhea and aspects of diarrhea transmission. Another reason is because in this study many mothers had an elementary school education level (SD) as many as 5 respondents (11.1%), and junior high school (SMP) as many as 14 respondents (31.1%). Education level is a factor that influences knowledge, because from education will be obtained material or information that can be recalled and understood, applied, analyzed, and synthesized. A higher level of education is perceived to have a higher level of knowledge (Amallia, 2020).

B. Food Storage Behavior

Based on research that has been conducted on maternal behavior in storing food in Kunjang Village, Kediri Regency, the results obtained were that knowledge about toddler diarrhea out of 45, namely 22 respondents (48.9%) were in the poor category, and 23 respondents (51.1%) were in the fairly good category. The results of this study are in line with research conducted by (Puji Lestari1, 2023) with the results of storing and serving food with children experiencing diarrhea, the most was in the less category, namely 73.9%, while in children who did not have diarrhea, the most was in the good category, namely 51.1%.

Food storage behavior is behavior that is actualized in actions in Food storage is a key principle of hygiene and sanitation that plays a crucial role in maintaining food quality. A person's food storage behavior is typically influenced by the goals they seek to achieve, although they may not always be aware of the connection between their behavior and those goals. Food storage behavior manifests itself in their actions. Because the goals they seek to achieve are diverse, the actions they undertake are also diverse, and it is not impossible for a person to engage in both good and bad behaviors or habits (Kudussamah, 2020).

It can be concluded that there is a perception in food storage behavior in each respondent that is different, namely less attention to the problem of factors that can arise. From the provision of questionnaire instruments in this study there are several problem points from respondents who are not good in storage behavior, namely: Lack of understanding of the presence of light entering the food storage area, whether it is good or not for toddler food, in food storage respondents also do not understand about separating food according to type and food ingredients and still have not applied the principle that cooked food should not be stored for more than 4 hours, especially soupy food in open places. If respondents understand how to store food, good food storage behavior, then toddlers will tend not to experience diarrhea, while in poor food storage and serving behavior, toddlers tend to experience diarrhea. According to (Chusniah Rachmawati & Windi, 2019) states that new behavior occurs when something is needed to elicit a reaction, namely a stimulus. Certain stimuli will produce certain reactions or behaviors. Behavior can also be defined as human activity that arises from stimulation and response and can be observed directly or indirectly.

C. Diarrhea Incident In Toddlers

Based on research conducted in the Kunjang village area, Kediri Regency, it was found that there were still 25 respondents (55.6%) of toddlers who experienced diarrhea, while there were 20 respondents (44.4%) of toddlers who had never experienced diarrhea.

Diarrhea is an abnormal condition characterized by the passage of stools three or more times a day, with consistency ranging from loose, watery, to containing blood and mucus (Nurmala, 2018). Diarrhea is a contagious disease that can be transmitted through unwashed hands. Food handlers with poor personal hygiene and poor sanitation habits are more likely to contaminate food with microorganisms.

According to researchers, diarrhea in toddlers is caused by poor public health practices and poor environmental conditions. Toddlers have organs that are still sensitive to the environment and prone to infection, making them more susceptible to diarrhea than adults. These causes of diarrhea in toddlers can be minimized if mothers have good knowledge about diarrhea. This knowledge will also influence their parenting styles, such as preparing food, providing loving care, ensuring complete immunizations, maintaining personal hygiene, and providing a clean and healthy home environment.

D. The Relationship Between Knowledge and Food Storage Behavior and The Incidence of Diarrhea in Toddlers

Based on the results of data processing, the following can be identified between each variable:

1. Relationship between knowledge and the incidence of toddler diarrhea

The correlation value of the relationship between knowledge and the incidence of toddler diarrhea is -0.410 and the p value is 0.006. Based on the results of the analysis, it can be seen that the $p \text{ value} = 0.006 < \alpha = 0.05$, which means that the hypothesis in this variable is accepted where statistically there is a significant relationship between knowledge and food storage behavior with the incidence of toddler diarrhea. Judging from the closeness of the relationship obtained from the results of data processing, the magnitude of 0.414 indicates a fairly strong relationship between maternal knowledge and the incidence of diarrhea. It can be interpreted that knowledge is related to the occurrence of diarrhea.

Based on the results of crosstabulation of knowledge and food storage behavior with the incidence of diarrhea in the Kunjang Village Area, Kediri Regency, it can be seen that knowledge with the high category experienced diarrhea as many as 5 respondents (29.4%) and did not experience diarrhea as many as 12 respondents (70.6%), maternal knowledge with the low category experienced diarrhea as many as 20 respondents (71.4%) and did not experience diarrhea as many as 8 respondents (28.6%).

According to Hairani., (2019) Mothers who have little knowledge about how to prevent diarrhea in toddlers, will tend to be less environmental hygiene, do not provide exclusive breastfeeding, do not pay attention to food hygiene and ignore the completeness of toddler immunizations, which means that knowledge is included in health indicators, because knowledge can influence behavior which then leads to an increase in public health. Mothers are important figures and are closest to toddlers and are also the people responsible for toddler health, so when the mother's knowledge about diarrhea is lacking, the possibility of toddlers experiencing diarrhea is high.

2. Relationship between storage behavior and the incidence of toddler diarrhea

The correlation value of the relationship between food storage behavior and the incidence of toddler diarrhea is -0.427 and the p value is 0.004. Based on the results of the analysis, it can be seen that the $p \text{ value} = 0.004 < \alpha = 0.05$. which means that the hypothesis in this variable is accepted where statistically there is a significant relationship between knowledge and food storage behavior and the incidence of toddler diarrhea. Judging from the closeness of the relationship obtained from the results of data processing, the magnitude of

0.427 indicates a fairly strong relationship between food storage behavior and the incidence of diarrhea.

Based on the results of crosstabulation of knowledge and food storage behavior with the incidence of diarrhea in the Kunjang Village Area, Kediri Regency, it can be seen that food storage behavior in the fairly good category experienced diarrhea as many as 8 respondents (34.8%) and did not experience diarrhea as many as 15 respondents (65.2%), food storage behavior in the less good category experienced diarrhea as many as 17 respondents (77.3%) and did not experience diarrhea as many as 5 respondents (22.7%).

Prawati, (2019) revealed that one way to reduce diarrhea is by keeping food from bacterial contamination. Food storage behavior can minimize the presence of germs that cause diarrhea. These diarrhea germs are usually spread through contaminated food and drinks and direct contact with infected people. Mothers' behavior in maintaining personal hygiene when storing food, namely food ingredients before being processed should be washed first until clean, cooked food should be stored in a closed place, this is to avoid flies carrying germs and bacteria that cause diarrhea landing on food, so that the risk of diarrhea in toddlers can be avoided.

Transmission of pathogens can occur through food and beverage handling, including equipment, washing, storage, and serving. Water must be brought to a boil to kill pathogenic microbes. Food is cooked using sufficient heat to thoroughly cook through the inside. Dangerous temperatures are 10–60 degrees Celsius, as they can foster the growth of microorganisms. Incomplete cooking can cause illness. Reheating must be done thoroughly so that the inside of the food reaches boiling point, and allowed to stand for 2 minutes after boiling (Puji Lestari1, 2023).

According to the researchers, the conclusion of the research results that have a negative direction indicates that the better the knowledge and behavior of storing food, the less likely the toddler is to experience diarrhea. By having extensive knowledge, a person who has understood a material can be able to apply and be able to use that knowledge in everyday life, and good food storage behavior is one of the prevention efforts through sanitation measures by washing hands, applying the principle of first expired first out (FEFO), and cleaning food storage areas at least once a week.

This study demonstrates that 100% of diarrhea cases in toddlers are caused by poor maternal knowledge and behavior. These results demonstrate the urgency of conducting diarrhea education programs in the community (especially mothers with toddlers) to reduce the incidence of diarrhea in toddlers. This study only examined the direct relationship between maternal knowledge and behavior regarding food storage, so it is not yet widely understood what factors trigger diarrhea due to knowledge and behavior regarding food storage, whether it is due to poor environmental sanitation, poor parenting practices, or lack of attention to immunization status.

CONCLUSION

Knowledge and Behavior of Toddler Mothers in Kunjang Village Area, Kediri Regency, as many as 45 respondents were found to have the majority of knowledge in the high category as many as 17 respondents (37.8%), as many as 28 respondents (62.2%) were in the low category and most of the behavior was in the fairly good category as many as 23 (51.1%) respondents, as many as 22 (48.9%) were in the less good category. Of the 45 respondents, the results showed that respondents did not experience diarrhea as many as 25 toddlers (55.6%) and toddlers who experienced diarrhea as many as 20 respondents (44.4%).

Based on the correlation test using the Chi-Square test, the correlation value on the

relationship between knowledge and the incidence of toddler diarrhea is -0.410 and the p value is 0.006. Based on the results of the analysis, it can be seen that the p value = 0.006 < α = 0.05 and the correlation value on the relationship between food storage behavior and the incidence of toddler diarrhea is -0.427 and the p value is 0.004. Based on the results of the analysis, it can be seen that the p value = 0.004 < α = 0.05. Showing a fairly strong relationship between handwashing behavior using soap and the incidence of diarrhea. It can be interpreted that knowledge and food storage behavior are related to the incidence of diarrhea.

REFERENCE

- Amallia, D. (2020). hubungan pengetahuan ibu dengan kejadian diare pada balita usia 1-5 tahun. https://repository.unissula.ac.id/25330/1/30101607599_fullpdf.pdf
- Arienta Sari, R., Wulan Sumekar Rengganis Wardani, D., & Dewi Puspita Sari, R. (2019). Perilaku ibu rumah tangga yang mempunyai balita dan sanitasi dasar rumah dengan kejadian diare pada balita (Vol. 13, Issue 4).
- Dewi Ratnasari, D. R., & Patmawati, P. (2019). Hubungan tindakan ibu terhadap kejadian diare pada balita kecamatan anreapi kabupaten polewali mandar. *j-kesmas: Jurnal Kesehatan Masyarakat*, 5 (1),9.<https://doi.org/10.35329/jkesmas.v5i1.304>
- Dinkes.Kediri. (2022). Profil Kesehatan Kabupaten Kediri 2022 ii. https://dinkes.kedirikab.go.id/wpcontent/uploads/2024/02/Profilkes-kab-kediri_2022_NARASI_UP.
- Kemenkes. (2023, March). Mengenal diare: penyakit umum yang perlu diwaspadai. <https://ayosehat.kemkes.go.id/penyakit/diare>
- Husada, S., & Hutasoit, D. P. (2020). Dion Pardameian Hutasoit, Effect of Food Sanitation and Escherichia coli Bacteria Contamination on Diarrhea Pengaruh Sanitasi Makanan dan Kontaminasi Bakteri Escherichia coli Terhadap Penyakit Diare Effect of Food Sanitation and Escherichia coli Bacteria Contamination on Diarrhea.9.<https://doi.org/10.35816/jskh.v10i2.399>.
- Puji Lestari1, L. M. S. (2023). Studi korelasi:perilakupenyimpanan dan penyajian makanandengan kejadian diare pada balita. 5(2), 388-391.<https://jurnal.unw.ac.id/index.php/PJ/article/view/2387/2073>.
- Santini, L., Made, I., & Mahayana, B. (2020). Hubungan tingkat pengetahuan dan sikap ibu balita dengan kejadian diare di puskesmas busungbiu ii kabupaten buleleng. In *Jurnal Kesehatan Lingkungan* (Vol. 10, Issue 2).
- Shati, A. A., Khalil, S. N., Asiri, K. A., Alshehri, A. A., Deajim, Y. A., Al-Amer, M. S., Alshehri, H. J., Alshehri, A. A., & Alqahtani, F. S. (2020). Occurrence of diarrhea and feeding practices among children below two years of age in southwestern saudi arabia. *International Journal of Environmental Research and Public Health*, 17(3). <https://doi.org/10.3390/ijerph17030722>.
- WHO. (2024, March 7). <https://www.who.int/newsroom/factsheets/detail/diarrhoeal-disease> penyakit diare.WHO.