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The effect of telephone follow-up after ambulatory surgery on pain management for children at home by parents

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ABSTRACT

Since time was short hospitalization after ambulatory surgery after discharge the duty of care of children at home, and parents are responsible, their familiarity with pharmacological and nonpharmacological methods of pain relief is essential. Therefore, this study aimed to determine the effect of telephone follow-up after ambulatory surgery on pain management for children at home by their parents. In these clinical trial 68 children 6 to 12 years admitted for tonsillectomy operation with careful parent choice and block randomly divided into control and test. For experimental group, including training of pharmacological and nonpharmacological methods of pain relief and telephone follow-up was done in the first three days after discharge. Data were collected log home checklist was completed by parents. Data by SPSS version 16 and chi-square tests, *t* and analysis of variance with repeated measures were analyzed. The mean pain intensity scores, palliative effects of acetaminophen and the use of pain relief medication and non-drug control between the two groups was statistically significant difference ($P < 0.05$). However, between the two groups was statistically significant difference was observed sedative effects. ambulatory surgery and follow-up training before the telephone after discharge would empower parents with children at home pain management.

Keywords: pain after surgery telephone follow-up, non-pharmacological pain control

INTRODUCTION

Pain management is one of the important rights of children and the priorities treatment [1]. According to the management of pain in children in recent years significantly increased [2] But despite the importance of controlling pain, post-operative pain management in children is often inadequate and this can lead to unpleasant physiological effects or even prolonged psychological consequences [3]. According to emphasize the health care system in home care, early discharge and performing surgical procedures on an outpatient basis, such as tonsillectomy, children, to reduce moderate to severe pain at home, parents need to do proper care [4, 5]. This is despite the fact that more than 77 percent of parents reported moderate to severe pain stated after tonsillectomy difficult child. This is because the parents fear side effects or drug toxicity resulting in inadequate intake of medication to control pain as well as parents' lack of familiarity with other measures such as care for pain management drug-free pain relief methods

listed [5]. Since the post-operative pain control in children, preventive analgesia, therefore, continuous control pain with acetaminophen syrup hour as scheduled, the first three days after tonsillectomy is recommended [6]. Although the drug is the first and most effective means to relieve pain, but always as an adjunct to drug and non-drug methods recommended along with it. These measures are, however, alternative medicines, but along with pain, medication can be effective in relieving pain [7]. Non-pharmacological methods of pain control may help reduce the perception of pain, pain more bearable, they can reduce anxiety and increase the effectiveness of analgesics. Although much research has been done about the quality of the impact of non-pharmacological methods, but they total solutions for safe, non-invasive and inexpensive and the nurse can independently run and can also be run by a parent at home [1]. The simplest non-pharmacological methods of pain control in a short time in the hospital after tonsillectomy, which can be school-age children and training parents to help them learn at home and in the event of pain include rhythmic breathing, guided imagery, relaxation and distraction [8].

Meet the parents because the child normally adaptation skills, can help in choosing the best approach and encourage their children to learn [1]. Since time was short hospitalization after ambulatory surgery such as tonsillectomy after discharge the duty of care of children at home, and parents are responsible, parent's familiar with pharmacological and nonpharmacological methods of pain relief is essential. But experience has shown that despite Notes oral doctors and nurses in home care after discharge, most children and parents not paying enough attention to these instructions or forget and it brings a lot of problems [4,9]. To avoid this would be an educational program and telephone follow-up, especially in the first days after registering to answer questions from parents and ensure their ability to manage pain at home help [10]. Therefore, this study aimed to determine the effect of telephone follow-up after ambulatory surgery on pain management for children at home by their parents.

MATERIALS AND METHODS

Quasi-experimental study of two groups, which, according to the results go Hauth [11] and taking into account the type I error of 5% and power of 80 percent, the sample size, was estimated 68 children and parent care. Available for sampling from parents and children with inclusion criteria for tonsillectomy operation between October and December 1392 mission to two Besat therapy centers and Hamedan Shahid Motahhari referred chosen for random blocks to the control group (34 children and a caregiver) and test (34 children and a caregiver) were divided. Inclusion criteria for the study included: children between 12-6 years, performing tonsillectomy by Dissection and Snare, as the only painkiller acetaminophen of syrup consumption after discharge, no previous diseases or chronic pain, no history of tonsillectomy in another child in the family and the ability of parents participating in the study to read and write. Data were collected by demographic data and log checklist at home. Checklist records daily events at home as well as by researchers using similar studies [12, 11, 5] for the first three days after discharge were developed.

In this study, content validity, by obtaining the opinion of professors of Hamedan Faculty of Nursing and Midwifery University of Medical Sciences. In addition, Cronbach's alpha Checklist 0.87 also demonstrated good reliability records daily events at home. Checklist, parent's acetaminophen common side effects of the drug include stomach pain, nausea and vomiting, constipation, drowsiness and lightheadedness, hours taking pain medication prescription and nonmedical use of pain relief methods to reduce pain and the effect of palliative housing in the first three days after discharge were recorded. Also children's pain by self-report checklist pain consists of two standard scale Wang scored international and smileys pain - Becker (Wong- Baker FACES Pain Rating Scale (FRS) for children 6 to 8 years and numerical rating scale version 11 Numerical Rating Scale (NRS-11) for children 9 to 12 years were determined. By collecting data, the researcher after obtaining permission from the concerned authorities, referring to the case of hospitalized children, the subjects selected for the study inclusion criteria and randomly assigned to experimental and control groups divided into two blocks. After introducing the express purpose of study and the consent and cooperation of children and parents and received written consent from the parent, the parent and child demographic characteristics were recorded. The educational content developed for the experimental group, the children and watches him face to face during a solo training session at their child's bedside, presentation and their questions were answered. Approximate time was 30 to 45 minutes each training session. Educational content included general information about the tonsillectomy operation, general and specific care for complications after tonsillectomy operation, pain and possible complications of pain and the importance of controlling it. It taking prescription acetaminophen of syrup hour as scheduled in the first three days after discharge (every 6 hours as directed by a physician), non-pharmacological methods of pain relief familiar such as rhythmic breathing, guided imagery, and relaxation and distraction techniques.

Educational content use as a training manual for parents in the intervention group was more. In the first three days after discharge, the investigator phone calls every day while keeping track of the baby's condition, parents groups to questions about how to manage the pain after tonsillectomy replied. Parents and children in the control group just

received usual care and only trained on how to complete the checklist. After explaining the instructions on how to complete the checklist, in three colors for three consecutive days after discharge were available to both groups when you visit the doctor again for a week after surgery at the clinic, participants were collected. Information collected by the spss16 software and using descriptive statistics and statistical tests kolmogorov - smirnov, independent t-test, chi-square test and analysis of variance with repeated measures were analyzed categories. Tests were considered significant level 0.05. Statistical analysis kolmogorov- smirnov represent a normal distribution of scores on the variables of the study subjects ($p>0.05$).

RESULTS

Chi-square and t tests showed that children between the experimental and control groups in terms of demographic characteristics including age, gender, birth, number of family members, careful and demographic characteristics of the mother and father did not show significant differences. The two groups were similar in terms of demographic characteristics.

According to statistics, analysis of variance with repeated measures between the mean pain intensity scores and housing sedative effect on children undergoing tonsillectomy pain control and test groups in the first three days after discharge, there was a statistically significant difference (Table 1).

Table 1. Results of analysis of variance with repeated measurements before and after swallowing pain and palliative effect of acetaminophen in the first three days after discharge

Variable	Groups		Control group		Statistics, analysis of variance with repeated measures
	Average	Standard deviation	Average	Standard deviation	
Pain before swallowing	2/50	1/33	3/31	1/34	F=8 P=0/006
Severe pain after swallowing	2/66	1/37	3/54	1/39	F=7/75 P=0/008
Palliative effect of acetaminophen	2/03	1/15	2/52	1/12	F=4/25 P=0/04

The findings showed set hourly acetaminophen in groups with training programs, the majority of children in the experimental group (84.4%) on the first day and second day after discharge prescription painkiller used four times a day. In addition, none of the children in the experimental group on the first day after discharge, analgesics less than once had. In contrast, the majority of children in the control group (58.1%) on the third day, prescription analgesics less than once a day were used. Chi-square test between the experimental and control groups in terms of number of prescription painkillers in the first three days after discharge showed a statistically significant difference ($p < 0.001$).

On common complication of acetaminophen, the findings showed that the majority of children in the experimental group (90.6%) on the third day after discharge did not have a stomachache. The majority of the control group (9/83%) on the third day after discharge, no stomach pain, nausea and vomiting and was feeling dizzy. None of the children on the first day of the third test and control groups was nausea and vomiting. 18.8 percent and 4.9 percent in the third day of the second day of the test group and the control group increased 8.6% in the second day and severe constipation. Chi-square test between the experimental and control groups showed no significant difference analgesic effects (Table 2).

Table 2: Relative distribution of children undergoing tonsillectomy first three days after discharge test and control groups in terms of side effects of pain medication

Effects Of pain killers		Test group				Control group				Chi square	P-value
		Ever Percent	Little Percent	Average Percent	Much Percent	Ever Percent	Little Percent	Average Percent	Much Percent		
Stomachache	Day1	71/9	21/9	0	6/2	64/5	12/9	12/9	9/7	5/34	0/25
	Day2	84/4	12/5	0	3/1	71	19/4	6/5	3/2	4/89	0/29
	Day3	90/6	6/2	3/1	0	83/9	16/1	0	0	2/34	0/29
Nausea and vomiting	Day1	78/1	18/8	3/1	0	58/1	29	12/9	0	3/52	0/17
	Day2	87/5	6/2	6/2	0	64/5	25/8	3/2	6/4	7/25	0/12
	Day3	84/4	12/5	3/1	0	83/9	9/7	3/2	3/2	1/14	0/76
Constipation	Day1	35/1	15/6	12/5	18/8	51/6	22/6	6/5	19/4	1/35	0/85
	Day2	46/9	25	9/4	18/8	54/8	19/4	19/4	6/5	3/68	0/45
	Day3	62/5	15/6	12/5	9/4	61/3	29	6/5	3/2	3/15	0/53
Drowsiness	Day1	59/4	18/8	9/4	12/5	38/7	19/4	19/4	22/6	3/96	0/41
	Day2	68/8	18/8	12/5	0	45/2	41/9	9/7	3/2	5/48	0/14
	Day3	68/8	25	3/1	3/1	80/6	16/1	0	3/2	1/86	0/60
Feel dizzy	Day1	62/5	21/9	6/2	9/4	54/8	19/4	9/7	16/1	2/50	0/64
	Day2	71/9	18/8	3/1	6/2	71	19/4	6/5	3/2	0/67	0/87
	Day3	78/1	12/5	9/4	0	83/9	16/1	0	0	3/11	0/21

The findings showed that the majority of children in the experimental group (62.5%), in the first three days discharge non-pharmacological pain relief methods such as distraction, rhythmic breathing, and guided imagery and used. The majority of the control group (93.5%) in the first three days discharge from any non-pharmacological methods of pain relief did not use. Chi-square test showed that between experimental and control groups in terms of use of non-pharmacological methods of pain relief; there was no statistically significant difference (Table 3).

Table 3: Distribution of absolute and relative frequency of children undergoing tonsillectomy and control groups in the first three days after discharge non-pharmacological methods of pain reduction used terms

The use of non-pharmacological methods of pain relief					Test
	Number	Percent	Number	Percent	
Yes	2	6.5	20	62.5	$\chi^2 = 21.76$ P=0/000
No	29	93.5	12	37.5	
Total	31	100	32	100	

DISCUSSION

Average pain scores and pain after swallowing children on three days after discharge was lower than the control group. Therefore training before surgery and telephone follow-up reduced the severity of pain and pain after swallowing the children were in the first three days after discharge. The findings of Sotodeh et al (2010), Hauth and Broome (2007) as well as Sutter et al (2010) Effects of education on pain in children after tonsillectomy operation, either direction. In all three mentioned study, mean pain intensity and pain after swallowing children in the intervention group than the control group [11,13,14]. Wiggins and Foster (2007), the study examines the pain after tonsillectomy and adenoidectomy in children. They mentioned that the majority of children undergoing tonsillectomy pain were intense after discharge [15].

The number of prescription acetaminophen consumption in the first three days after discharge, 84.4 percent of children in the experimental group using an hourly schedule, 78.1 percent in the first and second day and third day after registering four times daily in the draft housing. However, in the control group, 29% of children in the first and second three times and 1.58 percent on the third day, less than once a day were taking prescribed acetaminophen.

Children in the intervention group were pain relief. The results of the research with concealer and colleagues (2007, 2010), Vincent et al. (2012) and Hauth and Broome (2007) was in line. In studies educating parents cause their followers beyond the scheduled hours housing and thus increase the amount of housing to better manage pain after tonsillectomy operation was [5,11,14,16]. The mean (SD) scores sedative effect of acetaminophen in the first three days after discharge in the experimental group (1.15) 2.03 and in the control group (1.12) was 2.52. Since the scale, zero clues were a tremendous influence acetaminophen, lower average scores of children groups namely; the effect on pain relief was acetaminophen. Therefore, acetaminophen set the time schedule, the sedative effect of it more and more stable. Vincent et al study (2012) showed that satisfaction increases children from the effects of drug education in pain management after surgery [5].

Fear of side effects such as addiction and dependency of children's and parents' misconceptions housing, one of the reasons for inadequate intake of pain medication and thus does not relieve children's pain [17]. While most children in this study despite using the acetaminophen syrup groups, common side effects of pain medication, there was no difference between intervention and control groups. Sutter et al (2005) and Hauth and Broome (2007) study found similar results in their studies [11, 18]. 62.5 percent of caregivers in the intervention group and pain control after surgery for children of non-pharmacological methods used for pain relief. While in the control group 93.5% of any non-pharmacological methods of pain relief did not use. In other words training before surgery and follow-up phone makes parents acquaintance with non-drug pain relief methods and using it on the side of analgesics to control pain was better. Studies Hauth et al (2003) and Sutter et al (2007) the same study showed that the use of non-pharmacological methods of pain control in the intervention group and the control group [19, 20].

CONCLUSION

Despite the comprehensive training before ambulatory surgery and follow-up phone calls, especially in the first days after discharge makes use of prescription acetaminophen syrup as scheduled hourly, enhance the effect of palliative prescribed housing of sight of children. Increasing the use of non-pharmacological pain relief methods parents with drug method, greater empowerment of parents in child pain management and thereby reduces pain after tonsillectomy in the home. It is suggested that in future studies the impact of education on pain before the surgery and follow-up phone and long-term complications after surgery than other children to be examined.

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