

Comparing the Anxiety of Children When Entering and Leaving the Operating Room with and without the Presence of Parents

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Abstract: Surgery is one of the most frightening therapeutic procedures that can in children so that it can prevent to achieve therapeutic purposes and its controlling is very important. This study was conducted to compare the children's anxiety when entering and leaving the operating room with and without the presence of their parents. **Methods:** In this clinical trial study, 38 children aged 3 to 9 years who underwent tonsillectomy surgery were randomly assigned to experimental and control groups. In the experimental group, parents were with children during induction of anesthesia. The anxiety of children was measured based on the m-ypas scale. Finally, the data were analyzed using descriptive statistics, chi-square and Fisher test by Spss 21 software. **Results:** Mann-Whitney test showed that there is difference between experimental and control groups of children in terms of anxiety scales of children including emotional expressivity, vocalization, State Apparent Stimulated, and use of parents (p-value <0.05, Table 2), but there is no difference between two experimental and control groups in terms of scale of activity (p-value >0.05). Additionally, there is difference between them in terms of anxiety (p-value >0.05). The mean of the anxiety in the experimental (43.68) reduced compared to control group (60.09). This means that the presence of parents has impact on level of anxiety during induction of anesthesia on 2 to 7 years old children undergoing surgery. **Conclusion:** The results showed that parental presence has impact on anxiety during induction of anesthesia on 3 to 7 years old children undergoing surgery.

Keywords: Anxiety, Parents, Children.

Introduction

Surgery and entering the operating room have been constantly as one of the causes of anxiety and fear during the life. This issue, especially in children when they are separated from their parents, not only leads to his resistance before the surgery, but also it can leave adverse psychological effects on future (1).

One of the most important objectives of anesthesias is feeling the relaxation and comfort before entering to operating room (2). Children surgery, especially in ages between 1 and 7, is one of the cases treated selectively in the surgical procedures frequently. Child's entry into an unfamiliar environment of operating room causes

anxiety and severe restless. Certainly, tolerance of such stress is not easy for child and it causes multiple health problems in the future. On the other hand, children cause anxiety in parents and leaves negative impact of surgery and anesthesia leaves on their mind. Due to importance of the issue, it is clear that overcoming this problem and making the child calm are very important steps in starting and performing a successful anesthesia (3). Studies show that anxiety of

parents makes it difficult to separate children from their parents before entering to operating room. To reduce anxiety in children, in addition to meeting children and parents before the surgery, providing the

necessary explanations and answering to parents' questions, and ensuring them on lack of pain during and after the surgery, various methods such as Teddy models and video tapes are also used (4).

There are contradictory views among the experts on effects of anxiety prior to surgery and result during and after surgery, especially on disease and recovery after surgery. However, majority of them believe that anxiety prior to surgery is usually characterized with personal feelings such as feeling of pressure, restlessness, anxiety, and despair. Additionally, anxiety prior to surgery at the lower to moderate level causes behavioral improvement in the postoperative period (5), but high level of anxiety before surgery leads unpleasant psychological and physiological consequences (6-8).

In the case of child anxiety and fear, Brown writes that problems of anesthesia personnel in anesthesia of 2 to 6 years old children include fear, worry, and lack of cooperation with them (9). In this regard, Marlow suggests that surgery, especially for children, is stressful experience and child may not understand the cause of surgery and he may think that it is an unfair attack on his body (10).

In the case of lack of control of anxiety, it leads a disruption in the process of anesthesia induction (12 and 11). It also has physical and mental consequences that may manifest in mind and behavior of child later that some of them include fears of medical personnel without reason, sleepless, nightmares, and even urine and feces incontinence.

Due to fact that the child, especially in the ages before the school, has higher dependence on parents, hospitalization and the separation of the parents increase child's fear and anxiety and create strong resistance when entering to operating room.

Additionally, in the case of lack of controlling the created anxiety, it leads to disruption in the process of induction of anesthesia (12 and 11). It may associated with physical and mental consequences that it may be manifested in the mind and

behavior of the child later that some of them include fears of medical personnel without reason, sleepless, nightmares, and even urine and feces incontinence (13 and 14).

According to the results of some previous studies on the impact of parental presence on reducing the anxiety of the children in the operating room, if in this study we can show that this presence has no impact, we can reduce many of the problems resulting from lack of presence of parents in the operating room. The current study was conducted the anxiety of children when entering and leaving the operating room with and without the presence of parents in hospitals affiliated to Jahrom University of Medical Sciences.

Materials and Methods

This research was conducted in case and control study in the 2014. The sampling was done using available sampling method. Those who met the inclusion criteria of study were included in the study. Then, using simple randomized sampling method patients were selected at odd and even days. To observe the blindness technique of the study and lack of awareness of samples of research hypothesis, samples were selected as none of the groups had information on presence or absence of mother.

Patients were divided into two groups, each containing 19 patients. After obtaining permission from the Department of Research of Jahrom University of Medical Sciences, we participated in the research environment and explained the research objectives for operating room officials.

This study was conducted on 2 groups of control and experimental groups (each containing 19 patients) using classification system based on ASA (America Society of Anesthesiologists professionals), in which healthy patients were placed in anesthesia class 1 and patients with mild systemic problems were placed in anesthesia class 2.

All patients were candidate for tonsillectomy in Peymanieh Hospital from the beginning to the end of 2014. All children were kept 8 to 6 hours fasting before being transferred to the operating room.

The tools used in this study included demographic information for and a questionnaire to measure the children's anxiety. Demographic characteristics questionnaire included age, gender, total number of children of the family, education level of parents, and parents' job). Yale preoperative anxiety scale was used to measure the anxiety level of children.

This questionnaire includes five axes including the following items that each of which includes multiple scores: expressivity-activity, vocalization, emotions, and use of parents. Scoring this questionnaire is determined as a percentage at each level. Each category of moderated of Yale scale was scored by various levels of behaviors related to that category. During the scoring, the highest level of behavior observed in each of these categories was scored for that category. Some of these categories include 4 or 6 items.

The highest behavioral levels in each category that child had were summed and the calculated mean weight was multiplied by 100, then divided to number of categories. Accordingly, the scoring was done from zero to 100. This scale is based on observing the behavior not self-reporting and evaluation can be completed less than one minutes. The procedure is so that children were divided into two groups after entering to operating room. Written consent was obtained from parents half hour before surgery. Child

enters to operating room with his mother. It should be noted that when parent entering to operating room, necessary explanations were given for them on observing the operating room sterility, and mask, gown, and slippers were given for them.

Researcher completed the children's anxiety questionnaire after observing the child's behavior immediately before induction of anesthesia. It should be noted that the questionnaire was developed in Iran by doctor Mehrdad Memarzade titled as investigating the game room on anxiety of 2-

6 aged children Zahra Hospital of Isfahan. Data were analyzed using descriptive statistics (mean – deviation- confidence distance) chi-square and Fisher test, and t-test

Findings

In this clinical trial study, 38 children aged 2 to 7 years undergoing surgery were selected and they were assigned randomly into two experimental and control groups. In the experimental group, parents were percent during induction of anesthesia beside their children. Their mean age was 5.66 ± 1.55 . Their minimum age was 2 years and their maximum age was 9 years. Out of them, 64.9% were male, and the rest were female. Results showed significant between experimental and control groups in terms of demographic variables ($p\text{-value} > 0.05$, Table 1).

Table 1: Comparison of experimental and control groups in terms of demographic variables

		Group				P-value
		Control group		With Mother		
		N	%	N	%	
sex	male	12	66.7%	12	63.2%	0.829*
	female	6	33.3%	7	36.8%	
job.mother	housewife	13	92.9%	18	94.7%	0.830*
	Practitioner	1	7.1%	1	5.3%	
job.father	Free	10	71.4%	12	66.7%	0.522**
	Employee	1	7.1%	6	33.3%	
	Jobless	3	21.4%	0	0.0%	
edu.mother	High school diploma	7	53.8%	9	47.4%	0.951**
	Diploma	4	30.8%	8	42.1%	
	B.A	2	15.4%	2	10.5%	
	Masters	0	0.0%	0	0.0%	
	P.H.D	0	0.0%	0	0.0%	
edu.father	High school diploma	10	83.3%	12	63.2%	0.505**
	Diploma	0	0.0%	4	21.1%	
	B.A	2	16.7%	3	15.8%	
	Masters	0	0.0%	0	0.0%	
	P.H.D	0	0.0%	0	0.0%	
number.family	3	2	14.3%	4	22.2%	0.114**
	4	7	50.0%	12	66.7%	
	5	3	21.4%	2	11.1%	

	<5	2	14.3%	0	0.0%	
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* Base on Independent Samples Test

** Base on Anova Test

Mann-Whitney test showed difference between experimental and control groups in terms of scales of anxiety in children including emotional expressivity, vocalization, State Apparent Stimulated, and use of parents (p-value <0.05, Table 2), but no difference was found between the experimental and control groups in terms of scale of activity (p-value > 0.05, table 2).

Additionally, there is a difference between the experimental and control groups in terms of anxiety (p-value <0.05, Table 2). Level of anxiety in experimental group (43.68) was reduced compared to control group (60.09). This means that parental presence has impact on level of anxiety during induction of anesthesia on 2 to 7 years old children.

Table 2: Comparison of experimental and control groups in terms of scale of anxiety in children using the Mann-Whitney test

	Group										p-value
	Control group					With Mother					
	Mean	SD	Median	Min	Max	Mean	SD	Median	Min	Max	
activity	2.42	1.39	2.00	1.00	4.00	1.68	1.11	1.00	1.00	4.00	0.109
Emotional expressivity	3.42	.90	4.00	1.00	4.00	2.11	1.10	2.00	1.00	4.00	0.001
vocalization	3.57	1.55	3.50	2.00	6.00	2.21	1.65	1.00	1.00	5.00	0.011
State apparent stimulated	3.32	1.00	4.00	1.00	4.00	2.00	1.25	1.00	1.00	4.00	0.003
Use of parents	2.63	.74	3.00	1.00	3.00	1.56	.86	1.00	1.00	3.00	0.016
anxiety	60.09	20.6	55.00	26.6	95.00	43.68	23.9	30.00	23.3	91.67	0.009

Discussion

In children, preoperative anxiety can lead to mental pressure and psychological negative effects associated with incidence of nightmares and restless sleep, anxiety of separation, nutrition problems, and increased fear of medicinal personnel (15 and 16). Therefore, it is essential to adopt policy interventions to decrease it. Kane et al have classified interventions to reduce anxiety in children needing: 1) sedative drugs before surgery, 2) presence of parents during all times of surgery process 3) providing appropriate informing programs (17).

Based on the analysis of results, two groups were matched on demographic characteristics and all indicators of anxiety were assessed. The mean of changes in total score of anxiety in children before and after surgery was significantly between the two groups. This means that presence of parents at the time of induction of anesthesia is effective on anxiety of hospitalized children.

To minimize the anxiety of children by parental presence is an important part of their surgery. Results of the study carried out in Great Britain show that parental

presence reduced the children anxiety and enhanced their cooperation. Wright et al said that those children that their parents were present during induction of anesthesia experienced less anxiety than others (18). Kane et al study showed that parents accompany their child to transfer to the operating room caused less anxiety and more satisfaction by children (19). In some studies, it has been shown that parental presence had no effect on the child's anxiety.

Lardner et al study showed that the presence of parents after the surgery and in the recovery room has no effect on the child's anxiety (20). Studies conducted by Gupta et al and Imad Abadi et al showed that parental presence during induction of anesthesia does not have any beneficial effect on children's anxiety (22-21). Kins et al also showed that the presence of mothers do not have any effect on reducing anxiety in

children during anesthetic induction and the observed effects related to the separation of children from their parents (23). As mentioned before, the mean score of anxiety before and after surgery had a statistically

significant difference between the two groups. It is obvious that conducting complementary studies about this intervention can increase the effects of

results. Therefore, it is necessary to conduct effective interventions in order to prepare them for surgery to reduce their anxiety.

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