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LEARNING IN CLINICAL CASES

Honey healing: A sweet solution to alleviate diarrhea and curb bowel movement frequency in children

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Abstract
Diarrhea is the second leading cause of death among children under five years of age. It can persist for an extended period, leading to dehydration and potential malnutrition. While the literature presents various complementary therapies for managing diarrhea, there is a notable lack of studies specifically addressing the use of honey to mitigate hyperactivity of bowel movements in affected patients. Therefore, the objective of this study was to evaluate the benefits of honey in children experiencing diarrhea. The study involved two pediatric patients who were administered pure honey over a two-day period. The dosage consisted of 5 cc of honey mixed with 10 cc of water, given three times daily at 07:00, 17:00, and 21:00. The honey used in the study was confirmed to be pure. The findings suggest that pure honey is effective in reducing the frequency of bowel movements in children with acute diarrhea. This conclusion is supported by the observed outcomes in both patients, which indicated a reduction in bowel movement frequency following the administration of honey. Consequently, it is recommended that pure honey be considered as a complementary treatment for children suffering from acute diarrhea.

Keywords: Children care; diarrhea; honey treatment; innovation in health; medication

Introduction

Diarrhea remains a significant public health issue in developing countries, including Indonesia (Komarulzaman, Smits, & de Jong, 2017). Beyond being a leading cause of death, diarrhea contributes to malnutrition, which can result in fatal outcomes and complications such as growth and developmental delays in children (Isnawati, Gitawati, Raini, Alegantina, & Setiawaty, 2019). It is the second leading cause of death among children under five, causing approximately 525.000 child deaths annually (Shine, Muhamud, Adanew, Demelash, & Abate, 2020). Each year, there are an estimated 1.7 billion cases of diarrhea worldwide (Gambia Central Statistics Department, & UNICEF, 2007). Prolonged diarrhea can lead to dehydration and exacerbate malnutrition. Moreover, bacterial infections associated with diarrhea can further increase mortality rates (Hartman et al., 2023). Children who are malnourished, immunocompromised, or living with HIV are at the highest risk of life-threatening diarrhea. In Indonesia, diarrhea is recognized as an endemic disease with potential for outbreaks, contributing significantly to mortality rates, especially in young children (At Thobari et al., 2021). According to the 2018 Basic Health Research survey, the prevalence of diarrhea was 12.3% among toddlers and 10.6% among infants (Kementerian Kesehatan RI, 2018). In 2021, diarrhea was reported as a leading cause of neonatal and infant deaths, with 23.8% of cases in toddlers, translating to 83,665 reported cases and a prevalence of 23.4% in Central Java Province (Departemen Kesehatan RI, 2020). Given the high incidence of diarrhea, early interventions are crucial to reducing bowel movement frequency, particularly in children. Management can include pharmacotherapy and complementary treatments, such as administering honey. Research has shown that honey possesses antibacterial properties effective against bacteria, viruses, and parasites associated with diarrhea (Andayani, 2020). Common bacterial causes of diarrhea include *Salmonella, Shigella,* and *Escherichia coli*, while rotavirus is the predominant viral cause. Parasitic causes, such as Giardia lamblia and Entamoeba histolytica, typically stem from contaminated food and water (Worku, Haile, Sahile, & Duguma, 2023).

Diarrhea also caused by viruses like rotavirus damages the epithelial cells of the small intestine, leading to villous atrophy (Kang, 2017). As such, the therapeutic management of diarrhea should focus on maintaining fluid

and nutritional balance. Nursing management for children with diarrhea emphasizes restoring fluid and electrolyte balance while educating families. Oral rehydration solutions (ORS) such as Pedialyte or honey can be used for fluid replacement, alongside breastfeeding if appropriate (Mahyar et al., 2022). Honey plays a crucial role in managing diarrhea in children, serving as both a natural and effective complementary treatment **(Figure 1)**. Its importance stems from its antimicrobial and anti-inflammatory properties, which help combat pathogens responsible for diarrhea, such as bacteria, viruses, and parasites (Masad et al., 2021). Research indicates that honey can inhibit the growth of common diarrheal pathogens, including *Escherichia coli, Salmonella,* and *Shigella*, as well as rotavirus, the leading viral cause of diarrhea in children (Mandal & Mandal, 2011). Honey's natural sugars, particularly fructose and glucose, provide an energy source that aids in recovery, especially in malnourished children (Samarghandian, Farkhondeh, & Samini, 2017). Furthermore, honey facilitates faster rehydration by improving the absorption of fluids and electrolytes in the intestine, making it a valuable addition to oral rehydration therapy (ORT) (Abdulrhman, Mekawy, Awadalla, & Mohamed, 2010). In nursing practice, the inclusion of honey in treatment protocols can enhance the effectiveness of ORT while promoting a holistic approach to care.

Figure 1. Illustration of honey (*courtesy of www.unsplash.com*).

From a nursing perspective, honey is not only therapeutic but also widely accepted by children due to its pleasant taste, making adherence to treatment easier for both the child and caregivers. Nurses often face challenges in managing diarrhea, particularly in children who are reluctant to consume ORT solutions due to their taste (Ansari et al., 2012). Honey, when added to ORT or given directly, can improve palatability and encourage fluid intake, reducing the risk of dehydration. Its ability to soothe and heal the gastrointestinal lining also supports faster recovery by reducing inflammation and irritation caused by diarrhea. For nurses, incorporating honey into care plans aligns with a non-pharmacological, family-centered approach, empowering parents with simple, accessible, and cost-effective home remedies (Shariatpanahi, Jamshidi, Nasrollahzadeh, Amiri, & Teymourian, 2018). Additionally, honey supports ongoing nutritional needs by providing essential nutrients, which is vital for children already at risk of malnutrition due to diarrhea. Incorporating honey into nursing interventions also emphasizes the role of education in empowering families. Nurses play a pivotal role in teaching caregivers about safe and effective use, such as ensuring the honey is pure and unprocessed and not given to children under one year of age due to the risk of botulism. Educating parents about honey's benefits and how it complements standard treatments like ORT fosters a proactive approach to diarrhea management. Emphasizing the importance of maintaining hydration,

monitoring symptoms, and incorporating honey can improve health outcomes for children while addressing common barriers to treatment adherence. This approach not only alleviates the immediate symptoms of diarrhea but also contributes to long-term health by preventing complications such as malnutrition and growth delays. Based on this context, the primary aim of this study is to analyze the effects of pure honey in reducing bowel movement frequency in children with diarrhea. This approach is expected to provide additional knowledge and practical solutions for families, communities, and healthcare providers in managing pediatric diarrhea. Introducing honey as a non-pharmacological intervention seeks to demonstrate its potential as a primary medium for reducing diarrhea frequency in children.

Method

This study employs a descriptive research design, which is essential for systematically and accurately documenting symptoms, facts, and occurrences within a specific area of interest. Descriptive research focuses on providing a detailed account of the phenomena being studied without necessarily seeking to establish relationships between variables or testing specific hypotheses. In this context, the author adopts a descriptive method through a case study approach, which is particularly effective for gaining insights into individual cases. This method involves collecting both subjective and objective data through interviews and observations, allowing for a comprehensive understanding of the patient's issues. The data gathered are pivotal for formulating nursing diagnoses, planning interventions, and evaluating outcomes, ensuring that the nursing care provided is tailored to the specific needs of the patients. In this case study, the unit of analysis comprises clients and their families who are experiencing acute diarrhea. The subjects selected for this study include two pediatric patients: Child W, aged 3 years, and Child B, aged 1.5 years. Both clients are classified under pediatric nursing problems related to acute diarrhea, which is primarily attributed to food factors. This study uniquely incorporates complementary therapy through the administration of pure honey, which is known for its potential health benefits. Focusing on the fluid needs of these young patients and the therapeutic effects of honey aims to assess the effectiveness of this innovative approach in managing acute diarrhea in children.

The focus of this case study is specifically on the two patients suffering from acute diarrhea, with an emphasis on the innovative use of honey as a therapeutic agent. The administration of honey is scheduled to occur three times a day for three consecutive days during home visits. This structured approach not only facilitates regular monitoring of the patients' conditions but also allows for the assessment of honey's effectiveness in alleviating symptoms associated with diarrhea. The rationale behind using pure honey lies in its antibacterial properties, which can inhibit the metabolism of bacteria and viruses responsible for causing diarrhea. This innovation is particularly relevant for young children aged 1 to 5 years, who are often more vulnerable to the adverse effects of gastrointestinal infections. The honey therapy involves a specific dosage regimen, where 5 cc of pure honey is mixed with 10 cc of water and administered at designated times—07:00, 17:00, and 21:00. This method not only ensures that the children receive adequate hydration but also introduces the therapeutic benefits of honey in a safe and palatable manner. Observing the patients over the course of the treatment aims to document any improvements in their condition and overall fluid balance. This comprehensive approach underscores the importance of integrating innovative therapies into pediatric nursing practices, ultimately enhancing the quality of care provided to young patients experiencing acute gastrointestinal issues.

Results

For the first client, Child W, who presented with acute diarrhea, honey innovation was administered over three days, from May 26 to May 28, 2023. The initial nursing care process began with a comprehensive assessment, followed by the development of a tailored nursing care plan based on careful data analysis and evaluation. Utilizing the 13 NANDA domains for assessment, it was determined that the primary complaint was diarrhea lasting one day after the consumption of milk, characterized by more than six liquid bowel movements daily, with no blood present. The client appeared weak and exhibited a decreased appetite. Vital signs indicated a pulse of 108 beats per minute, respiration at 22 breaths per minute, a temperature of 36.8°C, and bowel sounds recorded at 29 per minute. Notably, the client had no history of illness and no known food or drink allergies. The family reported that they typically resorted to over-the-counter medications when the child was unwell. Biochemical assessments were not conducted due to the absence of laboratory testing. Clinically, Child W presented with black hair, elastic skin turgor, and dry lip mucosa, while the conjunctiva showed no signs of anemia. The child’s diet reflected a decreased appetite, with only snacks like chips being consumed—approximately four tablespoons of food three times a day. The client’s energy levels were notably low; prior to the illness, Child W was active but had become increasingly fussy during this episode. Nutritional factors indicated no difficulties with swallowing or chewing. Fluid intake was limited, with the child consuming plain water and tea, resulting in an intake of 300cc, urine output of 130cc, and

stool output of approximately 220cc, leading to a negative fluid balance of -60cc. An abdominal examination revealed a distended abdomen without scars, bowel sounds at 29 per minute upon auscultation, no tenderness upon palpation, and hyperresonance during percussion **(Figure 2)**.

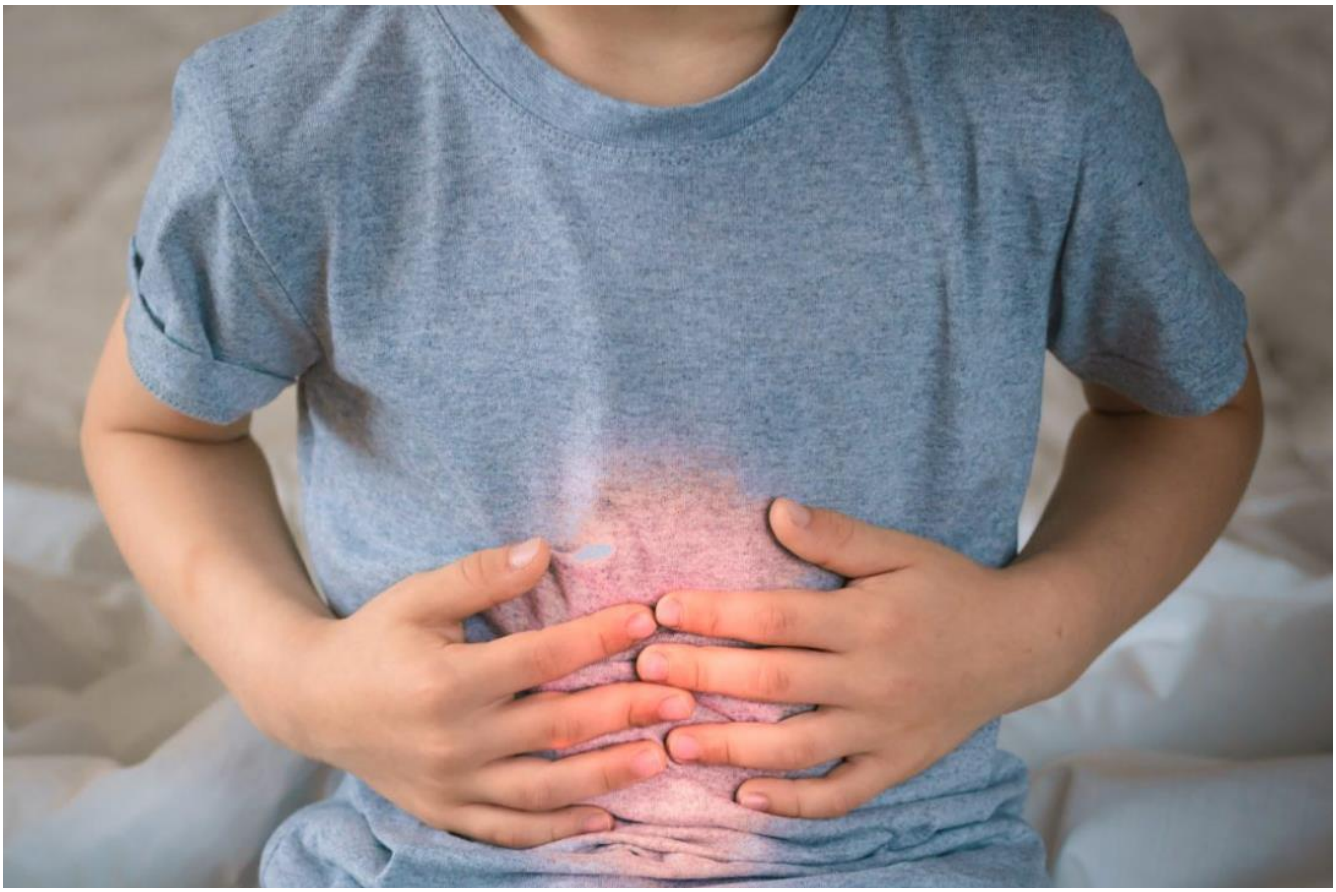

Figure 2. Illustration of distended abdomen in children (*courtesy of www.southtees.nhs.uk*).

In the perception and cognition assessment, Child W had not yet started school, indicating low educational attainment and limited knowledge but demonstrated good orientation to both time and person. Sensory perception was normal, although the child faced challenges in effective communication. In the self-perception assessment, there were no indications of despair or self-harm, and the child had no visible wounds or disabilities. The relational roles were clear, with Child W being the child of Mr. S and Mrs. W, and there were no reported changes or conflicts within the family dynamics. On May 27, 2023, follow-up vital signs recorded a pulse of 110 beats per minute, respiration at 20 breaths per minute, temperature at 36.5°C, and bowel sounds at 23 per minute. The lip mucosa remained somewhat dry, the client appeared weak, and conjunctiva showed signs of anemia. The frequency of bowel movements exceeded four times per day, with soft stool consistency and a yellow-brown color. The perineal area showed no irritation, and the child was receptive to honey due to its sweet taste. By May 28, 2023, vital signs indicated a pulse of 114 beats per minute, respiration at 22 breaths per minute, temperature at 36.8°C, and bowel sounds decreased to 12 per minute. While the lip mucosa was slightly dry, the client no longer appeared weak, although the conjunctiva still indicated anemia. Notably, bowel movements decreased to fewer than three times a day with soft consistency. There were no signs of irritation in the perineal area, and the client reported improved sleep quality at night. The final evaluation revealed a significant positive change: Child W reported no abdominal pain, an increase in appetite, and bowel movements occurring at a maximum of twice a day with no liquid consistency. The absence of mucus or blood in the stool confirmed the resolution of the diarrhea issue.

For the second client, Child B, honey innovation will be administered for three days, from May 28 to May 31, 2023. The initial nursing care will also begin with a thorough assessment, followed by the creation of a nursing care plan based on the data collected and analyzed. On May 31, 2023, the assessment revealed that Ms. S reported the client had experienced diarrhea for one day, with approximately four bowel movements that day. Ms. S noted that the stool was liquid but did not contain blood, and the client sometimes cried when attempting to have a bowel movement. Objective data from vital sign assessments indicated a pulse of 108 beats per minute, respiration at 22

breaths per minute, a temperature of 37.4°C, and bowel sounds at 26 per minute. The lip mucosa was dry, the client appeared weak, and conjunctiva showed signs of anemia. The diagnosis for Child B was diarrhea related to exposure to contaminants, and gastrointestinal irritation due to the consumption of spicy foods, such as snacks, was identified as a contributing factor. On May 31, 2023, planned actions included identifying the factors contributing to the diarrhea caused by spicy foods, alongside monitoring vital signs. These showed a pulse of 113 beats per minute, respiration at 23 breaths per minute, a temperature of 36.9°C, and bowel sounds at 31 per minute. The lip mucosa remained dry, the client appeared weak, but conjunctiva showed no signs of anemia. The frequency of bowel movements exceeded five times a day, with liquid consistency and some residue present. There was no irritation noted in the perineal area, and honey was administered at 07:00, 17:00, and 21:00, with a dosage of 5cc of honey mixed with 10cc of warm water. The author assisted in administering honey at 17:00, and the client responded positively, willingly consuming it independently.

On June 1, 2023, the client's vital signs were recorded as follows: pulse 113 beats per minute, respiration at 22 breaths per minute, temperature at 36.8°C, and bowel sounds at 22 per minute. The lip mucosa was somewhat dry, the client appeared weak, and conjunctiva showed no signs of anemia. The client had more than three bowel movements per day with a soft, yellow-brown consistency. There was no irritation in the perineal area, and the client was eager to drink honey due to its sweet taste. By June 2, 2023, the vital signs indicated a pulse of 114 beats per minute, respiration at 22 breaths per minute, temperature at 36.5°C, and bowel sounds decreased to 12 per minute. The lip mucosa was slightly dry, the client did not appear weak, and conjunctiva showed no signs of anemia. The frequency of bowel movements decreased to less than one per day, with a soft-formed consistency. There were no wounds in the perineal area, and the client reported improved sleep quality at night. In the final evaluation, Child B stated that there was no more abdominal pain, and appetite had increased, indicating a positive response to the nursing interventions and honey therapy.

Discussion

Diarrhea remains a significant global health challenge, particularly among children under five years of age, where it is the second leading cause of death (Hartman et al., 2023). Prolonged episodes of diarrhea can lead to severe dehydration and malnutrition, both of which exacerbate morbidity and mortality (Skrable et al., 2017). Managing diarrhea effectively requires strategies that address the underlying causes while providing symptomatic relief. While pharmacological therapies and ORS are standard approaches, there is growing interest in complementary therapies to enhance outcomes. Despite the widespread use of honey in traditional medicine, research specifically exploring its role in reducing bowel movement frequency in pediatric diarrhea cases is limited. This study sought to evaluate the benefits of pure honey in managing diarrhea in children and contributes valuable insights into this under-researched area. The intervention involved administering 5 cc of pure honey diluted in 10 cc of water, three times daily at scheduled intervals (07:00, 17:00, and 21:00). The choice of honey was based on its known antimicrobial, anti-inflammatory, and healing properties, which have been documented in previous studies (Mandal & Mandal, 2011; Iosageanu, Stefan, Craciunescu, & Cimpean, 2024). Honey has demonstrated effectiveness against pathogens such as *Escherichia coli, Salmonella,* and *Shigella*, as well as rotavirus, a common viral cause of diarrhea in children. Its ability to soothe and protect the gastrointestinal lining may contribute to its efficacy in reducing bowel movement frequency. In this study, both pediatric patients exhibited a marked reduction in bowel movement frequency within two days of honey administration, suggesting that honey may serve as an effective complementary therapy for acute diarrhea.

However, it is important to recognize some limitations and potential contradictions in the use of honey as a treatment for diarrhea. First, the small sample size of this study limits the generalizability of the findings. The results from two pediatric patients cannot be extrapolated to larger populations with diverse health conditions and socioeconomic backgrounds. Additionally, there is a lack of control or comparative group to determine whether the observed reduction in bowel movements could have been due to the natural resolution of diarrhea rather than the honey itself. Acute diarrhea is often self-limiting, and spontaneous improvement over time may confound the interpretation of the results (Holtzmuller, 2010). Another potential issue lies in the variability of honey's composition and quality. Honey's antimicrobial and therapeutic properties depend heavily on its source, purity, and processing. The use of impure or adulterated honey may not yield similar results and could introduce risks, such as contamination with harmful substances. Furthermore, while honey is generally safe, it should not be administered to infants under one year of age due to the risk of botulism, which could overshadow its benefits. This limitation raises concerns about its universal applicability, especially in settings where awareness of such risks is low. Lastly, while honey is an appealing option due to its natural and cost-effective properties, there is a need for a cautious approach to its recommendation in clinical practice. Some studies have suggested that excessive reliance on complementary therapies like honey could inadvertently delay the use of more proven treatments (Kebede et

al.,2021). Without robust clinical trials to establish standardized dosing and treatment protocols, promoting honey as a primary intervention risks undermining evidence-based care **(Figure 3)**.

Figure 3. Illustration of clinical trials (*courtesy of www.unsplash.com*).

Healthcare professionals, including nurses, physicians, and dietitians, play a pivotal role in integrating honey as a complementary treatment for managing diarrhea in children. One of their primary responsibilities is ensuring that caregivers are well-informed about the safe and effective use of honey (Palma-Morales, Huertas, & Rodríguez-Pérez, 2023). This includes educating families about its potential benefits, such as its antimicrobial and soothing properties, which can help reduce bowel movement frequency and support gut healing. Healthcare professionals must emphasize the importance of using pure, high-quality honey to maximize its therapeutic effects and avoid risks associated with adulterated or contaminated products. Additionally, they must clearly communicate safety guidelines, particularly the critical warning against administering honey to children under one year of age due to the risk of infant botulism. Providing this education can empower caregivers to make informed decisions while fostering trust and compliance in treatment plans. Another essential role of healthcare professionals is monitoring and evaluating the outcomes of honey as part of diarrhea management (Harris, Atkins, & Alwyn, 2010). They are responsible for assessing the child's overall condition, including hydration status, nutritional intake, and response to treatment. Healthcare providers must ensure that honey is used as a complement to standard therapies, such as ORS and zinc supplementation, rather than as a substitute. This integrated approach helps address both the immediate symptoms of diarrhea and its potential long-term consequences, such as malnutrition. Additionally, healthcare professionals can contribute to the growing body of evidence on honey's efficacy by documenting its effects and identifying any adverse reactions or limitations. Combining their clinical expertise with a holistic and evidence-based perspective, healthcare professionals ensure that honey is safely and effectively incorporated into comprehensive care for children with diarrhea, improving outcomes and enhancing the quality of life for both the patients and their families.

Conclusion

This study provides preliminary evidence supporting the use of pure honey as a complementary treatment for reducing bowel movement frequency in children with acute diarrhea. Its natural, effective, and child-friendly properties make it a promising adjunct to standard therapies. Nurses must remain vigilant in monitoring for potential

risks, such as allergic reactions or delays in seeking medical attention for severe cases of diarrhea. Collaboration with other healthcare professional is important to achieve best outcomes of diarrhea. However, its application must be tempered by safety considerations, quality assurance, and acknowledgment of its limitations. Larger, controlled studies are necessary to validate these findings, and its use should always complement, not replace, established diarrhea management strategies. Additionally, government officials and health policymakers need to be informed of these findings to develop policies that incorporate complementary therapy in diarrhea management.

References

Abdulrhman, M. A., Mekawy, M. A., Awadalla, M. M., & Mohamed, A. H. (2010). Bee honey added to the oral rehydration solution in treatment of gastroenteritis in infants and children. Journal of medicinal food, 13(3), 605–609. https://doi.org/10.1089/jmf.2009.0075

Andayani, R. P. (2020). Madu sebagai Terapi Komplementer Mengatasi Diare pada Anak Balita. Jurnal Kesehatan Perintis (Perintis's Health Journal), 7(1), 64–68. https://doi.org/10.33653/jkp.v7i1.393

Ansari, M., Ibrahim, M. I., Hassali, M. A., Shankar, P. R., Koirala, A., & Thapa, N. J. (2012). Mothers' beliefs and barriers about childhood diarrhea and its management in Morang district, Nepal. BMC research notes, 5, 576. https://doi.org/10.1186/1756-0500-5-576

At Thobari, J., Sutarman, Mulyadi, A. W. E., Watts, E., Carvalho, N., Debellut, F., Clark, A., Soenarto, Y., & Bines, J. E. (2021). Direct and indirect costs of acute diarrhea in children under five years of age in Indonesia: Health facilities and community survey. The Lancet regional health. Western Pacific, 19, 100333. https://doi.org/10.1016/j.lanwpc.2021.100333

Departemen Kesehatan RI. (2020). Profil Kesehatan Indonesia 2020-2021. Jakarta: Departemen Kesehatan RI.

Gambia. Central Statistics Department, & UNICEF. (2007). The Gambia Multiple Indicator Cluster Survey 2005/2006 Report: Monitoring the Situation of Children and Women. Gambia Bureau of Statistics.

Harris, P., Atkins, R. C., & Alwyn, T. (2010). Evaluating a complementary therapies clinic: outcomes and relationships. Complementary therapies in clinical practice, 16(1), 31–35. https://doi.org/10.1016/j.ctcp.2009.06.005

Hartman, R. M., Cohen, A. L., Antoni, S., Mwenda, J., Weldegebriel, G., Biey, J., Shaba, K., de Oliveira, L., Rey, G., Ortiz, C., Tereza, M., Fahmy, K., Ghoniem, A., Ashmony, H., Videbaek, D., Singh, S., Tondo, E., Sharifuzzaman, M., Liyanage, J., Batmunkh, N., ... Nakamura, T. (2023). Risk Factors for Mortality Among Children Younger Than Age 5 Years With Severe Diarrhea in Low- and Middle-income Countries: Findings From the World Health Organization-coordinated Global Rotavirus and Pediatric Diarrhea Surveillance Networks. Clinical infectious diseases: an official publication of the Infectious Diseases Society of America, 76(3), e1047–e1053. https://doi.org/10.1093/cid/ciac561

Hartman, R. M., Cohen, A. L., Antoni, S., Mwenda, J., Weldegebriel, G., Biey, J., Shaba, K., de Oliveira, L., Rey, G., Ortiz, C., Tereza, M., Fahmy, K., Ghoniem, A., Ashmony, H., Videbaek, D., Singh, S., Tondo, E., Sharifuzzaman, M., Liyanage, J., Batmunkh, N., ... Nakamura, T. (2023). Risk Factors for Mortality Among Children Younger Than Age 5 Years With Severe Diarrhea in Low- and Middle-income Countries: Findings From the World Health Organization-coordinated Global Rotavirus and Pediatric Diarrhea Surveillance Networks. Clinical infectious diseases: an official publication of the Infectious Diseases Society of America, 76(3), e1047–e1053. https://doi.org/10.1093/cid/ciac561

Holtzmuller K. C. (2010). Evaluation of Acute Diarrhea. GI/Liver Secrets, 378–385. https://doi.org/10.1016/B978-0-323-06397-5.00055-1

Iosageanu, A., Stefan, L. M., Craciunescu, O., & Cimpean, A. (2024). Anti-Inflammatory and Wound Healing Properties of Different Honey Varieties from Romania and Correlations to Their Composition. Life (Basel, Switzerland), 14(9), 1187. https://doi.org/10.3390/life14091187

Isnawati, A., Gitawati, R., Raini, M., Alegantina, S., & Setiawaty, V. (2019). Indonesia basic health survey: self-medication profile for diarrhea with traditional medicine. African health sciences, 19(3), 2365–2371. https://doi.org/10.4314/ahs.v19i3.9

Kang G. (2017). Viral Diarrhea. International Encyclopedia of Public Health, 360–367. https://doi.org/10.1016/B978-0-12-803678-5.00486-0

Kebede, E. B., Tan, J., Iftikhar, S., Abu Lebdeh, H. S., Duggirala, M. K., Ghosh, A. K., Croghan, I. T., Jenkins, S. M., Mahapatra, S., Bauer, B. A., & Wahner-Roedler, D. L. (2021). Complementary and Alternative Medicine Use by Patients From the Gulf Region Seen in the International Practice of a Tertiary Care Medical Center. Global advances in health and medicine, 10, 21649561211010129. https://doi.org/10.1177/21649561211010129

Kementerian Kesehatan RI. (2018). Hasil Riset Kesehatan Dasar (Riskesdas) 2018. Jakarta: Badan Penelitian dan Pengembangan Kesehatan Kementerian RI.

Komarulzaman, A., Smits, J., & de Jong, E. (2017). Clean water, sanitation and diarrhoea in Indonesia: Effects of household and community factors. Global public health, 12(9), 1141–1155. https://doi.org/10.1080/17441692.2015.1127985

Mahyar, A., Ayazi, P., Shaftaroni, M. R., Oveisi, S., Dalirani, R., & Esmaeili, S. (2022). The Effect of Adding Honey to Zinc in the Treatment of Diarrhea in Children. Korean journal of family medicine, 43(3), 188–192. https://doi.org/10.4082/kjfm.21.0080

Mandal, M. D., & Mandal, S. (2011). Honey: its medicinal property and antibacterial activity. Asian Pacific journal of tropical biomedicine, 1(2), 154–160. https://doi.org/10.1016/S2221-1691(11)60016-6

Masad, R. J., Haneefa, S. M., Mohamed, Y. A., Al-Sbiei, A., Bashir, G., Fernandez-Cabezudo, M. J., & Al-Ramadi, B. K. (2021). The Immunomodulatory Effects of Honey and Associated Flavonoids in Cancer. Nutrients, 13(4), 1269. https://doi.org/10.3390/nu13041269

Palma-Morales, M., Huertas, J. R., & Rodríguez-Pérez, C. (2023). A Comprehensive Review of the Effect of Honey on Human Health. Nutrients, 15(13), 3056. https://doi.org/10.3390/nu15133056

Samarghandian, S., Farkhondeh, T., & Samini, F. (2017). Honey and Health: A Review of Recent Clinical Research. Pharmacognosy research, 9(2), 121–127. https://doi.org/10.4103/0974-8490.204647

Shariatpanahi, V. Z., Jamshidi, F., Nasrollahzadeh, J., Amiri, Z., & Teymourian, H. (2018). Effect of Honey on Diarrhea and Fecal Microbiotain in Critically Ill Tube-Fed Patients: A Single Center Randomized Controlled Study. Anesthesiology and pain medicine, 8(1), e62889. https://doi.org/10.5812/aapm.62889

Shine, S., Muhamud, S., Adanew, S., Demelash, A., & Abate, M. (2020). Prevalence and associated factors of diarrhea among under-five children in Debre Berhan town, Ethiopia 2018: a cross sectional study. BMC infectious diseases, 20(1), 174. https://doi.org/10.1186/s12879-020-4905-3

Skrable, K., Bilal, S., Sharma, R., Robertson, S., Ashenafi, Y., Nasrin, S., Alam, N. H., & Levine, A. C. (2017). The Effects of Malnutrition and Diarrhea Type on the Accuracy of Clinical Signs of Dehydration in Children under Five: A Prospective Cohort Study in Bangladesh. The American journal of tropical medicine and hygiene, 97(5), 1345–1354. https://doi.org/10.4269/ajtmh.17-0277

Worku, T., Haile, T., Sahile, S., & Duguma, T. (2023). Parasitic etiology of diarrhea and associated factors among under-five-year children attending Mizan-Tepi University Teaching Hospital, Southwest Ethiopia. The Pan African medical journal, 45, 187. https://doi.org/10.11604/pamj.2023.45.187.38263

Author's perspective

Key points

- The use of pure honey as a complementary treatment for reducing bowel movement frequency.
- Healthcare professionals can contribute to the growing body of evidence on honey's efficacy.
- Its application must be tempered by safety considerations and quality assurance.

Potential areas of interest

- What specific properties of honey contribute to its effectiveness in alleviating diarrhea in children?
- How does the administration of honey impact the frequency of bowel movements in children?
- Are there any potential side effects or precautions that caregivers should consider when using honey?

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