



ANALYSIS OF FAMILY NURSING CARE THROUGH THE INTERVENTION OF EUCALYPTUS OIL INHALATION AND HONEY GINGER DRINKS FOR TODDLERS EXPERIENCING ACUTE RESPIRATORY TRACT INFECTION IN RW 001 GROGOL VILLAGE, DEPOK CITY

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ABSTRACT

Introduction: ARI (Acute Respiratory Infection) is one of the most common problems experienced by toddlers. Symptoms such as cough with phlegm or dry cough and nasal congestion are clinical manifestation of ARI. This paper aims to determine the effect of eucalyptus oil inhalation therapy and the provision of ginger honey drink on toddlers ARI in RW 001 Grogol Village, Depok City.

Methods: Eucalyptus oil inhalation therapy and honey ginger drink administration were carried out for 3 meetings, where each meeting was carried out inhalation for \pm 10-15 minutes and continued by giving honey ginger drink.

Results: After the intervention, the results showed that there was a decrease in the sound of ronkhi in the lung lobe and the appearance of mucus coming out of the airway, indicating that eucalyptus oil inhalation therapy and honey ginger drink can reduce ARI symptoms. It can be concluded that the provision of eucalyptus oil inhalation therapy interventions and ginger honey drinks can reduce ARI in toddlers.

Conclusion: therefore community nurses are expected to provide complementary ARI therapy procedures to parents so that parents can apply the therapy when their toddler experiences ARI.

Keywords: ARI, Eucalyptus oil inhalation, Honey Ginger Drink

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INTRODUCTION

Children under the age of five, also known as toddlers, are those who are more than one year old but have not yet reached the age of five. This period is crucial in a child's growth and development process. At this age, a toddler's immune system is still developing and tends to be more susceptible to health problems. Acute Respiratory Tract Infection (ARI) is one of the diseases that often affects toddlers (Sari & Ratnawati, 2020).

According to the World Health Organization (WHO), acute respiratory infections are a significant health problem, especially in developing countries (Hanum & Bukhari, 2023). According to the Kementerian Kesehatan (2018), the prevalence of ARI in 2018 in Indonesia was 9.3% with several provinces having the highest prevalence including East Nusa

Tenggara at 15.4%, Papua 13.1%, West Papua 12.3%, Banten 11.9%, Bengkulu 11.8%, West Nusa Tenggara 11.7% and West Java 11.2%.

Treatment for acute respiratory infections (ARI) is generally divided into four types, namely the administration of vaccines to overcome specific pathogens that cause disease, accurate early diagnosis, improving the quality of nutrition and environmental conditions, and the use of antibiotics. In addition, traditional medicine, including the use of plants/herbal medicines, can also be an alternative in treating coughs and colds caused by ARI (Aisah et al., 2023).

Traditional treatment for Acute Respiratory Infection can be done by utilizing herbal concoctions in the form of a mixture of ginger and honey, which are known to be effective and safer. Honey is rich in

pinobanksin and vitamin C, which act as antioxidants and have antibacterial properties. On the other hand, ginger contains essential oils with zingiberen and zingiberol as its main components, which have antiseptic and antioxidant effects, as well as antibacterial and antifungal activities, useful as an expectorant or cough treatment (Novikasari, Setiawati, et al., 2021).

In addition to ginger and honey mixture, inhalation therapy is very useful to relieve ARI. One way to do inhalation therapy is with eucalyptus oil. The benefits of eucalyptus oil lie in its ability to overcome breathing difficulties. Steam inhalation of eucalyptus oil can help relieve respiratory problems, due to its decongestant properties which are effective in reducing nasal congestion and bronchitis symptoms when inhaled (Handayani et al., 2021).

Based on the results of the field study for 3 days, based on the results of interviews with cadres, many toddlers and AUS experience ARI and fever. Based on the survey conducted, it is known that the most common diseases experienced by the toddler age group and AUS in RW 01 are Acute Respiratory Infections (ARI) 59% of the population (n=315). As many as 38.4% of parents let their children when experiencing signs of ARI symptoms. 45% of parents did not know how to make simple inhalation. 30% of parents did not know the benefits of ginger for toddlers.

The role of community nurses is very important to reduce the number of infectious diseases by means of promotive and preventive efforts. Promotive efforts made by community nurses are useful for increasing the ability and awareness of the community in maintaining their health. This is done by empowering the community to practice clean and healthy living. Preventive efforts are also very necessary to control ARI disease and improve overall health (Asnel et al., 2022).

Based on the above phenomenon, researchers are interested in raising the intervention of giving simple inhalation of eucalyptus oil and giving honey ginger drinks to toddlers who are experiencing mild ARI (cough and runny nose) with the title "Analysis of Family Nursing Care Through the Intervention of Eucalyptus Oil Inhalation and Honey Ginger Drinks for Toddlers Experiencing Acute Respiratory Tract Infection in RW 001 Grogol Village, Depok City".

METHODS

This study was conducted on 2 toddlers children in RT 02 RW 01 Grogol Village, Limo, Depok who were given the same intervention. The implementation of the innovation intervention was carried out for 3x24 hours starting from November 9 to November 11, 2023. Performed routinely for 3 consecutive days. The implementation of this innovation intervention begins with observation of temperature, RR, SPO2,

breath rhythm, cough, ronkhi, sputum and the use of breathing muscles. This observation was carried out by researchers with the help of a stethoscope, watch, and oximeter.

RESULTS

The results of the assessment on Child A was found that the signs of ARI symptoms experienced by Child A is coughing and runny nose. Child A is only on the first day. There was a ronkhi breath sound in both lower lobes. In Child B also heard ronkhi in the lower left lobe and has been experienced for 6 days. The situation experienced by the two toddlers indicates an obstruction in the airway area, due to excessive sputum production. So the nursing problem raised is airway uncleanliness caused by excessive sputum.

Implementation carried out on Child A and Child B is based on references from the 2018 SIKI book and given actions according to the five family duties. In the first diagnosis, namely ineffective airway clearance, implementation is given related to the first family task, namely the family is able to recognize problems in the form of education related to ARI in children.

Then for the second task, namely the family is able to make the right decision. After the health education action is carried out, it is hoped that the family can make the right decision. Furthermore, the third implementation is that the family is able to care for sick members. In this task, researchers perform nursing actions based on the 2018 SIKI book and evidence-based innovative nursing actions.

Before implementing toddlers, researchers first conducted an assessment including; temperature, pulse frequency, breathing frequency, additional breath sounds, coughing, mucus coming out of the nose, breathing muscles, breathing rhythm, and oxygen saturation. After the assessment, the researcher then conducted a demonstration to the child assisted by the family.

The first is the implementation of innovation, namely providing inhalation added by eucalyptus oil. Handayani et al., (2021) said that one of the simple inhalation methods that can be done is by using eucalyptus oil. Eucalyptus oil is proven to have benefits in relieving respiratory problems. Inhaling eucalyptus oil vapor can help reduce nasal congestion and symptoms of bronchitis because it has decongestant properties that can help open the respiratory tract. In this nursing action, the toddler was given inhalation for approximately 10-15 minutes. The toddler looked calm because when giving was accompanied by the mother and the older brother.

After being given inhalation, toddlers are given a warm drink in the form of red ginger water added by honey. Research by Kusumadewi et al., (2024) showed that giving a mixture of ginger and honey had a significant impact on the cough of toddlers. The use of honey ginger drink in traditional treatment of ARI has been proven to be very effective and safe. Honey

Table 1. Frequency Distribution of Intervention Evaluation of Eucalyptus Oil Inhalation Therapy and Ginger Honey Drink in Child A and Child B

Day	Child A		Child B		
	Pre	Post	Pre	Post	
1 (09-11-2023)	Temperature	36.6°C	36.7°C	36.8°C	36.8°C
	Pulse	90x/minute	86 x/minute	96 x/minute	92 x/minute
	RR	36 x/minute	32 x/minute	30 x/minute	26 x/minute
	Cough	3x	1x	-	-
	Cough at night	Mother said there was still a cough with phlegm	Mother said there was still a cough with phlegm	Mother said coughing was rare	Mother said coughing was rare
	Ronkhi	Yes (in lower right lobe and lower left lobe)	Decreased (heard in the left lobe and faint right lobe)	Yes (in lower left lobe)	Decreased (slightly heard in left lobe)
	Sputum	There isn't any	There is (slem coming out of the nose)	There isn't any	There is (comes out of the nose)
	Muscles that assist breathing	-	-	-	-
	Breathing Rhythm	Regular	Regular	Regular	Regular
	Saturation	99 %	99%	99 %	100%
	2 (11-10-2023)	Temperature	36.8°C	36.8°C	36.8°C
Pulse		88 x/minute	90 x/minute	104 x/minute	98 x/minute
RR		28 x/minute	24 x/minute	30 x/minute	28 x/minute
Cough		3x	-	-	-
Cough at night		Mom says it's still there (Coughing with phlegm)	Mom says it's still there (coughing with phlegm)	Mother said coughing was rare	Mother said coughing was rare
Ronkhi		Yes (lower left lobe and lower right lobe)	Decreased (rhonchi sounds in the left lobe are faint and the right lobe is faint)	Yes (lower left lobe, slightly audible in right lobe)	Decreased (slightly heard in left lobe)
Sputum		There isn't any	There is Exit in the nose	There isn't any	There is Exit in the nose
Muscles that assist breathing		-	-	-	-
Breathing Rhythm		Regular	Regular	Regular	Regular
Saturation		97%	98%	99 %	99%
3 (11-11-2023)		Temperature	36.7°C	36.8°C	36.7°C
	Pulse	100 x/minute	96 x/minute	96 x/minute	94 x/minute
	RR	26 x/minute	24 x/minute	28 x/minute	24 x/minute
	Cough	2x	1x	-	-
	Cough at night	Mother said she was still coughing but not as often as yesterday (Coughing up phlegm)	Mother said she was still coughing but not as often as yesterday (Coughing up phlegm)	Mom said there was no cough	Mom said there was no cough
	Ronkhi	Yes (lower left lobe)	Decreased (slightly audible crackles)	Yes (lower left lobe)	Decreased (slightly audible crackles)
	Sputum	There is (comes out of the nose)	There is	There is (comes out of the nose)	There is (comes out of the nose)
	Muscles that assist breathing	-	-	-	-
	Breathing Rhythm	Regular	Regular	Regular	Regular
	Saturation	99%	100%	99%	100%

contains pinobanksine and vitamin C as antioxidants and antibiotics, which play a role in reducing cough severity without causing side effects that interfere with children's health (Handayani et al., 2021).

After giving eucalyptus oil inhalation therapy and red ginger drink plus honey, a re-evaluation was carried out, including; temperature, pulse frequency, breathing frequency, additional breath sounds,

coughing, mucus coming out of the nose, breathing muscles, breathing rhythm, and oxygen saturation. Then the next implementation was given, namely doing chest physiotherapy. Chest physiotherapy is an attempt to clear the respiratory tract from excessive mucus and secretions. In children who experience coughs, colds are applied in chest physiotherapy techniques with the aim of clearing the respiratory

tract and increasing air exchange (Novikasari, Safaat, et al., 2021).

Then, the fourth family task is that the family is able to modify the environment. In this task, the implementation given is environmental management. Environmental management is the family's ability to assist in creating and organizing the environment to provide therapeutic benefits, sensory stimulation, and psychological well-being (Tim Pokja SIKI DPP PPNI, 2018). The implementation provided is in the form of education such as telling to open the door of the house frequently and clean the house, so that air circulation can enter.

The fifth family task is that families are able to utilize health facilities. In this task, the implementation carried out is education on the behavior of health efforts by recommending health facilities if the symptoms of the disease get worse.

In the table 1, it can be seen that after the implementation of eucalyptus oil inhalation and warm ginger honey drink, the ronkhi heard in the lung lobe decreased slightly, then there was mucus coming out of the airway

DISCUSSION

Arini & Syarli, (2022) explained that the administration of warm water vapor therapy mixed with eucalyptus oil can improve respiratory tract hygiene by showing improvements in vital signs (such as decreased pulse and respiratory rates) and reducing cough intensity, reducing the sound of ronki (with minimal effect), and the use of eucalyptus oil proves its effectiveness in improving respiratory tract hygiene in these pediatric patients.

In Handayani et al., (2021) research, before the application of inhalation, the condition of children who had a cold cough showed an inability to clear the airway, characterized by additional breath sounds, coughing, excessive sputum production, and thick whitish yellow sputum. After the application of simple inhalation with eucalyptus oil, there was an increase in the effectiveness in clearing the airway, with reduced additional breath sounds, reduced cough frequency, liquefaction of sputum, and changes in sputum color to white. This study is similar to the research of Laksita & Purborini, (2024) showing partial resolution of the problem, especially seen from the improvement of airway hygiene after the administration of simple inhalation therapy compared to before. Nofiasari & Hartiti, (2022) explained that there was a significant difference between the conditions before and after giving hot steam inhalation therapy with eucalyptus oil. Both respondents showed a decrease in the frequency of breathing in children who had respiratory infections.

In the research above, it can be seen that eucalyptus oil is very useful in reducing ARI symptoms. This is because eucalyptus oil is obtained from distilling the leaves of the *Malaleuca laucadendra* plant, containing the main content of eucalyptol or 1.8-sineol. The compound 1.8-sineol is a

monoterpene compound that has a variety of benefits such as mucolytic (phlegm thinner), anti-inflammatory, antioxidant, bronchodilator, antiviral, and antimicrobial. The use of simple inhalation with eucalyptus oil can increase the effectiveness of airway clearance in patients with cough. The content of 1,8 sineol in eucalyptus oil can reduce secretion production, relieve the airway, and has anti-inflammatory properties, making it suitable for use to overcome hypersecretion of mucus in patients who have a cough (Wulandari & Waliyanti, 2023).

Non-pharmacological measures, such as the application of eucalyptus oil inhalation, are an effective alternative in handling ARI in children. The simple vaporization or inhalation process of eucalyptus oil helps facilitate the expectoration of phlegm more effectively. This method uses warm vapor containing eucalyptus oil, which is safe to use in children as well as individuals of various age ranges (Istikomah, Ananda., 2023). Steam inhalation therapy is an effective treatment for nasal congestion using the hot steam method to help relieve respiratory conditions such as flu, bronchitis, pneumonia and various other conditions (Nofiasari & Hartiti, 2022).

The table above also shows that coughing every night is reduced. This is supported by the research of Arba'atin et al., (2023) explained that there was a significant difference in the average severity of cough in children between the experimental group and the control group after being given a honey ginger drink. Children who drank honey ginger showed a decrease in cough symptoms such as cough with phlegm, runny nose, decreased appetite, and other symptoms. Therefore, from this study it can be concluded that the administration of ginger and honey brew has an effect on ARI in toddlers.

The results of research by Suryani & Zakiah Zulfa, (2022) showed a significant difference in the average severity of cough in children in the intervention group after being given red ginger drink. Thus, it can be said that the administration of red ginger drink is able to reduce respiratory distress in ARI patients in toddlers, as indicated by a P value of 0.036 (<0.05). This shows that additional red ginger therapy along with standard health center therapy is more effective than just consuming standard health center therapy alone. Based on the results of research by Kusumadewi et al., (2024), it can be seen that honey ginger drinks can reduce cough symptoms that occur in children under five with a P value of <0.005. Purwitasari, (2023) the effectiveness of giving red ginger brew to reduce ARI in toddlers aged 1-5 years, with a significance value (P) of 0.001. This indicates that the administration of red ginger is significantly influential in reducing ARI cases in toddlers in that age range.

This is different from the research of Novikasari, Setiawati, et al., (2021) which showed that the condition of the airway and breathing patterns changed before and after giving red ginger and honey drinks. However, the results show that the problems experienced by patients are only partially resolved

and not fully in accordance with the plans that have been made. Although the patient has been able to remove sputum, it has not been maximized, and the patient still experiences coughing. Regarding breathing patterns, there was a decrease in the frequency of breathing from 29 times per minute before giving red ginger and honey drinks to 22 times per minute after administration for 5 days.

From the research above, it can be seen that honey ginger is useful for reducing ARI symptoms. Ginger contains essential oils which are active substances that can treat coughs, while honey contains antibiotic substances that can inhibit the growth of gram-positive and gram-negative bacteria negatif (Aisah et al., 2023). Giving honey can also relieve coughing at night. Honey is safe and effective to be given to children because it can reduce cough frequency scores and improve children's sleep (Ratnaningsih & Benggu, 2020).

Lidya et al., (2021) explained that honey contains pinobanksine and Vitamin C as antioxidants and antibiotics, which help reduce cough severity without causing side effects on children's health. Meanwhile, ginger contains essential oils, because ginger contains zingiberen and zingiberol, which have antiseptic effects, antioxidants, and activity against bacteria and fungi. Ginger is also useful as a phlegm thinner and reduces cough effectively.

CONCLUSION

The application of nursing care for eucalyptus oil inhalation and honey ginger drink is proven to reduce the signs and symptoms of ARI. This is evident from the evaluation results obtained, due to a decrease in the sound of ronkhi and cough, therefore community nurses are expected to provide complementary ARI therapy procedures to parents so that parents can apply the therapy when their toddler experiences ARI.

The application of EBN is expected to be the basis for developing further research on non-pharmacological therapies that can be done to reduce the signs and symptoms of ARI in toddlers.

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