



Doctor, is my Teddy Bear Okay? The “Teddy Bear Hospital” as a Method to Reduce Children’s Fear of Hospitalization

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Abstract

Background: Children report various types of fear in the context of hospitalization, such as fear of separation from the family, having injections and blood tests, staying in the hospital for a long time, and being told “bad news” about their health.

Objectives: To examine the effects of the “Teddy Bear Hospital” method on preschool children’s fear of future hospitalization.

Methods: The study group comprised 41 preschool children aged 3–6.5 years (mean 5.1 ± 0.7 years), and 50 preschool children, age matched and from a similar residential area, served as the control group. Assessment included a simple one-item visual analog scale of anxiety about hospitalization. This was assessed individually one day prior to the intervention and again a week after the intervention in both groups

Results: While baseline levels of anxiety were not different between groups [$t(89) = 0.4$, NS], children in the “Teddy Bear Hospital” group reported significantly lower levels of anxiety than the control group at follow-up

Conclusions: Our results indicate that by initiating a controlled pain-free encounter with the medical environment in the form of a “Teddy Bear Hospital,” we can reduce children’s anxiety about hospitalization.

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Another approach using more concrete methods (a health fair) has been introduced [5], but has not been evaluated objectively. The “Teddy Bear Hospital” is a more experiential and easy to apply method [6]. At the Teddy Bear Hospital, children are exposed to a simulated hospital and are asked to act as the parents of a teddy bear patient.

The purpose of this study was to examine the effects of the Teddy Bear Hospital method on preschool children’s fear of future hospitalization.

Subjects and Methods

Forty-one preschool children, age 3–6.5 years (mean 5.1 ± 0.7 years), from three kindergartens in Beer Sheva, Israel, took part in this study. Fifty preschool children, age matched and from a similar residential area, served as the control group. Parents provided written informed consent for their child’s participation and the Ministry of Education approved the study. Three children in the intervention group and four in the control group were excluded from the study because of one or more previous hospitalizations.

The “Teddy Bear Hospital” intervention

Children were invited to attend the simulated hospital where they would act as parents of their own teddy bears. Beforehand they were asked to think of a disease for their teddy bear. This activity was facilitated by the kindergarten teacher, but the choice of the illness or medical condition was the child’s alone.

All of the “teddy bear hospital” activities took place in the Soroka University Medical Center’s main courtyard. This allowed proximity to the hospital facilities, but in a pleasant atmosphere and without exposing the children to the possible risks of the wards, such as infectious diseases, other children’s pain, etc. [Figure 1]

Twenty medical students at the Ben-Gurion University’s Faculty of Health Sciences played the role of the physicians. All of the students volunteered to participate in the activity and had undergone a training workshop a few days before. The students wore lab coats, name tags and stethoscopes, and were carrying

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Children report various types of fear including social fears, medical fears, fears related to animals, fears of danger and dying, and fear of the unknown [1,2]. In the context of hospitalization, the most intense fears reported by elementary school children were the fear of separation from the family, having injections and blood tests, staying in the hospital for a long time, and being told “bad news” about their health condition [3]. Previous studies have demonstrated significant reductions in children’s fear of hospitalization using audiovisual and interactive methods [4]. However, these methods require special equipment and certain cognitive development and skills (e.g., abstraction, extrapolation, operating computers) which may not be applicable to preschool children in different cultures.



Figure 1 A and B. The "Teddy Bear Hospital". Courtesy of Dr. Ran Schweid.

a variety of medical equipment like dressings, syringes (without needles), etc.

The acting physicians conducted a structured protocol of medical procedures including history taking, physical examinations, and various laboratory and diagnostic tests. The history was taken in a flexible and responsive manner, according to the child's own verbal capability and using his or her own terms. The students were instructed to avoid any sophisticated or medical terminology, and to verify the child's understanding and participation throughout the activity. The children were encouraged to take part in the teddy bear's physical examination (e.g., auscultation of the heart and lungs).

Finally, the acting parents were informed about the diagnosis and mode of treatment for their teddy bear. Treatment included administering medication, instruction related to preventive medicine (e.g., dental hygiene, physical exercise) and "parental follow-up." No surgical procedure was performed in this teddy bear hospital due to technical difficulties.

At this half-day event, children were also exposed to an ambulance and had the opportunity to express their feelings by writing or drawing.

Assessment

Assessment included a simple one-item visual analog scale of anxiety about hospitalization. The scale included five facial expressions indicating a happy face on one side of the scale and a very distressed face on the other. Children had to choose the face that best described the way they would feel if they were about to be hospitalized [7]. This was assessed individually one day prior to the intervention and again a week after the intervention when the children were in kindergarten. In addition, children were asked what type of illness the teddy bear had. Finally, children were asked whether they had ever been hospitalized before.

Statistical analysis

Student *t*-tests were used for comparing groups on continuous variables (anxiety) and chi-square tests were used for comparing groups on categorical variables (e.g., gender). To test the main research question we used a repeated-measures analysis of vari-

ance (ANOVA) in which group (treatment/control) served as the between-subjects factor and time (baseline/post-treatment) served as the within-subjects factor. We hypothesized an interaction between group and time.

Results

The sample characteristics of both the experimental and control groups are shown in Table 1. No significant differences were found between groups regarding age and gender. A repeated-measures ANOVA revealed that time significantly interacted with group [$F(1,89) = 14.34, P < 0.001$].

While baseline levels of anxiety were not different between groups [$t(89) = 0.4, NS$], children in the teddy bear hospital group reported significantly lower levels of anxiety than the control group at follow-up [Figure 2].

We then examined whether the intervention affected post-treatment levels of anxiety differently in boys as compared to girls. A between-subjects ANOVA revealed no significant interaction of group by gender [$F(1,87) = 0.08, NS$].

We then examined the association between type of illness attributed by the children to the teddy bear and the effects of the intervention. Seventeen children (41.5%) attributed a common childhood illness (e.g., common cold, sore throat), while 24 (58.5%) named an uncommon childhood illness (e.g., cancer, physical trauma, seasickness) or non-existent condition that they invented for their teddy bear (color disease, juice disease). Conducting a between-subjects ANOVA we found no significant

Table 1. Sample characteristics of experimental and control groups

Variable	Experimental group (n=41)	Control group (n=50)
Age (yrs)	5.21 ± 0.4	5.36 ± 0.56
Gender: No. (%)		
Males	24 (58.5%)	21 (42.0%)
Females	17 (41.5%)	29 (58.0%)
Baseline anxiety	6.83 ± 3.99	7.15 ± 3.61
Post-treatment anxiety	5.30 ± 4.26	8.60 ± 2.91*

* $P < 0.001$.

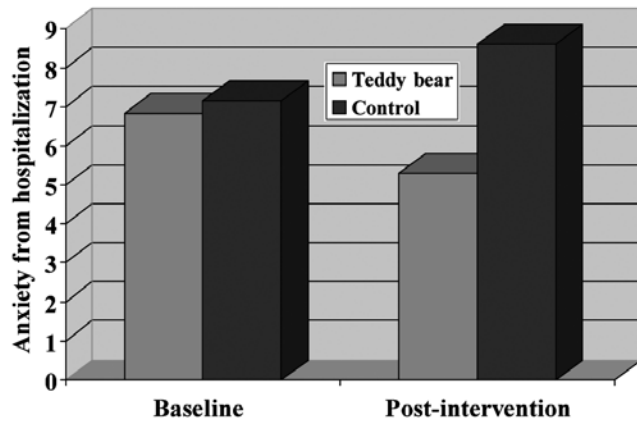


Figure 2. Effects of time of measurement on children's anxiety regarding hospitalization

interaction between time (baseline versus post-treatment) and illness cause (common/uncommon childhood disease) [$F(1,38) = 3.11$, $P < 0.09$]. At baseline and at follow-up, children attributing either a common or an uncommon childhood illness did not differ with regard to anxiety about hospitalization. Hence, the type of attributed illness was unrelated to the intervention's effects.

Discussion

Children (as well as many adults) are afraid of doctors. If the first encounter with the doctor or other health care provider is painful, the medical system has established a child's fear response, conditioned it to future associated contexts, and thus fixated it. This anxiety can result in reduced compliance with medical procedures and regimens.

Different measures are taken to decrease fear of hospitalization and medical procedures. In this brief article we tried to assess the short-term effectiveness of the "Teddy Bear Hospital." Our results indicate that by initiating a controlled pain-free encounter with the medical environment in the form of a teddy bear hospital, we can reduce children's anxiety about hospitalization. We found that the intervention was equally effective for boys and girls. The fact that the type of illness attributed by the

child did not influence the efficacy of the intervention suggests that this intervention may be effective regardless of the illness selected by the child.

The effectiveness of the teddy bear hospital may stem from providing a sensory preparation as well as enhancing perceived control over a threatening situation. More data should be obtained regarding the long-term effects of this procedure, but one can speculate that by giving a periodic "booster" (i.e., local kindergarten activities) or by performing this intervention shortly before a scheduled elective hospitalization, the effect could be maintained for a longer period. This study provides preliminary validity for a simple procedure that may reduce the anxiety that children experience when hospitalized and help medical staff conduct their procedure with greater compliance.

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