

## The impact of General Psychological Training on the self-efficacy of Mothers whose Children Undergoing Surgery in Taleghani Pediatrics Hospital in Gorgan, Iran

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### Abstract

**Background and objectives:** Surgery in children around the world, including our country, is a stressful activity for mothers of children and reduces their self-efficacy in childcare. It is important to use psychological training approaches, especially in mothers, to improve their self-efficacy. The aim of this study was to investigate the effect of cognitive strategy training on reducing the stresses caused by Children's Surgery in mothers and on their self-efficacy.

**Methods:** In an experimental study in Taleghani Pediatric Center in 2017, 60 mothers whose children had surgery were randomly selected and allocated to intervention and control groups. The general psychological training and stress management program was implemented for the intervention group. Data collection tool was a questionnaire of two-part parenting self-efficacy questionnaire (PSAM DEMO).

**Results:** The independent t-test was not significantly different between the two groups before intervention (P-value = 0.72). However, after intervention, the level of self-efficacy in the intervention and control group showed a significant difference (P <0.01). Therefore, the level of self-efficacy in the control group was lower. ANOVA showed a significant difference between the intervention and control groups before and after the intervention (P <0.01). Eta of 0.47 shows that approximately 50% of the changes in the increase in self-efficacy of the mothers of children with preoperative surgery related to the intervention. Therefore, the mothers of the intervention group had more self-efficacy than the control group before surgery.

**Conclusion:** Strategies for providing appropriate education for mothers with children undergoing surgery can be suggested as an effective approach to increasing the self-efficacy of mothers in all hospitals throughout the country.

**Keywords:** Parent training, Self-efficacy, pediatric surgery.

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## Introduction

Illness and hospitalization are of the first crises that a child encounters during his lifetime. Millions of surgical procedures are performed worldwide every year (1). Surgery is a combination of anesthesia, pain, and cuts with instruments such as needles and surgical blades. Each of these activities is, in turn, stressful (2). By increasing the number of pediatric surgeries and transferring the caring roles to parents, appropriate preparation for the proper care of children is necessary before and after surgery (3). Because parents play an important role in taking care of their children before and after surgery, they requires complete preparation and training in this regard (4). Surgical care for a child is a specific experience for parents, each with a unique perspective (5, 6). Disease and pediatric surgery reduce the efficiency of the parents and cause a crisis in the family (1). It also causes psychological problems in mothers, especially anxiety and causes emotional and behavioral problems in the child (7). One of the important psychological constructs related to beliefs is the concept of self-efficacy (8). Self-efficacy implies a social learning theory that points to the individual's feelings about controlling the events of his life (9). Parental self-efficacy is an important cognitive construct in relation to parental performance. It refers to parent's assessment of their ability to play a parental role [10]. When parents are believed to be able to do something effectively, they are more likely to behave in that particular way (11). Self-efficacy has the most effective and influential mechanism in human cognitive function (12) and is the most important prerequisite to predict behavior in stressful conditions (13). Parents' education program improves the parental adaptation mechanism by providing

appropriate information about the child's conditions and the way parents behave with her/him (10). Increasing the cognitive factors of the child's disease and implementing mothers' self-efficacy strategies for better care of the child will reduce the anxiety of the parents (4). Risk management training programs can improve maternal care in children's illnesses (14). The Psychological Preparedness Program for surgery is a psychological learning package that includes pre-surgery, during and after surgery processes, and some specific sensory responses to such processes (15). If mothers have a high level of social support, knowledge, attitude, and self-efficacy, they can significantly solve their child's problems (12). In their study, Mogtader et al. (2015) found that proper educational intervention by improving parents' perceptions and feedbacks could increase their ability to cope with their parental role and responsibilities (16). Lagos ton et al. (2013) in their study showed that education intervention on mothers improved their sense of control and self-esteem and increases their self-efficacy and has important positive consequences for mothers' mental health and children's health (17). Sheibani et al. (2014) showed that health education planning for thalassemic patients had a direct relationship with increasing their self-efficacy (18). Jajerme et al. (2015) showed that stress management training increased the self-efficacy of thalassemic children's mothers (19). Moazzeni et al. (2014) found that proper training through educational classes and pamphlets increased the self-efficacy of hospitalized children's mothers (20). Proper educational intervention can improve parents' ability to cope with their parental roles and responsibilities by correcting their perceptions and feedbacks (16). Since mother is the first person to influence the mental health of a

child and plays a central role in her/his care (21), her competence is the most important factor in children's health (14). Applying appropriate training methods will increase maternal self-efficacy and their effective care of children (7). Mothers' support in difficult and stressful situations is one of the most important tasks of the carestaff and the nurse has a duty to improve the quality of health care (22). A nurse is the most suitable member of the health team to educate the client and her family (19). The main objective of this research is to reduce the psychological problems of mothers of pediatric patients undergoing surgery. Therefore, considering the importance of training and clinical experiences, the researcher conducted a study entitled the effect of training program on the self-efficacy of mothers of children undergoing surgery in order to measure its impact on the self-efficacy of mothers in their childcare.

### **Materials and Methods**

This pre-test post-test experimental study was carried out in two groups of intervention and control. The study group includes the mothers of children undergoing surgery in Taleghani Hospital of Gorgan in 2017. The criteria for entering this study included the mothers whose children undergoing surgery for the first time, they had Persian literacy (both speaking and writing skills), they did not have any physical and mental illness based on self-report, and they had self-care and child-care ability. Mothers whose children had physical and psychological problems (mental retardation, cerebral palsy and congenital defects) and the mothers who were absent for two sessions were excluded from this study. The sample size of this study was calculated 60 (30 in the intervention group and 30 in control group) using G \*

POWER statistical software. In this estimation, a two-tailed test at the 5% significance level with a test power of 80% and an effect size of 0.40 was considered. Via simple random sampling, those who entered the study were divided into two groups of test and control according to the random allocation rule. The instruments were Demographic information questionnaire (mother's age, education, occupation, number of children) and Dumka's Parenting Self-Agency Measure (PSAM) to assess the self-efficacy of the mothers. The questionnaire consists of 10 questions scored according to 7- point Likert scale (from 1 as disagree to seven as agree. The Questions of 1, 3, 5, 6 and 8 are scored in reverse order and indicate a lack of proper self-efficacy. The total self-efficacy is divided into three levels of low (10 to 20), moderate (20 to 40) and high self-efficacy (above 40). In the study conducted by Jamalinejad et al. (2012), the validity of this questionnaire was desirable (23). The reliability of the questionnaire through Cronbach's alpha was over 80%. The study protocol was approved by Research Council of the University and the code of ethics was obtained from the University's Technology Assistant. Then, by explaining the purpose of the research and obtaining the consent of the hospital authorities, the sampling was performed through purposive sampling. The study samples were randomly divided into two groups of intervention and control according to the random allocation rule. The researcher first described the research goals to the mothers, assured them about the confidentiality of their information and the safety of the study, asked them to give written consent, and allowed them to opt out if they did not want to continue the research. In the pre-test phase, the questionnaires were provided to both groups. Then, the control

group received routine training related to admission, hospitalization, and pre-operation. However, the intervention group, along with routine training, received a planned education that was approved by the professors of Aliabad Azad University, as shown in Table 1. The training was given to the mothers by the researcher and a trained nurse for 10 to 15 minutes in each session, individually in the clinic and the surgery ward. The necessary measures were taken to prevent from the confounding variables, such as noise and the communication between mothers during hospitalization period. The training sessions were based on mothers' questions and responses, and solving the case-specific problems of the child. Providing educational

approaches for mothers was based on Problem-based learning (PBL). Therefore, after preparing the surgery procedure, the first session was held at the surgery clinic and the subsequent sessions in the surgery ward. A week after the intervention, the questionnaires were completed again. After collecting the data and entering them into the spss16 software, the data were analyzed using descriptive statistics (tables, mean and standard deviation) and inferential statistics (independent t-test, paired t-test, and covariance) at the significant level of 0.05.

<b>Training program for mothers</b>	
<b>Row</b>	<b>Type of training</b>
Session 1: at Clinic	Familiarity and providing information about the type of disease, the type of surgery, the facilities and the service staff of this center, showing the photos before and after the surgery, and examples of similar surgical operations.
Session 2: at admission time	Admission process, preparing the child before surgery, including fasting, how to feed the baby, cleaning the surgical site, having routine tests, the time of operation, consent procedure, list of medications, possible allergies, as well as the introduction of head nurses and child nurse.
Session 3: after admission	Regulations and routines of the surgical ward, introduction of department personnel and nurses, nursing interventions implemented during child admission and hospitalization, admission to the surgical ward, venipuncture, serum-therapy, receiving medication and pre-operative antibiotics, providing pamphlets about Sickness
Session 4: before entering the operating room	Phone coordination with the operating room in the presence of the mother, answering mother's questions about the time and procedure of operation, attending the mother at the time of the child's admission in the operating room, meeting with the surgical team and anesthesiologist
Session 6: during operation	Explaining the duration of the operation, encouraging the mother to express feelings, teaching post-operative care
Session 7: after operation	Controlling the postoperative pain, surgical warning signs (such as fever, swelling, bruising, infection), diet, child motility and activity, discharge time, educational explanations, answering mothers' questions
Session 8: before discharge	Post-discharge training, follow-up, post-operative visits, how to use medications, Stitch removal time, follow-up pathology and probabilistic tests

**Discussion**

The demographic results of mothers showed that the mean age of mothers in the intervention group was  $31.3 \pm 6.1$  and in the control group was  $33.4 \pm 6.11$ , which there was no statistically significant difference ( $p = 0.6$ ). The education level of most of the

mothers in the control and intervention group was under the high school diploma. They were homemaker and they had two children (Table 2). There was no significant difference between two groups in terms of occupation ( $p = 0.24$ ) and education ( $p = 0.09$ ).

**Table 2:** Absolute and relative frequency distribution of mothers of pediatric patients undergoing surgery based on demographic information

Group Mother's characteristic		Test	Control
		Number (%)	Number (%)
Education	Under the diploma	15(50)	19(63.3)
	Diploma	8(26.7)	9(30)
	Associate Degree	2(6.7)	0
	Bachelor	3(10)	2(6.7)
	Master's degree (MA)	2(6.7)	0
Occupation	Free job	3(10)	2(6.7)
	Employee	2(6.7)	0
	Student	1(3.3)	0
	Housewife	24(80)	28(93.3)
Number of children	1 child	10(33.3)	6(20)
	2 child	13(43.3)	12(40)
	3 child	4(13.3)	8(26.7)
	4 child	2(6.7)	4(13.3)
	5 child	1(3.3)	0

The preoperative self-efficacy level in the intervention group and control group were  $45.33 \pm 10.61$  and  $44.46 \pm 8.52$ , respectively. Independent t-test showed no significant difference between the two groups before intervention ( $P = 0.72$ ), but after the intervention, the self-efficacy increased in the

intervention group. The self-efficacy score of the intervention group before and after the intervention showed a significant difference ( $t = 2.31, p < 0.01$ ). Independent t-test showed no significant difference between self-efficacy scores before and after intervention in the control group ( $p < 0.06$ ). (Table 3).

**Table 3:** Comparison of self-efficacy in intervention and control groups before and after intervention

Group Stage	Intervention	Control	Independent t-test
Before	45.33 ± 10.61	44.46 ± 8.5	P = 0.72
After	60.36 ± 5.48	46.7 ± 8.4	P < 0.01 eta = 0.54
Paired t-test	P < 0.01 t = 2.23	P = 0.06 t = -1.9	

Based on independent t-test, the level of self-efficacy in intervention and control groups showed a significant difference after intervention (P < 0.01). The statistical covariance test showed a significant difference between the intervention and control groups after the intervention in the level of self-efficacy of mothers (P < 0.01). As with Eta = 0.54, more than 50% of the changes in increasing the self-efficacy of mothers of pediatric patients undergoing surgery was related to the preoperative intervention (Table 3).

### Conclusion

The findings of the present study showed that mothers of pediatric patients undergoing surgery have always shown a low level of self-efficacy. Comparison of the mean scores of mothers' self-efficacy before intervention did not show any significant difference between the two groups. However, the rate of self-efficacy in mothers who were trained was significantly higher than the mothers who were not trained. The provision of education with cognitive strategies has increased the efficiency and self-efficacy of mothers in their childcare (14). Akbarzadeh et al. (2012) showed that training mothers would lead to a positive attitude and increase the self-esteem and confidence of mothers (21). Cyrus Fard et al. (1393) showed that education helps people

to assure their ability and actively participate in health promotion programs (1). Jajerme et al. (2014) showed in their study that stress management training program had a positive effect on the self-efficacy of the mothers of the children with thalassemia (19). Razi et al (2016) demonstrated that education can increase mothers' self-efficacy when they encounter high-risk indications in their children (14) Amirsardari et al (2014) showed that there was an inverse relationship between self-efficacy and anxiety. Therefore, it can be said that education increases self-efficacy and reduces anxiety (8). Since the mothers of the intervention group had much more self-efficacy than the control group, it could be argued that the psychological readiness program, the preliminary information, and the expectations consistent with the reality create a kind of cognitive control that increases self-efficacy (3). A person who can control his feelings can also increase his self-efficacy and reduce his anxiety with a positive impression of his abilities. Training has a significant role in reducing mental disorders and promoting the mental and physical health of mothers. It also gives them positive motivation and increase their self-esteem and confidence (21). The results of all the studies mentioned above are consistent with the present study, and we could not find any study that was contrasted with these findings.

### Study Limitations:

One of the limitations of this study is that mothers may not respond adequately and carefully to questionnaires. In addition, due to data collection by self-reporting, they may not have indicated their actual performance. Other possible constraints of the study were the lack of involvement of fathers in the program, which was mostly due to being on their duty in the program's running hours. .

### Conclusion:

In general, this study showed that mothers need knowledge and information on effective methods of caring for their children in order to feel self-efficacy. They must rely on their abilities and make sure that their performance has a positive impact on the child's behavior. Providing a proper training program will increase cognitive performance and belief in mothers' abilities, and have a positive impact on better caring for the child and the recovery of her/his disease and mentally enables a mother to understand critical situations of hospitalization and child illness so that she can work hard to solve her child's problems. Therefore, the mother cares for her child before and after surgery appropriately and acceptably. In the end, it should be noted that the findings of this study coincide with the hypotheses of the cognitive theory and confirm it.

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