

Implementation of Lime and Honey for Children with Coughs in the Kalibaru Area North Jakarta

Khonsa Nur Azizah¹, Azharine Maharani¹, Asrifa¹, Medya Aprilia Astuti¹, Titin Sutini¹, Anita Apriliawati¹

¹Fakultas Ilmu Keperawatan Universitas Muhammadiyah Jakarta, Jakarta Pusat, Indonesia

Article Info

Keywords :

Toddlers, Cough, Lime and Honey Therapy

Corresponding Author :

Medya Aprilia Astuti

E-mail : medya.aprilia@umj.ac.id

ABSTRACT

Background & Objective : Cough is a common respiratory problem in children and may indicate impaired airway clearance when it persists and presents with changes in cough characteristics. In preschool-aged children, prolonged cough may disrupt comfort, sleep patterns, and physiological stability, requiring appropriate pediatric nursing care based on clinical assessment. Examine pediatric nursing care in children with cough through the application of lime and honey therapy using a clinical reasoning approach. **Methods:** A case study method was conducted involving two preschool children with different cough characteristics. The pediatric nursing process was carried out systematically through comprehensive assessment, data analysis based on the child's response, determination of nursing diagnoses according to the Indonesian Nursing Diagnosis Standard (SDKI), planning, implementation, and evaluation. Nursing care was provided in the family setting as the child's daily care environment. **Results:** The results demonstrated clinical improvement, indicated by a reduction in cough frequency and intensity and improved breathing comfort after three days of lime and honey therapy. The child with a longer duration of productive cough showed a relatively slower recovery process. **Conclusion:** Lime and honey therapy can be used as a supportive non-pharmacological intervention in pediatric nursing care for children with cough when guided by accurate clinical assessment and critical nursing analysis. Pediatric nursing care focusing on the child's physiological response and family involvement contributes to improved clinical outcomes.

DOI: <https://doi.org/10.56359/igj.v5i3.1103>



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Introduction

Children's health is an important indicator in determining the degree of public health because children are in a growth and development phase that is vulnerable to various health disorders, especially infectious diseases. Health disorders in children not only have an impact on physical condition, but also affect the quality of life, daily activities, and the optimal growth and development process of children. The World Health Organization emphasizes that efforts to improve children's health require the active role of families, health workers, and the support of a healthy environment as a protective factor against infectious diseases (World Health Organization, 2023).

One of the health disorders that often occur in children is respiratory system disorders, especially Acute Respiratory Tract Infection (ARI). Environmental conditions such as population density, exposure to air pollution, extreme weather changes, and low implementation of clean and healthy living behaviors are risk factors for increasing the incidence of STIs in children. Factors of the physical environment of the house are proven to contribute to the increase in the incidence of STI, especially in areas with less than optimal sanitation and ventilation (Wardani & Astuti, 2022).

Cough is a physiological reflex that functions as the body's defense mechanism to maintain the cleanliness of the respiratory tract through the excretion of secretions, foreign particles, and pathogenic microorganisms. The cough reflex is controlled by the central nervous system through the integration of complex sensory and motor pathways. Increased sensitivity of the central nervous system can cause coughs to last longer and have the potential to develop into a chronic cough if not treated properly (Wang et al., 2025).

ARI is still one of the main health problems for children in Indonesia. Basic Health Research Data (Riskesdas) in 2018 shows that the prevalence of UTI in toddlers reaches 12.8%. Meanwhile, the 2023 Indonesian Health Survey shows that the prevalence of ISPA in toddlers is 4.8%. Despite the decline, STI remains a health problem that requires serious attention because it has the potential to cause complications if not handled properly (Ministry of Health of the Republic of Indonesia, 2018; Ministry of Health of the Republic of Indonesia, 2023).

Prolonged cough in children can disrupt sleep quality, reduce appetite, cause fatigue, and reduce body resistance. The use of chemical cough medicine without the supervision of health workers has the potential to cause side effects such as drowsiness, indigestion, and the risk of improper long-term use (Siregar, 2022).

As an alternative, natural non-pharmacological therapies such as a combination of lime and honey have long been used in traditional medicine to help relieve cough. Lime contains vitamin C, flavonoids, and antioxidants that play a role in boosting the immune system and reducing inflammation. Honey has antibacterial, anti-inflammatory properties, and a demulcent effect that can coat the throat mucosa so that it helps suppress the cough reflex. Research shows that honey is effective in reducing the frequency and severity of coughing in mild respiratory tract infections in children (Oduwale et al., 2023; Goldman, 2021).

The application of lime and honey therapy has also been used in community nursing practice and has been proven to help improve airway clearance in children with STI. The combination of the two ingredients gives a synergistic effect in reducing

the frequency of coughing and increasing children's breathing comfort (Indriany & Trismiyan, 2021; Lestari, 2023).

Based on the results of field studies, it was found that children with cough complaints had not received optimal medical treatment or alternative therapy. The condition is influenced by the limited time of parents and the lack of access to health services. This shows the importance of family education regarding the early treatment of cough in children through safe, easy, and can be done at home.

Based on the description, research is needed on the application of non-pharmacological therapy combined with lime and honey in helping to reduce cough complaints in children with airway clearance disorders. This research is expected to be a simple, safe, and effective intervention alternative in supporting the treatment of cough in children.

Objective

Examine pediatric nursing care in children with cough through the application of lime and honey therapy using a clinical reasoning approach.

Method

Case study uses a descriptive research design with a case study approach. This approach is used to describe in depth the application of non-pharmacological therapy in the form of a combination of lime and honey in children with cough complaints due to Acute Respiratory Tract Infection (ARI). Case studies allow researchers to conduct a comprehensive assessment of the patient's condition, intervention process, and evaluation results after therapy.

Case study was carried out in January 2026 in the neighborhood where the respondents lived. The research subjects consisted of two children who experienced cough complaints with different duration characteristics. The selection of subjects using the purposive sampling technique with inclusion criteria, namely children who experience coughing due to STI, do not have a history of chronic respiratory diseases, and obtain consent from parents to carry out intervention. Meanwhile, exclusion criteria include children with severe disease complications, allergies to honey or lime, and children who are undergoing special pharmacological therapy for severe respiratory disorders.

The variables in this study include the main variables, namely the implementation of combination therapy of lime and honey, as well as result variables in the form of changes in coughing frequency and the condition of cleaning the child's airway. The operational definition of lime and honey therapy is the administration of a mixture of the juice of one lime juice with a sufficient amount of honey which is given three times a day with a dose of one teaspoon each.

Case study procedure begins with the assessment stage including the child's identity, medical history, main complaints, coughing frequency, respiratory frequency, and respiratory system examination. Next, the intervention of lime and honey therapy is carried out according to the prescribed dose. Evaluation is carried out periodically to see changes in coughing frequency, throat comfort, and the child's respiratory condition.

Case study instruments used include child nursing assessment observation sheets, cough frequency recording sheets, as well as a format to evaluate the development of the child's condition during the intervention. Data was collected through direct observation, interviews with parents, and simple physical examination of the child's respiratory system.

The data analysis technique used is descriptive analysis by comparing the conditions before and after therapy. The analysis was carried out by describing changes in the frequency of coughing, respiratory conditions, and the child's response to the therapy given.

Case study pays attention to the ethical principles of the research including informed consent from parents, maintaining the confidentiality of the respondent's identity, and ensuring the safety of the intervention given. The therapy used is a non-pharmacological therapy that is relatively safe and has been widely used in community practice.

Results

This study was conducted on two children who experienced cough complaints with different durations and severity. The assessment was carried out through interviews with family, direct observation, and simple physical examination of the child's respiratory system.

Based on the results of the initial assessment, the first child coughed for more than two weeks with a frequency of more than 20 times per day. The child complained of itching in the throat and experienced an increase in breathing frequency of 37 times per minute. On physical examination, it was found that there was an additional breathing sound accompanied by a complaint of shortness of breath, which indicates a disorder in the respiratory tract.

Meanwhile, the second child had a cough for five days with a lighter coughing frequency than the first child. The child also complained of itching in the throat with a breathing frequency of 35 times per minute. The results of the examination showed normal vesicular breathing sound and no signs of shortness of breath were found.

The intervention given is in the form of non-pharmacological therapy combined with lime and honey given three times a day with a dose of one teaspoon each administration. Therapy is given regularly during the observation period with periodic monitoring of the child's condition.

After giving therapy, both children showed a change in their clinical condition. In the first child, the frequency of coughing gradually decreases, complaints of itchy throat decrease, and respiratory frequency shows a tendency towards normal values. In the second child, the frequency of coughing decreased faster than the first child, with the respiratory condition remaining stable and no signs of complications were found.

Case study results show that giving a combination of lime and honey therapy can help reduce the frequency of coughing and improve breathing comfort in children with cough complaints due to UTI.

Discussion

The problem of coughing in children is still one of the main complaints in cases of Acute Respiratory Tract Infection (ARI). This condition is closely related to the child's immune system that has not developed optimally and exposure to environmental factors such as air pollution, occupancy density, and poor environmental sanitation. Environmental factors are proven to contribute to the increase in the incidence of UTI in children, especially in areas with inadequate air quality and home ventilation (Wardani & Astuti, 2022).

Cough is a body defense mechanism that functions to clean the respiratory tract from foreign particles, mucus secretions, and pathogenic microorganisms. However, if the cough reflex lasts for a long time, the condition can cause a disturbance of comfort, reduce the quality of sleep, and affect the child's activity and appetite. The regulation of the cough reflex involves the central nervous system through the sensory and motor nerve integration mechanism, so that the sensitivity of the cough reflex can increase in the condition of infection or inflammation of the respiratory tract (Wang et al., 2025).

The management of cough in children does not always have to use pharmacological therapy. The use of chemical cough medicine without the supervision of health workers can cause side effects such as sedation, gastrointestinal disorders, and the risk of irrational use. Therefore, nonpharmacological therapy becomes a safe and easy alternative to apply at home, especially in cases of mild respiratory tract infections (Siregar, 2022).

The combination therapy of lime and honey is one of the forms of non-pharmacological therapy that is widely used traditionally and supported by several scientific studies. Honey has a demulcent effect that can coat the throat mucosa so as to reduce irritation and cough reflex. In addition, honey also has antibacterial and anti-inflammatory properties that help reduce the inflammatory process in the upper respiratory tract. Research shows that honey is effective in reducing the frequency and severity of cough in children with mild respiratory infections (Oduwole et al., 2023; Goldman, 2021).

Lime contains vitamin C, flavonoids, and antioxidants that play a role in boosting the body's immune system and helping to lower the inflammatory process. The citric acid content in lime can also help dilute mucus secretions so that it makes it easier to expel phlegm. The combination of lime and honey provides a synergistic effect in helping to relieve cough symptoms and increase respiratory tract comfort (Sharma et al., 2024; Lestari, 2023).

Previous research results show that the application of lime and honey therapy can help improve airway clearance in children with STI. This therapy is also easy to apply by the family at home, so it can be an initial intervention before getting further medical treatment. The success of therapy is influenced by the regularity of administration, the right dose, and family involvement in child care (Indriany & Trismiyan, 2021).

In addition to the therapeutic factor, the role of the family also has an important influence on the success of treating cough in children. Family education regarding the initial treatment of cough, the importance of monitoring children's condition, and

when to seek medical attention is an important part of family-based STI management (Ministry of Health of the Republic of Indonesia, 2022).

Based on theoretical studies and previous research results, lime and honey therapy can be used as supportive therapy in helping to reduce coughing frequency and improve children's respiratory tract comfort. This therapy is safe, easy to get, and relatively cheap so it has the potential to be a complementary intervention in child health services in the community.

Conclusion

Coughing in children is one of the main symptoms of Acute Respiratory Tract Infection that can disrupt the comfort, activity, and quality of life of children if not handled properly. Treatment of cough in children not only depends on pharmacological therapy, but can also be done through non-pharmacological therapy that is safe and easy to apply at home.

Combination therapy of lime and honey can be used as a supportive therapy in helping to reduce the frequency of coughing, improve throat comfort, and support the respiratory tract recovery process. The content of vitamin C and antioxidants in limes as well as the antibacterial and anti-inflammatory properties of honey give a synergistic effect in helping to relieve cough symptoms in children.

The role of the family is very important in the success of therapy, especially in terms of the regularity of therapy, monitoring the child's condition, and decision-making to seek medical help if the symptoms do not improve. Therefore, health education to families needs to be continuously improved as part of the prevention and treatment of STI in children in the community.

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