

# The effect of teacher's presence at children's bedside on the anxiety of mothers with hospitalized children: A randomized clinical trial

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## ABSTRACT

**Background:** The hospitalization of a child is a stressful experience for parents, especially mothers. Not having access to the teacher and not being able to continue school studies within the hospital by hospitalized children is a common reason for anxiety in them and their parents. The current study aimed to determine the effect of teacher's presence at children's bedside on the anxiety of mothers with hospitalized children.

**Materials and Methods:** In a randomized clinical trial, a total of 50 mothers with children admitted to pediatric ward of one teaching hospital in Mashhad, Iran, were randomly allocated to two equal groups. In the intervention group, the teacher was present at children's bedside for daily education and practices, but the control group received standard routine care. The mothers' level of anxiety was evaluated using the Spielberger State-Trait Anxiety Inventory, which was completed at both admission and prior to child's discharge. Data were analyzed using SPSS.

**Results:** The results showed that before intervention, the means and standard deviations of the mothers' trait anxiety scores in the experimental and control groups were not significantly different ( $P = 0.164$ ). However, after intervention, the mothers' mean trait anxiety scores decreased significantly in the intervention group compared to the control group ( $P < 0.001$ ) and compared to the pre-intervention phase ( $P < 0.001$ ).

**Conclusions:** It seems that the presence of a teacher at children's bedside is an easy and effective strategy to reduce anxiety in mothers regarding their children hospitalization.

**Key words:** Anxiety, child, hospitalized, Iran, mother, teacher

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## INTRODUCTION

Approximately, more than 3 million children are hospitalized annually. Hospitalization of a child is a stressful experience for parents, especially mothers, and it is an event which emotionally affects children, their parents, and their physicians.<sup>[1-3]</sup> Research shows that parents, especially mothers, experience severe anxiety while their children are hospitalized.<sup>[4]</sup> Anxiety is a common, protective response of human beings when facing threatening events or situations. However, higher anxiety levels affect attention, decision making, and cognitive ability,

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as well as physical health.<sup>[5]</sup> Parents experience tremendous challenges and changes in their parental role when their children are cared for by health care professionals in an unknown environment.<sup>[2]</sup> The mother and/or father may be completely unable to function well when overwhelmed with anxiety, which may promote the use of ineffective coping strategies.<sup>[5]</sup> Each parent has a unique reaction and varying levels of anxiety, but studies show that mothers seem to be more strongly affected by the child's disease than fathers. Maternal anxiety can also affect the child in two ways, transferring stress to the child and interfering with the mother's ability of child care.<sup>[6,7]</sup> Anxiety in children and their mothers, felt and observed during the treatment, might continue even after hospital discharge.<sup>[8]</sup>

A common reason for anxiety of children in hospital that affects parents is related to lack of contact with their every day environment (school, friends, teacher, etc.).<sup>[9]</sup> Education is a fundamental right for all children, including hospitalized children. Also, access to a teacher and being able to continue school studies within the hospital provide children with a sense of normalcy during the hospital stay and eliminate their anxiety, which subsequently reduce maternal anxiety.<sup>[10]</sup> On the other hand, illnesses and hospitalization cause these children to lose their school days. So, they suffer different negative effects that affect their emotional and psychological development, including sleep disorders, stress, and degradation of school performance.<sup>[9]</sup>

The nurse's duty today is not merely concerned with the physical needs of the child. Her education is extended to include training in looking after the child and his/her family as a total individual, realizing many of his/her problems. It is just as unwise to allow a child to be inactive during his hospital stay as it is for an adult.<sup>[11]</sup>

Since school-aged children spend much of their day at school, teacher for them is like a mother who helps them grow and learn. On the other hand, school is a significant part of every child's life and children who suffer hospitalizations may miss long periods of these typical school experiences. For this reason, the major concern for mothers and children of school age is the damage to the educational process of the hospitalized child.<sup>[12,13]</sup>

However, participating in the familiar and normal activities such as hospital school program provides education and interaction for children with a sense of normalcy, reduces the stress of hospitalization, and helps the child cope. In addition, this program supports parents, especially mothers, in directing the educational program and accessing appropriate services for their children, with the hospital teacher helping in the transition from hospital to school

as smooth as possible for the hospitalized child. Studies suggest the presence of a child in a hospital classroom, or a school teacher at a child's bedside, or even if the teacher is not available, following the education of child through his/her mother or the nurse, in order to effectively reduce their anxiety.<sup>[11,13,14]</sup> This study is aimed to determine the effects of teachers' presence at children's bedside on the anxiety of mothers with hospitalized children.

## MATERIALS AND METHODS

This randomized clinical trial was performed in Mashhad, Iran, from April to June 2010. The population of the study included all mothers of hospitalized children of age 6–12 years who were admitted to pediatric wards of Imam Reza Hospital.

The study participants included mothers with children who had been experiencing more than 3 days of hospitalization, who were alert and had no severe pain, had appropriate general condition and received no narcotic medications, and suffered no mental problems. The purpose of the study was explained to the participants and their informed consents were obtained. The exclusion criteria included mothers with children who became unwell, experienced less than 2 days of hospitalization, who were transferred, and not cooperative. The criteria for selection of teachers were as follows: The teachers had to be female, with a university degree in pedagogy and a minimum of 5 years experience. Sampling was conducted at two time blocks. After the completion of sampling in the intervention group, sampling was performed in the control group.

In order to evaluate anxiety in mothers, we used Spielberger State-Trait Anxiety Inventory (STAI) with 40 items. STAI consists of two subcategories: "State anxiety" which measures an individual's state of anxiety at a particular moment and "trait anxiety" which measures an individual's personality trait of anxiety. Each subcategory comprises 20 items, and each item is scored ranging from 1 to 4 (from 1 = not at all to 4 = very much). The range of each subscale score is 20–80, with a higher score indicating greater anxiety.<sup>[15]</sup> A score of 21–39 indicates mild anxiety, 40–59 indicates moderate anxiety, and a score of 60–80 indicates severe anxiety. This questionnaire enjoys universal validity and reliability. Its reliability had already been confirmed on 600 people in Mashhad, and the Cronbach's alpha coefficient obtained was 0.94 in the normal population. This questionnaire has been widely used in local and international studies.<sup>[16]</sup>

Demographic data such as age, education level, occupation of mother, and the type of the child's disease were also

collected for each mother and child. The selected teacher who was qualified in 5<sup>th</sup> grade pedagogy with 15 years of experience and was approved by the Department of Education participated in the education of children every morning at 8–12 am. For children who were newly admitted, a review of previous lessons was done, and then, new lessons were offered. Each day, new courses were offered in coordination with school curricula and the parents. At the time of admission, the child's parents were asked to prepare textbooks.

In order to allocate enough time to teach each child, the following were managed in advance: The hospital staff, rest time, visiting, and other applications were scheduled in such a way that they did not interfere with the teacher's work. Questionnaires were completed at both admission time and prior to discharge by mothers. All statistical analyses were performed at a confidence level of 0.05 using SPSS 11.5 (IBM software Version 11.5. Chicago). In addition, paired *t*-tests were used to compare the scores before and after the intervention; *T*-test was used to compare the anxiety scores of the groups.

### Ethical considerations

The study was approved by the Ethics Committee of Mashhad University of Medical Sciences and was registered in Iranian Center of Clinical Trial Registration with the ID number of IRCT2014122820453N1.

### RESULTS

A total of 63 mothers with hospitalized children were screened during the study period. Of these, nine mothers did not meet the inclusion criteria and four mothers declined to participate in the study. The remaining 50 mothers were randomly allocated to two groups and completed the present study [Figure 1]. Data from all these mothers were analyzed.

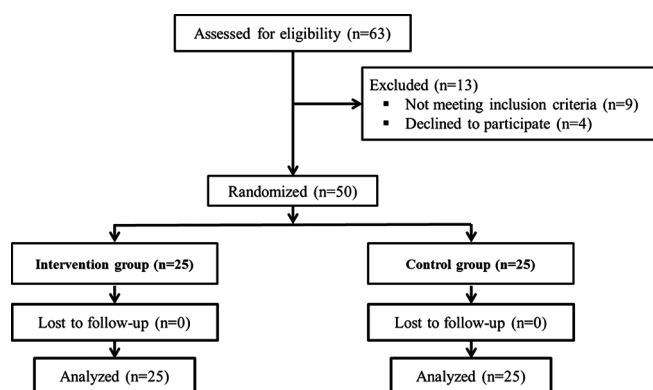


Figure 1: Flow chart of the study

Kolmogorov–Smirnov test showed that the distribution of data was normal and there was no statistically significant difference between the intervention and control groups, in terms of individual characteristics and demographic variables. The mean value of mothers' age was  $31 \pm 7.1$  years, 60% of whom were householders and 42% had high school education. The majority of children had metabolic diseases [Table 1].

The results showed that before intervention, the means and standard deviations of mothers' trait anxiety scores in the experimental and control groups were not significantly different ( $P = 0.164$ ). However, after intervention, the mothers' mean trait anxiety scores decreased significantly in the experimental group compared to the control group ( $P < 0.001$ ). Also, in the intervention group, the mothers' mean trait anxiety scores significantly

Table 1: Demographic characteristics of the mothers with hospitalized children (N=50)

Variable	Total (n=50) n (%) or mean (SD)
Age	
Mothers' age	31 (7.1)
Children's age (6-12)	10.0 (1.5)
Maternal education	
Under diploma	16 (32)
High school education	21 (42)
College education	13 (26)
Marital status	
Married	50 (100)
Divorced	0
Widow	0
Occupation	
Housewives	30 (60)
Employees	20 (40)
Sex of child	
Girl	32 (64)
Boy	18 (36)
The educational grade of children (elementary)	
First grade	4 (8)
Second grade	8 (16)
Third grade	18 (36)
Fourth grade	13 (26)
Fifth grade	7 (14)
The type of the child's disease	
Metabolic diseases	28 (56)
Heart disease	13 (26)
Infectious diseases	9 (18)

SD: Standard deviation

**Table 2: Comparison of the mean and standard deviation of mothers' trait and state anxiety scores in the experimental and control groups**

	Mean (SD)				P (paired t-test)	
	Before intervention		After intervention		t	
	State	Trait	State	Trait	State	Trait
Intervention group	33.21 (2.78)	32.78 (3.94)	32.8 (3.56)	29.76 (5.45)	0.312 1.033	<0.001 3.877
Control group	34.4 (5.21)	34.60 (4.87)	34.47 (4.32)	35.21 (4.84)	0.504 0.678	0.040 2.171
P (t-test)	0.418	0.164	0.163	<0.001		
t	0.817	1.413	1.417	3.505		

SD: Standard deviation

decreased, compared to the scores in the pre-intervention phase ( $P < 0.001$ ). The mean scores of mothers' state anxiety in both groups before and after treatment showed no significant difference [Table 2].

## DISCUSSION

The major finding of the present study was that the teacher's presence at the children's bedside led to a significant reduction of anxiety in mothers of hospitalized children. Since education is a part of the normal development of a child,<sup>[11]</sup> it seems that the teacher's presence and the hospitalized child's return to his/her normal activities before hospitalization (reviewing and learning lessons) can be among the measures that cause easier compliance with the unfamiliar environment of the hospital for the child<sup>[17]</sup> and his/her mother and, consequently, reduce their anxiety. The American Academy of Pediatrics, in explaining the policy of Child Life Services for hospitalized children, recommended cooperating and coordinating with the school for training ill children in the hospital and at home, and considering the teacher of the child as part of this plan.<sup>[18]</sup>

For this reason, across the world, many hospitals, especially pediatric hospitals in Philadelphia, Boston, and San Francisco, have implemented programs like hospital school program, in order to provide mental, emotional, and spiritual support to children, mothers, and families.

In a study that reviews the emotional problems and education of hospitalized children, it was concluded that for most children who are hospitalized and are in the educable age, their education should not be forgotten in the hospital, because education is part of the normal development of a child.<sup>[11,12]</sup>

Due to the importance of education for children admitted in hospital, in another study, it was reported that since the major concern of most school-age children and their mothers is about educational status, it seems logical that children can attend the hospital school or have bedside teaching. If teachers are not available, the mother or nurse

may be able to follow the school assignment and monitor that the lessons are studied.<sup>[14]</sup> In a study that surveyed the educational services for hospitalized children, in an attempt to accommodate the educational needs of children in hospitals, some pediatric hospitals in Canada had teachers who provided one-on-one teaching either in a hospital classroom or at the bedside of children who were hospitalized for extended periods. This study concluded that the involvement of a teacher in a patient's total care enhances the student's learning potential while being ill and facilitates a smoother return to school.<sup>[10]</sup>

However, in these studies, there are many challenges in teaching hospitalized children. For example, education in the early days of hospitalization is a difficult issue because a defiant or sulky child will block any effort of the teacher to help him/her; interaction with these children is difficult and it requires patience and initiative. On the other hand, motivation for learning should be strong enough in such a way that a warm, sympathetic, and understanding teacher brings the child to accept education in the hospital schoolroom or at the bedside, while in all other activities, he/she may be a rebellious or passive. The teacher can establish a good relationship with a child in the somewhat neutral surroundings of books, pencils, and papers, while the nurse or physician may not be able to get close to the child.<sup>[11]</sup>

## Limitations

One of the limitations of this study was the less number of participants in each group. Therefore, it is recommended to conduct further studies with larger sample sizes, which would be useful for confirming the results of this study.

The outcome variables of this study are based on self-reports. This may be affected by social desirability; thus, the use of objective measurements is recommended in future studies.

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**Conflicts of interest**

There are no conflicts of interest.

**REFERENCES**

1. Pressley M. An overview of the separation phenomenon and the experience of hospitalization for children. *Jefferson J Psychiatry* 2011;10:37-42.
2. Morsy AA. Nursing support and stress among mothers of hospitalized children. *J Am Sci* 2012;8:135-41.
3. Horstman T. Perspectives of Hospitalized Children and Parents on the Quality of the Children's Nursing Care; 2014. Available from: <http://kb.osu.edu/dspace/handle/1811/60284>. [Last accessed on 2016 Apr 28].
4. Skipper JK Jr., Leonard RC, Rhymes J. Child hospitalization and social interaction: An experimental study of mothers' feelings of stress, adaptation and satisfaction. *Med Care* 1968;6:496-506.
5. Tseng YS. "The Impact of a Child's Unexpected Hospitalization Upon Taiwanese Parents' Situational Anxiety". *Texas Medical Center Dissertations (via ProQuest)*. Paper AAI3362678; 01 January, 2009. Available from: <http://digitalcommons.library.tmc.edu/dissertations/AAI3362678>. [Last accessed on 2016 Apr 28].
6. Hasan Tehrani T, Haghghi M, Bazmamoun H. Effects of stress on mothers of hospitalized children in a hospital in Iran. *Iran J Child Neurol* 2012;6:39-45.
7. Bruce E, Lilja C, Sundin K. Mothers' lived experiences of support when living with young children with congenital heart defects. *J Spec Pediatr Nurs* 2014;19:54-67.
8. Ghabeli F, Moheb N, Hosseini Nasab SD. Effect of toys and preoperative visit on reducing children's anxiety and their parents before surgery and satisfaction with the treatment process. *J Caring Sci* 2014;3:21-8.
9. Antón P, Mana A, Munoz A, Koshutanski H. Live interactive frame technology alleviating children stress and isolation during hospitalization. *Ambient Assisted Living: Springer*; 2011. p. 92-100.
10. Ratnapalan S, Rayar MS, Crawley M. Educational services for hospitalized children. *Paediatr Child Health* 2009;14:433-6.
11. Greenberg HA. The emotional problems and education of hospitalized children. *J Pediatr* 1949;34:213-8.
12. The Children's Hospital of Philadelphia. Hospital School Program; 2015. Available from: <http://www.chop.edu/services/hospital-school-program>. [Last accessed on 2016 Apr 28].
13. Moses M. Mothers' and fathers' perceptions of music therapy for their hospitalized child: A comparison. *The Florida State University*; 2015.
14. Bakwin H. The hospital care of infants and children. *J Pediatr* 1951;39:383-90.
15. He HG, Zhu L, Li HC, Wang W, Vehviläinen-Julkunen K, Chan SW. A randomized controlled trial of the effectiveness of a therapeutic play intervention on outcomes of children undergoing inpatient elective surgery: Study protocol. *J Adv Nurs* 2014;70:431-42.
16. Seifi Z, Beikmoradi A, Oshvandi K, Poorolajal J, Araghchian M, Safiaryan R. The effect of lavender essential oil on anxiety level in patients undergoing coronary artery bypass graft surgery: A double-blinded randomized clinical trial. *Iran J Nurs Midwifery Res* 2014;19:574-80.
17. Reyhani T, Pourghaznain T, Mousavi Z, Ghorbani S. The effects of presence and guidance of a teacher on the anxiety of hospitalized children. *J Evid Based Care* 2014;4:15-22.
18. Percelay JM, Betts JM, Chitkara MB, Jewell JA, Preuschoff CK, Rauch DA. Child life services. *Pediatrics* 2014;118:1757-63.