Impact of thyme drink with Honey on Nocturnal Cough and Sleep Quality for Children

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Abstract

Background: A typical bothersome symptom of upper respiratory tract infections (URTI) in children is nocturnal cough, which can influence how well kids sleep. Therefore, thyme is a herb that contains compounds that are antioxidant and reduce coughing. Coughs have long been treated naturally with honey. **Objectives:** to evaluate the impact of thyme drink with honey on nocturnal cough and sleep quality for children. **Research design:** In the current research, a quasi-experimental approach was used. **Subjects:** Purposive sample including (300) children their mothers. **Setting:** This research was carried out at the pediatric medical department at Minia University Hospital for Obstetrics and Pediatrics (MUHOP) and Minia General Hospital (MGH). **Tool:** one tool was utilize to collect the important information such as; 1) assessment of children nocturnal cough symptoms, severity, as well as sleep quality pre and after thyme drink with honey administration. **Results:** showed that there was remarkable improvement of children's sleep quality, decreased cough frequency, and severity, after 3days of utilize thyme drink with honey. So, the mothers satisfaction rates, and the intention to use thyme drink with honey in future attacks were significantly in both hospital MUHOP, and MGH (p=0.02, and 0,03); respectively. **Conclusion*:*** Thyme drink with honey can enhance children's severity of nocturnal cough, frequency, and sleep quality in both hospitals (MUHOP, MGH). **Recommendations:** The researchers should be continuous developing further studies to evidence the impact of Thyme drink with honey on children who have nocturnal cough.

Keywords: Honey, Nocturnal Cough, Sleep Quality, Thyme.

Introduction

Children with URTI frequently suffer the unsettling symptom of nocturnal cough. One of the most common complaints of children visiting outpatient departments is coughing **(Korppi, 2021).** Parents as well as children often have sleep problems as a result of it. As a result, the children who are afflicted have significant rates of school absence. Therefore, even if they are aware that viral URTI is typically self-limited, parents and caregivers nevertheless make an effort to provide their kids herbal therapies as well as over-the-counter (OTC) drugs to treat their indications **(Al-Juaid, et al., 2018)**.

One of the most typical ailments for kids to seek medical attention is a cough. In addition to making the child feel uncomfortable, coughing makes the parents anxious and causes them to have restless nights. An essential reflex response, coughing serves to open up the upper airways. Acute and chronic cough are the two main categories used by respiratory experts. Chronic or persistent cough lasts longer than four weeks while acute cough lasts shorter than four weeks. Preschoolers experience coughing more frequently than older kids do **(Korppi, 2021).**

Honey is a viscous, sugary liquid with a difficult chemical makeup that includes flavonoids, free amino acids, vitamins, and trace minerals. Additionally, it has elements

that serve as antioxidants. It supposedly has antiviral, antibacterial, and anti-inflammatory properties (**Mullai and Menon, 2007) & (Ahmed, et al., 2023**). Several randomized controlled studies (RCTs) have looked at honey, with varying degrees of success. The most recent systematic reviews, which were released in 2018 as well as 2021, found that honey is an efficient cough suppressant as well as poses no serious risks, so it might be utilize to manage acute cough (**Oduwole, et al., 2018) & (Abuelgasim, et al., 2021).**

Thyme is a fragrant herb that contains compounds that treat bacterial and fungal infections, ease coughing, and have antioxidant properties. Thyme The most essential component of human nutrition is herbs, which have been utilized for countless years as traditional medicine. Thyme is an instance of an aromatic plant that has been utilized to add a flavor unique to food products. Thyme is also one of the most significant traditional medicine plants in Yemen. The species of flowering plant that it is a member of the Lamiaceae family. Food and medicinal formulations use wild thyme. It can be utilized in cuisine in dried form or fresh, particularly for teas, as well as a preserver. The primary components responsible for the antioxidant action of wild thyme are phenolic acids and flavonoids **(Thamer, et al., 2018)**

Thyme, an aromatic member of the family's Lamiaceae, has drawn significant interest as a pharmacological as well as medicinal agent on a global scale. Thymol as well as carvacrol, the two common significant bioactive chemicals present in this plant, are said to be the main sources of thyme's pharmacological effects. In a laboratory examination, the bioactive components in thyme were found to have antioxidant properties**(Gumus, et al., 2017).**

Research's Significance

Children's sex and age both affect how often they cough. Coughs were found to be more present in boys than in females during the 1st decade of life, but these variations vanished once kids entered the earliest teen years as well as were gone by the time they were fourteen years old. The study in Leicestershire, the United Kingdom (UK), among 7670 kids aged one to eighteen years revealed that 69% of coughs were related to colds and that 25% of coughs were nocturnal (**Jurca, et al., 2017**). One of the most frequent complaints among kids who visit outpatient departments is coughing. Moreover in contrast to children who experienced nocturnal coughing or cough linked with a cold, children with chronic cough were more likely to have it. This cough was made worse by activity and irritants such dust and pollen. Males experience coughing more frequently than females during the first decade of life, though less so in the early adolescent years.

The utilize of honey to manage an acute cough has been suggested or suggested by the World Health Organization (WHO) and other treatment guidelines(**WHO, 2001**) **& (Malesker, et al., 2017).** The efficiency of honey in compared to CCMs for colds and coughs The significance and potency of Using honey-based formulas to successfully treat URTI were acknowledged in two articles. The 1st was a systematic review as well as meta-analysis of fourteen research, eight of which showed that honey reduced the level of antibiotic resistance and treated URTI symptoms more successfully than standard treatment (**Abuelgasim, et al., 2021).** The second piece covered RCTs with kids between the ages of five and twelve. There were 104 children in all (59 boys and 45 females), of whom 50 ill person had bacterial infections evaluated and fifty- four had viral infections, showing the use of bee products to relieve symptoms in those cases **(Seçilmiş and Silici, 2020).** A thorough investigation as well as meta-analysis proved that ivy-, primrose- or thyme- based treatments lessen the occurrence and severity of acute cough **(Seibel, et al., 2018).** So this research's aim evaluates the impact of Thyme drink with honey on nocturnal cough as well as sleep quality for children.

Research's Aim

The aim of the present study is to evaluate the impact of Thyme drink with honey

on nocturnal cough and sleep quality for children

Hypothesis of the Research

H1: Children who receiving Thyme drink with honey will reduce nocturnal cough symptoms, and severity

H2: Children who receiving Thyme drink with honey will have good sleep quality.

Research design: Quasi-experimental (pre as well as post-test) research design was used in the current research.

Operational definitions:

1- Nocturnal cough: is a typical troubling symptom that children with URTI experience. Children with URTI frequently suffer the unsettling symptom of nocturnal cough. One of the most frequent complaints among kids who visit outpatient departments is coughing. It frequently disturbs sleep for both parents and children**(Al-Juaid, et al., 2018)**.

2- Thyme: has compounds that aid in bacterial and fungal infections, alleviate coughing, and have antioxidant properties. It has a distinct odor. Thyme, an aromatic member of the family's Lamiaceae, has drawn significant interest as a medicinal and manage agent throughout the world **(Thamer, et al., 2018)**.

Sample and Setting: 150 children and their mothers from MUHOP and 150 children and their mothers from MGH made up the purposive sample of 300 children and their mothers who were admitted to the pediatric medical department. Ages ranging from 1 to 12 years, both genders, cough associated with URTI, and willingness to participate in the study were the inclusion criteria. The following sample calculation formula serves as the foundation for determining the sample size: http://www.ifad.org/gender/tools/hfs/ anthropometry).

$$N = \frac{t^2 \times p(1-p)}{m^2}$$

$$N = \frac{(1.96)^2 \times 0.267\,(1-0.267)}{0.05^2}$$

$$N = 300$$

Description:

N= required sample size
t= confidence level at 95% (standard value of 1.960)
p= estimated prevalence of children with cough attributed to URTI in MUHOP and MGH 2022 (0.26).
m = margin of error at 5% (standard value of 0.050)

Tools of data collection: Tow tools were utilized to collect data pertinent for this current study.

Tool 1: Pre-designed questionnaire sheet that, was designed by the researchers after reviewing of the related literature **Saed and Gamal, (2015).** The important information was gathered utilizing the tool of data collection. It contains two parts are the following:

First part: Children sociodemographic characteristic: as age, gender, residence.

Second part: To assess the **Nocturnal cough and related symptoms** (sneezing, wheezing, congestion, malaise, fever, headache, fatigue and weakness), treatment used (Thyme drink with Honey) was specifically asked in details. The researchers delivered hard copies of the pre-specified questionnaire. Arabic translations of the questionnaire were provided. Likert scale for mothers' evaluations of their children's cough and sleep difficulties; moms evaluate their children's cough and difficulties sleeping the night before and the night following the administration of thyme drink with honey. The child's cough's intensity, control, bothersomeness, and impact on sleep, were evaluate with a Likert scale from (zero to six) with highest score of six for each question, the options were "zero for Not at all", "one for Not much", "two for A little", "three for Somewhat", "four for A lot", "five for Very much", and "six for Extremely"; respectively**.**

Validity and Reliability:

A panel of three specialists from the pediatric nursing department reviewed the content's validity to guarantee its completeness, accuracy, clarity, and relevance. Accordingly, the necessary adjustments were made. The questionnaire's Cronbach Alpha score, which was utilize to evaluate the tool's reliability, was 0.86, indicating that it was.

Pilot study:

Thirty nurses (10%) were the subject of a pilot study at the pediatric medical division of MUHOP and MGH. A pilot research was done to see if the study tools were clear and comprehensive, and to see how long it took to fill out each tool. The essential modifications, omissions, and/or additions were made in response to the pilot's findings. Pre beginning the actual research, the final forms were approved by the jury, and a pilot study was conducted to evaluate the reliability of the forms by calculating their internal consistency utilizing the Cronbach's alpha coefficient approach.

Ethical consideration:

Before beginning the research, the Scientific Research Ethical Committee of the Faculty of Nursing at Minia University gave its clearance. Each participant in the study gave their verbal consent after the researcher made sure they understood the goal of the investigation and earned their trust. The researcher guaranteed that the subjects' data would remain anonymous and private. Children and their moms were made aware that participating is entirely up to them.

Field work:

The field work was done during a six-month period, from September 2022 to February 20223; the program's implementation took six months to complete. Five months for program implementation, one month for pre- and post-testing. Before beginning the current study's execution, the researcher purchased numerous bottles of honey and thyme from the faculty of agriculture's plant protection department (beekeeping specialization), honey bees produced by the Agricultural Studies and consultations Center affiliated with the college through the center for Honey Bees and their products, which relies on a special feeding system from natural pastures far from pesticide contaminants or any other pollutants. Honey produced according to the types of ornamental and medical honey.

The researchers conduct their regular data collection during the morning and afternoon shifts at the pediatric medical department to identify children who have URTI and nocturnal cough. The sample that was selected from at the pediatric medical department in MUHOP and MGH, was informed individually about purpose and nature of the study, the researchers evaluate the nocturnal cough symptoms, cough frequency, severity, and sleep quality pre- intervention. The children who have nocturnal cough will take thyme drink with honey for 3days, if the nocturnal cough become severe at any time the researchers exclude this child from study sample and the child take the treatment according the doctor's orders.

At the pediatric medical departments of MUHOP and MGH, the researchers teach every mother and his child individually based on the child's age how to make the thyme drink with honey used to treat nocturnal cough. The recipe calls for 1 cup of warm thyme, 3 tablespoons of honey, and smooth stirring. For three days, the child age 1 to 3 should take two tablespoons of the mixture at the first indication of coughing and another dose thirty minutes before bedtime to ensure a restful night's sleep. When a cough first appears, children between the ages of 4 and 12 should drink a small cup of warm thyme tea with three teaspoons of honey. A second dosage should be taken 30 minutes before bedtime to ensure a restful night's sleep for three days.

The frequency, severity, and impact of nocturnal coughing on a child's ability to sleep are assessed by the researchers. Mothers' satisfaction rates following the use of Thyme drink with honey in the next attack based on the symptoms from the previous night were evaluated by Likert scale. At the conclusion of

three days, the researchers use telephone calling for mothers and their children to follow up.

Statistical analysis of data

Descriptive statistics were utilize to summarize, tabulate, as well as show the data as frequency distribution and percentages. For the statistical evaluation of the data, a(SPSS) statistical package for the social sciences, version (20), which involve the test of significance indicated in traditional statistical texts, was worked. The mean as well as SD were utilize to find numerical data. Frequency as well as percentage were utilize to express qualitative data. To evaluate the significance of differences among several groups, the Chi-square test was applied. The link between using honey and the severity of the disease was evaluated using regression analysis. The mean efficacy and illness control of the Thyme drink with honey in both hospitals were compared using an independent sample t-test. Also < 0.05 was regarded as significant, and probability (P-value) is the measure of significance.

Results

Table 1: The findings revealed that the children in in the MUHOP and the MGH had a mean age of (M ± SD) 3.42 ± 2.66 and 3.66 ± 1.75; respectively. Related to sex of children there were 67%, and 63% of male children from MUHOP and MGH; respectively. The children from rural area were 93% from MUHOP and 87% from MGH. The mothers in in the MUHOP and the MGH had a mean age of (M ± SD) 25.30 ± 13.22and 25.40 ± 12.55; respectively. The mothers in in the MUHOP and the MGH had Secondary school 54%, 50%; respectively.

Table 2: The symptoms investigated in this research involved congestion, fatigue as well as weakness, sneezing, discharge, wheezing, headache, malaise, fatigue as well as fever. Children who had congestion in MUHOP, and MGH were 97%, and 95%; respectively in post-test with statistical significant P.value (0.02) in both hospital. Related to Children who had discharge symptom in MUHOP and MGH were 91%, and 97%; respectively in post-test had no discharge symptom with statistical significant P.value (0.01) in both hospital. Related to Children who had fever symptom in MUHOP and MGH were 98%, and 97%; respectively in post-test had no fever symptom with statistical significant difference P.value (0.03) in both hospital.

Table 3: How often children use thyme drink with honey effect on the nocturnal cough. The frequency of use Thyme drink with honey times there were 40%, 60% of male, and female; respectively of children who had use thyme drink with honey twice times in MUHOP. There were 40%, 42% of male, and female; respectively of children who had use thyme drink with honey twice times in MGH, with statistical significant difference P.value in MUHOP, and MGH (0.02, and 0.01); respectively.

Table 4: Total score of children sleep quality in MUHOP and MGH in pre and post-test 92%, 89% of children in MUHOP, and MGH; respectively had 5 good level of sleep quality after use thyme drink with honey in both hospitals MUHOP, and MGH with statistical significant difference P.value in MUHOP, and MGH (0.03, and 0.05); respectively.

Table 5: There was no statistically significant difference between children who utilized thyme drink with honey related to the disease control, and hospitalization rates at the next attack. However, Mothers satisfactions rates and the intention to utilize thyme drink with honey for 3 days, in future attacks were 95%, 93% at both hospitals (MUHOP, MGH); respectively in post-test after 3days, were significantly among mothers of children who received thyme drink with honey in both hospital MUHOP, and MGH (p=0.02, & 0,03); respectively.

Table 6: indicates that, The effect of thyme drink with honey on the total means scores of children cough frequency, cough severity, cough bothersome, and cough effect on child sleep in both hospitals MUHOP, MGH reached statistical significance (P=0.03, 0.05,0.05, and 0.05); respectively

Table 7: illustrates that using thyme drink with honey was significantly connection with the cough frequency and severity, and sleep. The effect of thyme drink with honey on cough severity score, it was presented that the utilize of thyme drink with honey had significantly decreased the score of cough frequency and severity. However it was noticed that the utilize of thyme drink with honey had significantly improve quality of sleep.

Table (1): Characteristics of children in the MUHOP and the MGH (n=300)

Personal data	MUHOP (n = 150)		MGH (n = 150)	
	No.	%	No.	%
Age of children				
1:3yrs	30	20	22	15
3:6yrs	100	67	115	77
6:12yrs	20	13	13	8
Mean ± SD	3.42 ± 2.66		3.66 ± 1.75	
Sex				
Male	100	67	95	63
Female	50	33	55	37
Residence				
Rural	140	93	130	87
Urban	10	7	20	13
Mothers age				
>20yrs	8	5	7	5
20:30yrs	100	67	112	75
30:40yrs	22	15	17	11
<40yrs	20	13	14	9
Mean ± SD	25.30 ± 13.22		25.40 ± 12.55	
Mothers education				
Read and write	50	33	60	40
Secondary school	80	54	75	50
University	20	13	15	10

Table (2): Symptoms of nocturnal cough in children using thyme drink with honey in MUHOP and MGH (n=300)

Symptoms	MUHOP (n = 150)				MGH (n = 150)			
	Pre-test		Post-test		Pre-test		Post-test	
	No.	%	No.	%	No.	%	No.	%
Congestion								
Yes	140	93	5	3	138	92	8	5
No	10	7	145	97	12	8	142	95
X^2-test (P.value)	2.25 (0.02)*				3.33(0.02)*			
Fatigue and weakness								
Yes	134	89	8	5	141	94	3	2
No	16	11	142	95	9	6	147	98
X^2-test (P.value)	3.20 (0.03)*				2.23(0.03)*			
Discharge								
Yes	150	100	14	9	150	100	5	3
No	0	0.00	136	91	0	0.00	145	97
X^2-test (P.value)	4.14 (0.01)*				4.10(0.01)*			
Sneezing								
Yes	137	91	4	3	138	92	3	2
No	13	9	146	97	12	8	147	98
X^2-test (P.value)	2.12 (0.04)*				2.16(0.03)*			
Headache								
Yes	130	87	0	0.00	133	89	0	0.00
No	20	13	150	100	17	11	150	100
X2-test (P.value)	5.22 (0.05)*				3.23(0.05)*			
Wheezing								
Yes	140	93	4	3	137	91	0	0.00
No	10	7	146	97	13	9	150	100
X^2-test (P.value)	12.20 (0.04)*				12.22(0.02)*			
Malaise								
Yes	135	90	3	2	136	91	7	5
No	15	10	147	98	14	9	143	95
X^2-test (P.value)	14.23 (0.02)*				13.32(0.05)*			
Fever								
Yes	150	100	3	2	150	100	4	3
No	0	0.00	147	98	0	0.00	146	97
X^2-test (P.value)	15.26 (0.03)*				10.22 (0.03)*			

*Statistically significant differences

Table (3): How often thyme drink with honey was used for the nocturnal cough (n=300)

frequency of uses thyme drink with honey	MUHOP (n = 150)				MGH (n = 150)			
	Male (n = 50)		Female (n = 100)		Male (n = 55)		Female (n = 95)	
	No.	%	No.	%	No.	%	No.	%
Once	12	24	10	10	13	24	20	21
Twice	20	40	60	60	22	40	40	42
Three times	15	30	20	20	14	25	22	23
More than 3	3	6	10	10	6	11	13	14
X^2-test(P.value)	14.23 (0.02)*				13.22(0.01)*			

*Statistically significant differences

Table (4): Total score of children sleep quality in MUHOP and MGH (n=300)

Total score of sleep quality	MUHOP (n = 150)				MGH (n = 150)			
	Pre-test		Post-test		Pre-test		Post-test	
	No.	%	No.	%	No.	%	No.	%
Poor level of sleep quality	130	87	12	8	146	97	17	11
Good level of sleep quality	20	13	138	92	4	3	133	89
X^2-test (P.value)	10.10 (0.03)*				8.13 (0.05)*			

*Statistically significant differences

Table (5): Nocturnal cough progression and control by using thyme drink with honey (n=300)

	MUHOP (n = 150)				MGH (n = 150)			
	Pre-test		Post-test		Pre-test		Post-test	
	No.	%	No.	%	No.	%	No.	%
Controlled of nocturnal cough after 3days of use thyme drink with honey								
Yes	100	67	135	90	90	60	140	93
No	50	33	15	10	60	40	10	7
X^2-test (P.value)	6.12 (0.06)				7.14 (0.07)			
Hospitalization rates at the next attack after 3days								
Yes	90	60	20	13	80	53	40	27
No	60	40	130	87	70	47	110	73
X^2-test (P.value)	4.10 (0.21)				5.16 (0.08)			
Mothers satisfactions after use thyme drink with honey								
Yes	10	7	143	95	20	13	140	93
No	140	93	7	5	130	87	10	7
X^2-test (P.value)	8.17 (0.02)*				10.10 (0.03)*			
Next attack of nocturnal cough after 3days of use thyme drink with honey								
Yes	147	98	40	27	140	93	30	20
No	3	2	110	73	10	7	120	80
X^2-test (P.value)	10.12 (0.24)				12.10 (0.35)			

*Statistically significant differences

Table (6): The total mean scores of children cough frequency, cough severity, cough bothersome, and sleep in both hospitals MUHOP, MGH (n=300)

	MUHOP Mean±SD	MGH Mean±SD	t -test P.value
Score of cough frequency	4.25±0.75	4.18±1.55	0.03*
Score of cough severity	3.35±0.15	4.30±1.23	0.05*
Score of cough bothersome	4.12±0.26	4.22±1.30	0.05*
Score of cough effect on child sleep	3.22±0.15	3.40±1.24	0.05 *

Table (7): Linear regression testing association between use thyme drink with honey and different cough parameters (n=300)

	T. test	S.E.	Mean difference (95% CI)[T]	P.value
Score of cough frequency	2.24	0.2	0.42 (-0.76-0.4)	0.052*
Score of cough severity	0.76	0.22	0.16 (-0.26--0.45)	0.003 *
Score of cough effect on child sleep	1.8	0.22	0.45 (-0.04-0.86)	0.056*

T=linear regression T.test, S.E.=Standard error of regression coefficient, Cl=Confidence Interval; * statistically significant (>0.05), **statistically significant (>0.001).

Discussion

Thyme, an aromatic member of the Lamiaceae family, has drawn significant interest as a medicinal and therapeutic agent throughout the world **(Thamer et al., 2018).** Honey has long been regarded as a reliable, affordable, and well-liked demulcent that can reduce coughing, suggest anti-microbial effects, and control inflammatory response and cytokine production. It is a sophisticated natural treatment made up of at least 181 different ingredients (**Al-Juaid et al., 2018**). As a result, moms and other caretakers frequently give it to their sick children even without consulting a doctor. The purpose of this study was to assess how thyme drink with honey affected children's nocturnal cough and sleep quality.

There is generally no consensus against the use of honey beyond the age of one due to the danger of infantile botulism, however it is generally not advised for infants under the age of one(**Al-Juaid, et al., 2018**). Because honey raises the risk of dental cavities, some studies do not advise using it frequently. The fact that honey appeared to take longer than pharmaceuticals to alleviate the child's symptoms may be another factor contributing to the avoidance of honey use in his study among young children (**Ayazi, et al., 2017**).

This study showed that, the children in both hospitals (MUHOP, MGH) had a mean age of (M±SD) (3.42 ± 2.66 and 3.66 ± 1.75); respectively, there were more than half were male children, the majority of the children from rural area. **Al-Juaid, et al., (2018)** mentioned that the males constituted less than half and females constituted more than half. According to how often honey was used to alleviate the symptoms of a cough in the youngsters, they were divided into two groups. Older children used honey more frequently (p=0.025). Children who consumed honey on average were 7.64 3.8 years old. **Kuitunen, and Renk (2023**) who state that the mean children age ranked from 2.4 : 5.4 years. **Ayazi, et al., (2017)** who clear that, about two third of male children were in study group as well as more than fifty- percent in control group. **Seçilmiş and Silici**, **(2020)** who stated that, bee product efficacy in children with URTI their age from five to 12 years old, the majority were male.

The real investigation proved that consumption of thyme drink with honey in both hospitals (MUHOP and MGH) reduced all of the symptoms of nocturnal cough evaluated in this study, including congestion, exhaustion and weakness, discharge, sneezing, headache, wheezing, malaise, and fever. This finding is in line with studies by **Al-Juaid et al. (2018),** who report that the use of honey reduced all nocturnal cough symptoms. Of relevance, headache was more common in children who used honey (32.4%) than in those who did not (13.9%) (p=0.001). Similar to how only kids who consumed honey (p 0.001) suffered malaise, it also depended on how frequently the honey was consumed.

This study shows that, frequency of uses thyme drink with honey were twice times for male, and female children in both hospitals MUHOP, MGH, with statistical significant difference P.value in (0.02, and 0.01); respectively. This finding was matched with study of **Abuelgasim, et al., (2021)** who found that frequency of uses honey were twice times for both male and female.

The actually research illustrated that the most of children sleep quality had progress after use thyme drink with honey for 3 days in

both hospitals (MUHOP, and MGH) with statistical significant difference P.value (0.03, and 0.05); respectively. Similarly **Al-Juaid, et al., (2018)** who documented that parents disclosed significant improvement in their children cough severity and sleep quality when they used honey in comparison to those who used dextromethorphan.

The present study clears that, there was no statistically difference significant between children who utilize thyme drink with honey related to the disease control, and hospitalization rates at the next attack. However, there were statistical significantly difference of the mothers satisfaction rates and the intention to utilize thyme drink with honey in future attacks of nocturnal cough, in both hospital (MUHOP, MGH) (p=0.02, and 0,03); respectively. Using thyme drink with honey was significantly connection with the reducing cough frequency and severity, and improves sleep quality. **Abuelgasim, et al., (2021)** who found that, honey is effectiveness in comparison to CCMs honey formulations are successfully managing URTI. **Ayazi, et al., (2017)** who mention that, the utilize of honey was found to have beneficial impact on nocturnal cough frequency, and combined cough severity and frequency scores. Children who received honey were less likely to have high nocturnal cough severity scores

Conclusion

Thyme drink with honey in both hospitals (MUHOP, and MGH) can enhance severity of children's nocturnal cough, frequency, and sleep quality. It is commonly utilized between children who aged from (1:12yrs) had cough related to malaise, headache as well as fever. Nevertheless, it improves the quality sleep of children. Consequently, there was no statistically significant difference between children who utilized thyme drink with honey related to the disease control and hospitalization rates at the next attack. Nevertheless, the mothers satisfaction and the intention to utilize thyme drink with honey in potential attacks were significantly among children who obtained thyme drink with honey in both hospital MUHOP, and MGH (p=0.02, and 0,03); respectively.

Recommendations:

Thyme drink with honey is advised to be given for the management of nocturnal cough based on previous findings; nevertheless, additional research is required to prove the effectiveness of Thyme drink with honey on children with nocturnal cough.

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