

## Provision of education to increase knowledge in the prevention of diarrhea in children

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Received: 05 January 2024 ◦ Revised: 05 February ◦ Accepted: 1 April 2024

### ABSTRACT

**Introduction:** Prevention of diarrhea in children involves various steps that parents or educators can take to improve knowledge and healthy living habits. By providing this education, parents and educators can help increase children's knowledge about diarrhea prevention and form healthy living habits to prevent the disease.

**Objective:** knowing the provision of education to increase knowledge in preventing diarrhea in children.

**Methods:** Experimental queasy with one group pretest-posttest design. The research sample was 60 respondents with consecutive sampling techniques. The instruments in the study were questionnaires and counseling units regarding diarrhea-statistical data analysis using the Wilcoxon Sign Rank Test.

**Results:** Statistical tests show p values of  $0.000 < \alpha 0.05$ , so it means that there is a significant influence between providing education about diarrhea and the level of knowledge of mothers in preventing diarrhea in children.

**Conclusion:** There is a significant influence between the provision of education about diarrhea and mothers' knowledge level in preventing diarrhea in children. Increasing knowledge about diarrhea prevention in children involves various aspects of hygiene, nutrition, and healthy lifestyle. This holistic approach is expected to reduce the risk of diarrhea in children and improve their overall health. In addition, it is crucial to constantly monitor the child's health, respond quickly to diarrhea symptoms, and seek medical help if needed.

**Keywords:** *diarrhea; healthy lifestyle; health status.*





## INTRODUCTION

Diarrhea in children is a global health problem that can have a severe impact on their growth and development. According to World Health Organization (WHO) data, diarrhea is still the leading cause of child death worldwide, especially in countries with limited access to clean water and sanitation (Behera and Mishra, [2022](#)). Therefore, prevention of diarrhea becomes crucial in maintaining children's health. Diarrhea is a global health problem that has a significant impact on the well-being of children around the world. Although diarrhea is often considered a joint disease, it can lead to severe complications and become the leading cause of death in children in many countries (Omotayo *et al.*, [2021](#)). Therefore, parents, educators, and community members need adequate knowledge about preventing diarrhea in children. Diarrhea in children is a global health problem that requires serious attention. Although diarrhea is often considered a common disorder, its effects can be hazardous, especially in children in developing countries (Ashkenazi and Schwartz, [2020](#)). Increasing the knowledge of parents, educators, and the general public about preventing diarrhea in children is a critical step in reducing morbidity and mortality from this disease. Diarrhea in children can be caused by a variety of factors, including bacterial, viral, or parasitic infections, as well as lack of adequate sanitation (Zhou *et al.*, [2023](#)). Therefore, education on hygiene practices, balanced nutrition, and lifestyle changes are critical in preventing the spread of diarrhea and ensuring children's health (Shrestha *et al.*, [2020](#)).

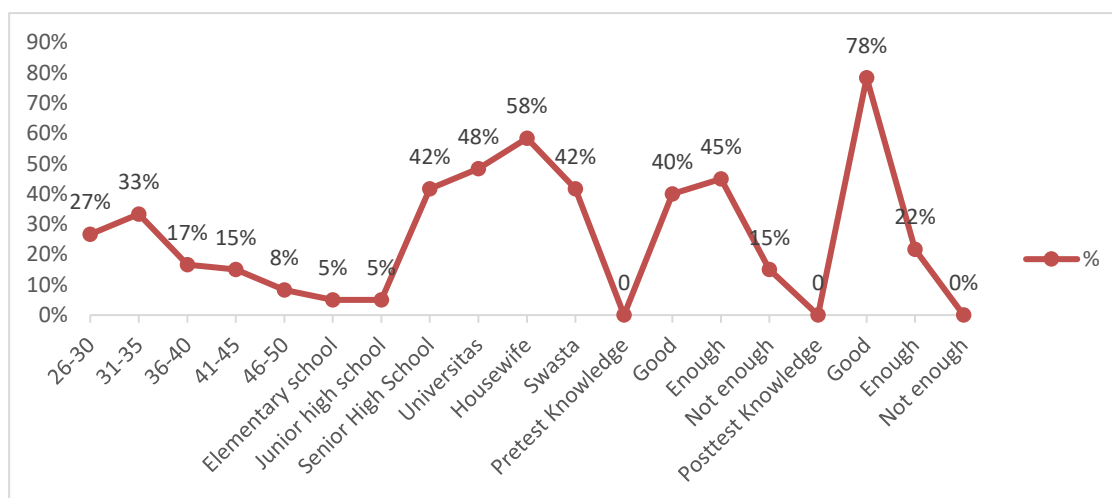
Diarrhea prevention is not only an individual responsibility but also a joint effort of the community to create a clean and healthy environment (Tuang, [2021](#)). Through education, we can equip ourselves with the knowledge and skills necessary to protect children from the risk of diarrhea, improve their health, and create a more prosperous society (Suprpto, [2017](#)). Through effective education, we can equip parents and educators with the knowledge to protect children from the risk of diarrhea. Understanding the importance of preventive measures can create a healthier and safer environment for children's growth and development (Ester *et al.*, [2023](#)). Education is vital in developing positive behavior change and raising awareness of appropriate health practices. Through shared learning, we can build a solid foundation to achieve common goals: preventing diarrhea in children, improving public health, and providing a brighter future for future generations (Sasarari *et al.*, [2023](#)). Education about diarrhea prevention is not only an individual or family responsibility but also part of a joint effort of the community and government to create a healthy environment. With the right knowledge, parents, educators, and the general public can play an active role in protecting children from the risk of diarrhea and reducing its impact. Education programs are key to increasing public awareness and understanding of health practices that can help prevent diarrhea in children (Juvakoski *et al.*, [2023](#)). This education involves learning about personal hygiene, sanitation, nutrition, and other preventive measures that can be integrated into daily life. Creating an environment that supports children's growth and health provides a strong foundation for future generations. We can make sustainable, positive changes in children's diarrhea prevention efforts, emphasizing collaboration among parents, educators, and communities. This study aims to provide knowledge and understanding to parents, educators, and the general public regarding concrete steps that can be taken to reduce the risk of diarrhea in children. This study describes concrete steps that can be taken to prevent diarrhea in children, ranging from personal hygiene practices to the importance of clean water and good nutrition. This education is expected to form healthy

habits and awareness of the importance of collaborative efforts in protecting children from the threat of diarrhea.

## MATERIALS AND METHODS

**Research Design** The design in this study uses quasy Experimental study design with A group pretest posttest design approach. Population and Population Sample in this study were all mothers whose children had diarrhea at Puri Bunda Malang Mother and Child Hospital. The sample in the study was 60 respondents using consecutive sampling techniques. The following are the inclusion and exclusion criteria in this study: inclusion criteria; mothers willing to be respondents, research and have signed informed consent and are not involved in similar research; Compostmentic awareness; Able to communicate, read, and write. Exclusion criteria: Mothers with children diagnosed with complications. Data collection method: In collecting data in this study, researchers went to respondents who fit the inclusion criteria; after respondents agreed and signed the informed consent sheet, researchers gave a pretest questionnaire and then provided education; after providing education, researchers gave knowledge questionnaires back to respondents. Providing education is carried out one by one to respondents. Researchers went to respondents who fit the inclusion criteria by providing education using leaflets. The research instrument used a maternal knowledge questionnaire to prevent diarrhea modified from the questionnaire. There are 25 questions with a Cronbach alpha score of 0.944. With a validity test value of 0.361. Data Analysis Data analysis in this study used the Wilcoxon Sign rank Test statistical test with a P value of  $>0.05$ .

## RESULTS



**Line 1 chart. Respondent demographic data**

Based on the graph above it shows that the most dominant respondents are aged 31-35 years (33%), PT education level (29%), work as a housewife (58%), pretest knowledge with sufficient categories (27%), and posttest with good categories as much as (78%).

**Table 1 Analysis data pretest dan posttest**

		Posttest				Total	%
		Good	%	Enough	%		
<b>Pretest</b>	Good	21	35	3	5	24	40
	Enough	22	37	5	8	27	45
	Not enough	4	7	5	8	9	15
	Total	47	78	13	22	60	100
P Value		0.000					

Based on Table 1, Wilcoxon test results show a p-value of  $0.000 < 0.05$ , which means there is a significant influence between providing education about diarrhea and the level of maternal knowledge in preventing diarrhea in children. Health education will provide knowledge where there is expected to be an increase in behavior change in a positive direction. Providing health education does not require high costs or much time, so it can be done to support the knowledge of patients and families.

## DISCUSSION

Researchers revealed that there is a significant influence between providing education about diarrhea and mothers' knowledge level in preventing diarrhea in children. Health education will provide knowledge where there is expected to be an increase in behavior change in a positive direction. Health education does not require high costs or much time, so it can be done to support the knowledge of patients and families (Li *et al.*, [2023](#)). Education can raise awareness of mothers' risks of diarrhea in children and its impact on their health. This awareness can motivate mothers to pay more attention to hygiene practices, nutrition, and other factors that can affect diarrhea prevention (Yüksel Kaçan, Palloş and Özkaya, [2022](#)). Education provides more in-depth information about the causes of diarrhea in terms of bacterial, viral, and environmental factors. You can better understand the early symptoms of diarrhea and identify the condition quickly (Shanta, Sharmin, and Bithi, [2021](#)). With the knowledge gained, mothers can implement better hygiene practices, such as washing hands properly, serving food safely, and keeping the child's environment clean. Good hygiene practices can be a practical step in preventing disease transmission (Blunch and Datta Gupta, [2020](#)). Education can motivate mothers to make positive changes in the family's lifestyle, such as providing nutritious food and managing waste well. Good nutrition can increase the child's immune system and reduce the risk of diarrhea (Begum *et al.*, [2020](#)).

Educated mothers can become agents of change in their communities, sharing their knowledge with others and encouraging healthy practices. They can form an environment supporting collaborative diarrhea prevention (Saad Mohmed and Abdalla, [2021](#)). Increased educational awareness gives mothers a better understanding of the causes of diarrhea, early symptoms, and the risks associated with this condition. This can raise their awareness of the importance of prevention (Santika *et al.*, [2020](#)). Educational lifestyle changes can stimulate positive changes in daily lifestyles, including healthy food choices, good sanitation practices, and lifestyles that support children's health. Education can increase understanding of vaccinations, including rotavirus vaccines that can prevent diarrhea (Karinja *et al.*, [2020](#)). This can encourage mothers to be more active in ensuring their children get vaccinations. Educated mothers may be more accepting and reduce the stigma associated with seeking medical help when a child has diarrhea, allowing for faster

and more effective treatment. The effects of education can vary depending on the social, economic, and cultural context in which the mother is located. Therefore, an educational approach tailored to the needs and characteristics of the target community can be more effective in increasing knowledge and promoting diarrhea prevention practices in children (Aluri *et al.*, [2022](#)).

With knowledge gained through education, mothers tend to change their hygiene, nutrition, and sanitation behavior. They may be more likely to adopt healthy practices in daily life, such as washing hands properly, providing healthy food, and keeping the environment clean (Rahmadi *et al.*, [2022](#)). Education can raise awareness of the importance of mothers to children's health and the risks associated with diarrhea. This can encourage mothers to be more proactive in seeking health information and respond quickly to diarrhea symptoms. Mothers with a better knowledge of diarrhea prevention tend to be better able to identify risk factors and take steps to reduce the likelihood of diarrhea (Arda, Hartaty, and Hasriani, [2020](#)). This can help reduce the risks and complications of diarrhea in children. Support education with adequate resources and provide easily accessible information to ensure that diarrhea prevention messages can be delivered effectively and sustainably. Maternal awareness of their role in preventing diarrhea in children can improve children's overall health at the household and community level (Suprpto *et al.*, [2023](#)). Education about diarrhea provides information and encourages behavior change that positively impacts the mother's knowledge level and, ultimately, the children's health. The role of mothers in diarrhea prevention becomes more effective when supported by good knowledge and the ability to apply preventive practices in daily life. Education can increase maternal awareness about the importance of preventing diarrhea in children. The information conveyed can inform mothers of the risk of diarrhea, its causes, and effective preventive measures. Maternal knowledge of diarrhea symptoms and potential complications can reduce the stigma against seeking medical help. Education can create an understanding that consulting with a doctor is a wise step in dealing with children's health problems.

## CONCLUSIONS

It was concluded that there was a significant influence between the provision of education about diarrhea and the level of knowledge of mothers in preventing diarrhea in children. In preventing diarrhea in children, education plays a key role in increasing the knowledge and awareness of parents, educators, and the general public. Through effective education, it is hoped that a community that is aware of the importance of preventing diarrhea, providing maximum protection for children's health, and embracing the values of hygiene and healthy living practices in daily life can be formed. With joint efforts, we can achieve positive change toward more effective and sustainable prevention of diarrhea in children worldwide.

## REFERENCES

- Aluri, K. Z. *et al.* (2022) 'The effect of a large-scale water, sanitation, and hygiene intervention in Bangladesh on knowledge, behaviour, and health: Findings from an online program evaluation,' *Tropical Medicine & International Health*, 27(10), pp. 913–924. doi: 10.1111/tmi.13813.
- Arda, D., Hartaty, H. and Hasriani, H. (2020) 'Studi Kasus Pasien dengan Diare Rumah Sakit di Kota Makassar', *Jurnal Ilmiah Kesehatan Sandi Husada*, 11(1), pp. 461–

466. doi: 10.35816/jiskh.v11i1.324.

- Ashkenazi, S. and Schwartz, E. (2020) 'Traveler's diarrhea in children: New insights and existing gaps,' *Travel Medicine and Infectious Disease*, 34, p. 101503. doi: 10.1016/j.tmaid.2019.101503.
- Begum, M. R. *et al.* (2020) 'Effectiveness of WASH Education to Prevent Diarrhea among Children under five in a Community of Patuakhali, Bangladesh', *SN Comprehensive Clinical Medicine*, 2(8), pp. 1158–1162. doi: 10.1007/s42399-020-00405-x.
- Behera, D. K. and Mishra, S. (2022) 'The burden of diarrhea, etiologies, and risk factors in India from 1990 to 2019: evidence from the global burden of disease study', *BMC Public Health*, 22(1), p. 92. doi: 10.1186/s12889-022-12515-3.
- Blunch, N.-H. And Datta Gupta, N. (2020) 'Mothers' health knowledge for children with diarrhea: who you are or whom you know?', *Review of Economics of the Household*, 18(4), pp. 1131–1164. doi: 10.1007/s11150-020-09478-y.
- Ester, E. *et al.* (2023) 'Environmental Sanitation with Diarrhea in the Elderly,' *Jurnal Edukasi Ilmiah Kesehatan*, 1(1), pp. 31–36. doi: 10.61099/junedik.v1i1.10.
- Juvakoski, A. *et al.* (2023) 'Evidence of waste management impacting severe diarrhea prevalence more than WASH: An exhaustive analysis with Brazilian municipal-level data,' *Water Research*, 247, p. 120805. doi: 10.1016/j.watres.2023.120805.
- Karinja, M. *et al.* (2020) 'Risk reduction of diarrhea and respiratory infections following a community health education program - a facility-based case-control study in rural parts of Kenya,' *BMC Public Health*, 20(1), p. 586. doi: 10.1186/s12889-020-08728-z.
- Li, Y. *et al.* (2023) 'Diarrhea induced by insufficient fat absorption in weaned piglets: Causes and nutrition regulation,' *Animal Nutrition*. doi: 10.1016/j.aninu.2023.12.004.
- Omotayo, A. O. *et al.* (2021) 'Clean water, sanitation, and under-five children diarrhea incidence: Empirical evidence from South Africa's General Household Survey,' *Environmental Science and Pollution Research*, 28(44), pp. 63150–63162. doi: 10.1007/s11356-021-15182-w.
- Rahmadi, A. *et al.* (2022) 'Education on Nutrition, Sanitation, and IYCF to Increase Mother's Knowledge in Lokus Stunting Village', *Jurnal Aisyah: Jurnal Ilmu Kesehatan*, 7(2), pp. 639–646. doi: 10.30604/jika.v7i2.890.
- Saad Mohamed, E. A. and Abdalla, M. A. (2021) 'Awareness and Knowledge of Mothers Regarding Home Management of Diarrheal Disease for Children Less Than Five,' *International Journal of Healthcare and Medical Sciences*, 7(73), pp. 58–62. doi: 10.32861/ijhms.73.58.62.
- Santika, N. K. A. *et al.* (2020) 'Determinants of diarrhea among children under two years



- old in Indonesia,' *Children and Youth Services Review*, 111, p. 104838. doi: 10.1016/j.chidyouth.2020.104838.
- Sasarari, Z. A. *et al.* (2023) 'Mother's Knowledge and Attitudes About Diarrhea Management in Children,' *Jurnal Edukasi Ilmiah Kesehatan*, 1(1), pp. 1–5. doi: 10.61099/junedik.v1i1.4.
- Shanta, F. F., Sharmin, A. and Bithi, I. J. (2021) 'Mothers' Knowledge, Attitude and Practice regarding Prevention of Diarrhea among Children: An Empirical Investigation,' *Randwick International of Social Science Journal*, 2(4), pp. 461–467. doi: 10.47175/rissj.v2i4.326.
- Shrestha, A. *et al.* (2020) 'Association of nutrition, water, sanitation, and hygiene practices with children's nutritional status, intestinal parasitic infections, and diarrhea in rural Nepal: a cross-sectional study,' *BMC Public Health*, 20(1), p. 1241. doi: 10.1186/s12889-020-09302-3.
- Suprpto, S. (2017) 'Hubungan Sanitasi Lingkungan Dengan Kejadian Diare Pada Lanjut Usia Di Kelurahan Barombong Kecamatan Tamalate Kota Makassar', *Jurnal Ilmiah Kesehatan Sandi Husada*, 6(2 SE-Articles). doi: 10.35816/jiskh.v6i2.207.
- Suprpto, S. *et al.* (2023) 'Human resource development and job satisfaction among nurses', *International Journal of Public Health Science (IJPHS)*, 12(3), p. 1056. doi: 10.11591/ijphs.v12i3.22982.
- Tuang, A. (2021) 'Analisis Analisis Faktor yang Berhubungan dengan Kejadian Diare pada Anak', *Jurnal Ilmiah Kesehatan Sandi Husada*, 10(2), pp. 534–542. doi: 10.35816/jiskh.v10i2.643.
- Yüksel Kaçan, C., Palloş, A. and Özkaya, G. (2022) 'Examining knowledge and traditional practices of mothers with children under five in Turkey on diarrhea according to education levels,' *Annals of Medicine*, 54(1), pp. 674–682. doi: 10.1080/07853890.2022.2044508.
- Zhou, X. *et al.* (2023) 'Amino acids in piglet diarrhea: effects, mechanisms, and insights,' *Animal Nutrition*. doi: 10.1016/j.aninu.2023.07.009.

<p><b>How to cite this article.</b> Setiawati, A., Suyatni Musyrah, A. and Rusli, R. (2024) "Provision of education to increase knowledge in the prevention of diarrhea in children", <i>Jurnal Edukasi Ilmiah Kesehatan</i>, 2(1), pp. 14–19. doi: 10.61099/junedik.v2i1.30.</p>
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