Evaluation of Nurses' Knowledge toward Tonsillitis in Children

Lamia Rikan Fathal[1], Asmehan Adnan AL- naqeeb[2], Afifa Radha Aziz [3]

1.Academic Nurse, College of Nursing, University of Baghdad, Baghdad, Iraq. ***Email: lamorikan1995@gmail.com***

2. Assist. Prof. / Department of Basic Science, College of Nursing, University of Baghdad,Baghdad. Iraq. dr.asmehana@conursing.uobaghdad.edu.iq

3. Prof, College of Nursing, University of Baghdad, Baghdad, Iraq. Dr.afifa@Conursing .uobaghdad.edu.iq

Abstract

Background: Tonsillitis is a frequent respiratory tract condition that can affect both children and adults due to bacterial and viral infection. The goal of this study is to determine the effective of the educational program of nurses' knowledge on nursing care for children with tonsillitis.

Methods: The study used a quasi-experimental design for the pre- and post-test. The sample consisted of 60 nurses from Al-Haboubi Teaching Hospital .Each group included thirty nurses as study and control group . The questionnaire's dependability was proven through empirical study, and it was then submitted to specialists for validation. The total number of items in the questionnaire was 23 Item. Self-reports were used to collect data, The study started from 12th of December 2022 up to 15th of May 2023. The study evaluated by using SPSS program.

Results: According to the findings ,more than half of nurses had low responses knowledge before implementing the educational program, while after implementing the program nurses express high knowledge . The study revealed a significant difference between the study and control groups during post-test I, post-test II period $P<0.05$.

Conclusions: The study concluded that the educational program was effective in improving nurses' knowledge which included in the study. The study recommended to adapt the constructed program by Ministry of Health, as training program for nurse's care toward child after tonsillectomy in hospitals.

Keywords: Nurses' Knowledge , Tonsillitis, Children.

Introduction

A bacterial or viral infection of the palatine tonsils is referred to as tonsillitis. [1].The most significant pathogens causing tonsillitis are Group A beta hemolytic streptococcus (GABH S) [2]. The adenoid tonsil, two tubal tonsils, two palatine tonsils, and the lingual tonsil are all parts of Waldeyer's tonsillar ring, a group of lymphatic tissue [3]. Because of their unique crypt structure, which efficiently collects antigens, the tonsils serve as the immune system's first line of defense against pathogens that enter through the mouth and nose [4].

Acute tonsillitis is an infection of the tonsils brought on by a variety of bacteria or viruses, and it may also result in peritonsillar abscesses. Tonsil infections, such as chronic tonsillitis, are persistent and can cause tonsil stones. When a person contracts tonsillitis on multiple occasions each year, recurrent tonsillitis develops [5].A person with recurrent tonsillitis is one who experiences numerous episodes each year. Tonsils that are frequently inflamed due to recurrent or chronic tonsillitis can have a serious impact on a patient's health [6].

The typical symptoms of tonsillitis include a sore throat, fever, chills, and pain when swallowing. Headache, fatigue, and myalgia are examples of generalized symptoms. Examination reveals the tonsils to be red, swollen, and possibly covered in a yellow or white fluid. The patient may report snoring, a nasal obstruction, and a nasal tone to the voice if the adenoids are affected[7].

In order to calm the child who has tonsillitis and reduce activities or interventions that cause bleeding, nursing care is necessary. Postoperatively, patients with sleep-disordered breathing need to have their airways and breathing closely monitored. It is best to follow a soft or watery diet. During times of mouth breathing, a cool-mist vaporizer keeps the mucous membranes wet. Comfort is aided by the use of analgesic-antipyretic medications such acetaminophen, throat lozenges, and warm salt water gargles [8].

Lack of nursing care and instructions can affect children life . No study has been undertaken in Iraq, which is the context of the current study, to the researcher's knowledge. In Iraq ,From 2017 to 2020, 55,405 cases with tonsillitis. As a result, one of the goals of this study is to evaluate of nurses' knowledge in Al-Haboubi Teaching Hospital in Nassyriah , Iraq.

Methods

A descriptive design was conducted on department of Ear, Nose , Throat (ENT). nurses who were dealing with pediatric patient who experienced tonsillitis. Starting 12th of December 2022 up to 15th of May 2023.The size of sample is (60) nurses divided into two groups each one contains (30) nurses as control group and study group. The study group was exposed to the nursing educational program while the control group was not exposed to the nursing educational program to evaluate of nurses' knowledge about nursing care for children under tonsillitis .The study was conducted Al-Haboubi Teaching Hospital in Thi-Qar , Iraq. To achieve goals a questionnaire to meet the purpose of data collection of the research project. it consists of two parts questionnaire related to the demographic characteristics of the nurses and part two Measure of nurses' knowledg of children under tonsillitis which composed of (23-items), The questionnaire was constructed by the researcher through review of literature based on guidelines for tonsillitis. The analysis of data dependent Descriptive and inferential statistics were used to analyze the results of the study using the Statistical Package of Social Sciences (SPSS) version20.

Results

Table 1.Distribution of Study Sample according to Socio-Demographic characteristics

No.	Demographic characteristics	Classification	***Study Group***		***Control Group***		χ^2
			No.	%	No.	%	*Sig.*
1.	Age	20 -24 years old	9	30.0	5	16.7	*3.459* *.484*
		25 -29 years old	18	**60.0**	19	**63.3**	
		30 -34 years old	3	10.0	6	20.0	
		M ± SD	**26 ± 2.36**		***27.76 ± 3.99***		
2.	Gender	Male	3	10.0	8	26.7	*.076* *.783*
		Female	27	**90.0**	22	**73.3**	
3.	Education level	School Nursing	7	23.3	6	20.0	*. 15.019* *.062*
		Diploma Nursing	17	**56.7**	13	**43.3**	
		B.Sc Nursing	3	10.0	9	30.0	
		Postgraduate	3	10.0	2	6.7	
4.	Years of Experience	1-5 years	17	**56.7**	17	**56.7**	*2.164* *.539*
		6-10 years	13	43.3	10	33.3	
		11-15 years	0	0.0	2	6.7	
		>15 years	0	0.0	1	3.3	
5.	Do you have knowledge about nursing care for tonsillectomy	No	9	30.0	12	40.0	*.538* *.626*
		Yes	21	**70.0**	18	**60.0**	
6.	Sources of Nurses' Knowledge	Colleagues	11	**36.7**	6	20.0	
		Books and references	9	30.0	9	**30.0**	
		Social media	1	3.3	3	10.0	

No.= Number; %= Percentage; χ^2*=Chi-square*

The results show the characteristics of the participants, the average age of the participants in the study group is (26 ±2.36) and the average age in the control group is (27.76 ±3.99). In terms of gender, the

majority of participants (90% and 73.3%) were female in both groups, respectively. With regard to the educational level, the nursing diploma predominated in the two groups (56.7% and 43.3%), respectively. years of experience related to findings, more than half of the participants in both groups expressed 1–5 years (56.7%) each, respectively. Finally with sources of knowledge, the majority of study and control participants showed their sources of knowledge about tonsillitis (70% and 60%), respectively. Colleagues (36.7%) in study ,books and references (30%) in control groups.

Table 2. Overall Nurses Knowledge about General Information about Tonsils in Study and Control Groups

General Information	Study Group				Control Group			
	Low No. (%)	Moderate No. (%)	High No. (%)	M ± SD	Low No. (%)	Moderate No. (%)	High No. (%)	M ± SD
Pre test	24 (80.0)	3 (10.0)	3 (10.0)	1.86±1.38	23 (76.7)	3 (10.0)	4 (13.3)	2.10±1.56
Post test I	1 (3.3)	2 (6.7)	27 (90.0)	5.69±1.44	22 (73.3)	3 (10.0)	5 (16.7)	2.27±1.70
Post test II	2 (6.7)	3 (10.0)	25 (83.3	5.67±1.70	22 (73.3)	3 (10.0)	5 (16.7)	2.30±1.78

Level of Assessment [Low=0-2.33, Moderate=2.34-4.66, High=4.67-7]

In study group, findings showed that the nurses expressed a low responses towards general information about tonsils at the pre-test period (1.86±1.38) (before education program). While, at the post-test I findings showed that the nurses expressed a high responses (5.69±1.44) after education program. After a month has been passed (post test II), nurses expressed a same responses of post -test I (5.67±1.70). Regarding control group, findings showed that the nurses expressed a low knowledge towards general information about tonsils in all period (2.10±1.56), (2.27±1.70) and (2.30±1.78) respectively.

Table 3. Nurses' Knowledge about General Information of Tonsils in (the Study and Control Groups) at pre-post I and II tests

Periods	Weighted	M	SD	Std. Error	t-value	d.f	Sig.
Pre-test	Study	.2762	.19828	.03620	.437	58	.664
	Control	.3000	.22306	.04072			
Post-test I	Study	.8524	.20713	.03782	9.068	58	.000
	Control	.3238	.24294	.04435			
Post-test II	Study	.8095	.24410	.04457	7.465	58	.000
	Control	.3286	.25486	.04653			

M: Mean, SD: Standard deviation, t: t-test, d.f: Degree of freedom, Sig.: Significant level

This table shows that there is no statistically significant difference between the study group and the control group at the pre- test (t= .437; p= .664). At the post-test I (t=9.068; p= .000) and II (t=7.465; p= .000), there is a statistically significant difference between the study group and the control group. According to the statistical mean, the study's findings show .that the study group's level of knowledge improved in comparison to those in the control group.

Table 4 . Overall Nurses Knowledge about Tonsillitis in Study and Control Groups

Tonsillitis	Study Group				Control Group			
	Low No. (%)	Moderate No. (%)	High No. (%)	M ± SD	Low No. (%)	Moderate No. (%)	High No. (%)	M ± SD
Pre test	20 (66.7)	7 (23.3)	3 (10.0)	3.97±4.31	20 (66.7)	7 (23.3)	3 (10.0)	3.87±4.37
Post test I	1 (3.3)	3 (10.0)	26 (86.7)	13.23±3.27	19 (63.3)	8 (26.7)	3 (10.0)	4.10±4.35
Post test II	2 (6.7)	3 (10.0)	25 (83.3)	12.87±3.57	19 (63.3)	7 (23.3)	4 (13.3)	4.37±4.77

Level of Assessment [Low=0-5.33, Moderate=5.34-10.66, High=10.67-16]

Findings from the study group revealed that the nurses' knowledge of tonsillitis was low responses during the pre-test period (3.97±4.31) (before to the education program). However, the post-test I (after the education program) results revealed that the nurses expresses high responses (13.23±3.27). The nurses' responses were the same as those from the post-test I (12.87±3.57) after a month had passed (post-test II). Regarding control group, findings showed that the nurses expressed a low knowledge towards knowledge about tonsillitis in all period (3.87±4.37), (4.10±4.35) and (4.37±4.77), respectively.

Table 5. Knowledge about Tonsillitis in (Study and Control Groups) responses at pre-post I and II tests

Periods	Weighted	M	SD	Std. Error	t-value	d.f	Sig.
Pre-test	Study	.2479	.26944	.04919	.089	58	.929
	Control	.2417	.27452	.05012			
Post-test I	Study	.8271	.20479	.03739	9.165	58	.000
	Control	.2563	.27285	.04982			
Post-test II	Study	.8042	.22369	.04084	7.803	58	.000
	Control	.2729	.29838	.05448			

M: Mean, SD: Standard deviation, t: t-test, d.f: Degree of freedom, Sig.: Significant level

According to this table (t=.098; p=.929), there was no statistically significant difference between the study and control groups throughout the pre-test period. The study and control groups did not differ statistically significantly at the post-test I (t=9.165; p=.000) or II (t=7.803; p=.000) periods. According to the statistical mean, the study's findings show that the study group's level of knowledge improved in comparison to those in the control group.

Discussion

The table (1) show that the characteristics of the participants in, the average age of the participants in the study group was(26 ±2.36) and control group was (27.76 ±3.99) , the age 25-29 years old years old were recorded the highest percentage in study (60%) and control(63.3%)groups (table 4.1) . These study findings which consistent with the findings of Aziz and Hussein (2016) in Baghdad City, the distribution of nurses according to their socio-demographic data for nurses' age showed that the highest percentage was (24%) for the age group (25-29) years old [9]. Also, the study findings supported by Aburaghif and Hassan (2016), was conducted in at Al-Nassirhya Heart Center, this study showed that the (44%) of sample was at the age group (25-29) years old [10].The study findings which consistent with the findings of Rajih (2020), The study results showed that the dominant age group of nursing staff was (48%) at age group(25-29) years old [11]**.**This may be explained that the impact of large number of graduates from medical institutions and universities in Iraq, as the Ministry of health working to employ thousands, of nurses in the health field, so most of ages are from this age group. The majority of participants were female in in study (90%) and control (73.3%) groups, as compared with those who are male nurses (10% and 26.7%) respectively (table 4.1).The female nurses were predominat in study (70%) and control (55%) groups, as compared with those who are male nurses (30% and 45%) respectively. Related to the female nurses' collaborative efforts and responses to participate in this study. These findings come in consistence with Awad and Ajil (2021),the majority of nurses in pediatric wards are female and accounted(80%) of the studied subjects, respectively [12]. According to Hawi and Khudhair (2021),the study was conducted in teaching hospitals in Nasiriya city, the majority of nurses are female(100%) [13]. These findings come in consistence with Abees and Mohammed (2020), The study results indicated that (60%) of the nursing staff are female [14].For the researcher point of view female nurses more responses and cooperative to participants in the current study than male. Concerning the level of educational findings, the nursing diploma predominant percentage (56.7%) in the study and (43.3%) in control groups, respectively (table 4.1). The study agrees with AL-Mosawi (2022) who revealed that (63.3%) of nurses work in pediatric hospitals were hold (diploma) nursing institute [15]. The highest percentage nurses have level of education (institute) (32%) in study of Aljobury et al. (2020) [16] . The study agrees with Mohammed and Aburaghif (2018),

40.0% graduated from the nursing institute [17].This result May be due to the short period of study in nursing institute which encourage them to enroll in such nursing institute. Regarding the years of experience, the study findings revealed more than half of the participants in both groups expressed 1–5 years (56.7%) each, respectively(table 4.1),. This finding come in line with Saeed, and Khatam (2020), the result shows that (53.3%) of nurses were (1-5) years working in the field [18]. Also this result agrees with study done by Atiyah (2018) , the years of experience in nursing were (1-5) years represent the highest percentage (84.8%) [19]. This is one of the factors determining their knowledge of giving nursing care following pediatric tonsillectomy. Because of new hires and the abuse of younger energies. The majority of study and control participants showed reading sources of knowledge about tonsillectomy (70% and 60%), respectively. Colleagues (36.7%)in study ,books and references (30%) in control groups.This results were opposite with Jassm and Aziz (2020), the majority of research sample in both groups were not reading references, (66.7%) for study group, and (56.6%) of the control[20]. The present finding was matched the with finding of the turkey Alfahdawey and Aziz (2019).Their finding concerning the sources of information about educational program , the majority of research sample in both groups were reading references(54.5%) and (56.6%) were not reading references [21].

Nurses' Knowledge about Nursing Care of Children with tonsillitis in Study and Control Groups

Nurses Knowledge regarding General Information about Tonsils

In table (2), the findings showed more than half of the nurses in (study and control) group expressed overall low responses towards general information about tonsils before implemented the program. The results of the pre-test indicated no statistically significant differences between the study and control groups in table(3).

The present result contrasted with Mohmamed (2017), the study result found that more than half of the study sample responded with correct answers regarding definition of tonsil and functions [22].

The lack of nurse's knowledge may be due to few years of experience and that lead to lack of knowledge about care of tonsillectomy.

After implemented the educational program (post-test I& II) the findings showed that the nurses expressed a high responses of knowledge toward general information about tonsils(2) .Additionally, the means of score were documented for both post-test with high level. While, the nurses in the (control group) still expressed a low responses of knowledge toward general information about tonsils at the post-test I & II period.Post-test periods I and II for the study and control groups were significantly different table(3). This result was in agreement with de Cates et al. (2023)[23].

This finding reflected effect of the education program on nurse' knowledge (study group). The educational program impact positively on nurses 'thought and develop their ideas about correct information about size of tonsil and their functions.

Nurses Knowledge about Tonsillitis

The findings revealed that before implementing the program, more than half of the nurses in the study and control groups had overall low responses to tonsillitis table (4). There was no significant difference between the study and control groups in pre-test, as shown in table in (5) .

The finding study was opposite with Mohmamed (2017), The study result found more than the study sample responded with correct answers regarding Clinical significance and causes of tonsillitis respectively[22].

The researcher believes that the insufficient training, low level of education and short years of experience is the main reasons in lack of knowledge in both the study and control groups about tonsillitis.

The post-test I and II results showed that nurses had a high level of knowledge about tonsillitis following the implementation of the educational program table (4).Additionally, the means of score were documented for both post-test with high level. While the nurses in the (control group) still demonstrated a lack of responses of tonsillitis over the post-test I and II periods .Differences between the study and control groups during post-test I and II periods were statistically significant (5).

These findings confirm a study by Smith et al. (2015) conducted in the United Kingdom, which showed that emergency scenario simulation and traditional lecture-based training were more effective at preparing employees for ENT emergencies [24].

This result showed how the education program had an impact on the knowledge of the nurses in the study group

Conclusions

1. There were improving in nurses' knowledge after post- test for study group due to educational program concerning care of children with tonsillitis. While control group did not present any improvement in their knowledge at pre and post-test.
2. Research question answered and demonstrated that the nurses in the study group achieved considerable benefit from educational program concerning care of children with tonsillitis in ENT department.

Recommendations:

1.All nurses should be participate in work in ENT department in continues educational sessions and updating their knowledge about care of children with tonsillitis.

2. Provide educational booklets for nursing staff directed to improve their knowledge that leads to develop their performance.

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