

RELATIONSHIP BETWEEN PSYCHOLOGICAL PREPARATION,
PREOPERATIVE AND POSTOPERATIVE ANXIETY, AND COPING
STRATEGIES IN CHILDREN AND ADOLESCENTS
UNDERGOING SURGERY

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UNDERGOING SURGERY

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ABSTRACT

THE EFFECT OF PSYCHOLOGICAL PREPARATION ON PREOPERATIVE AND POSTOPERATIVE ANXIETY, AND COPING STRATEGIES IN CHILDREN AND ADOLESCENTS UNDERGOING SURGERY

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The main purpose of the present study to examine the relationship between psychological preparation, attitudes toward hospital and health professionals, social support, ways of coping and sociodemographic variables with preoperative anxiety, post-intervention anxiety and post-operation anxiety in children anticipating an operation in child surgery clinic. In addition, the relationship between the anxiety level of child and anxiety level of mother was examined. The sample consisted of sixty children and their mothers. Data was collected utilizing the state form of the State-Trait Anxiety Inventory for

Children (STAI-C), Attitudes Toward Hospital and Health Professionals Scale, Social Support Scale, KIDCOPE, and the state form of the State-Trait Anxiety Inventory (STAI) for mothers. Results of variance analysis showed that there was a significant decrease in anxiety scores from pre-operation, post-intervention to post-operation periods in treatment groups (information/information together with mother/ interview). However, no significant difference was found among the control group. Children who received information alone and children who were informed together with mothers and children who were merely interviewed were found to demonstrate lower levels of anxiety than children in control group in post-intervention period. Children in the pre-operation period, were found to have less positive attitude than post-operation period in information group. Children who received information alone or children informing together with mothers, reported using “positive coping” and “blame & anger” more than children in the mere interview and the control group. Also children in control group had significantly higher scores on “avoidance” subscale than other three treatment groups. The results were discussed within the context of relevant literature.

Keywords: Children and Adolescents, Surgery, Psychological Preparation, Preoperative and Postoperative Anxiety, Pre-operative Attitudes, Post-operative Attitudes, Social Support, Coping

ÖZ

AMELİYAT OLAN ÇOCUK ERGENLERDE PSİKOLOJİK HAZIRLIĞIN
OPERASYON ÖNCESİ VE SONRASI ANKSİYETE İLE BAŞAÇIKMA
ÜZERİNDEKİ ETKİSİ

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Bu çalışmanın amacı, psikolojik hazırlığın, hastane ve sağlık çalışanlarına ilişkin tutumların, sosyal desteğin ve sosyodemografik değişkenlerin çocuk cerrahi servisinde ameliyat olan çocuk ve annelerinin ameliyat öncesi, müdahale sonrası ve ameliyat sonrası kaygı düzeylerine ve başetme yollarına etkilerinin incelenmesidir. Ayrıca, çocuk ve annenin kaygı düzeyleri arasındaki ilişki incelenmiştir. Örneklem grubu 60 çocuk ve 60 anneden oluşmaktadır. Katılımcılara Çocuklar için Durumluk Kaygı Ölçeği, Hastane ve Sağlık Çalışanlarına Yönelik Tutum Ölçeği, Sosyal Destek

Ölçeđi, Çocuklar için Başaıkma Yolları Ölçeđi ve anneler için Durumluk Kaygı Ölçeđi uygulanmıřtır. Varyans analizi sonuçlarına göre, müdahale gruplarının (bilgi verilen grup, anneyle birlikte bilgi verilen grup ve sadece görüřme yapılan grup) anksiyete puanlarında operasyon öncesinden müdahale sonrasına ve operasyon sonrasına dođru anlamlı bir azalma bulunmuřtur. Ancak kontrol grubunda bir fark bulunmamıřtır. Tek bařına bilgi verilen, anneleriyle birlikte bilgi verilen çocuklar ile sadece görüřme yapılan çocukların müdahale sonrası anksiyete düzeyleri kontrol grubundaki çocuklardan anlamlı olarak daha düřük bulunmuřtur. Bilgi verilen grupta yer alan çocukların operasyon öncesinde operasyon sonrasına göre daha az olumlu tutumlara sahip oldukları bulunmuřtur. Tek bařına bilgi verilen ve anneleriyle birlikte bilgi verilen çocuklar sadece görüřme yapılan ve kontrol grubunda yer alan çocuklardan daha çok “olumlu başaıkma” ve “sululuk & kızgınlık” stratejilerini belirtmiřlerdir. Ek olarak, kontrol grubundaki çocukların, diđer üç gruba göre “kaçınma” stratejisinde daha yüksek puana sahip oldukları bulunmuřtur. alıřmanın sonuçları ilgili literatür çerçevesinde tartıřılmıřtır.

Anahtar kelimeler: Çocuk ve ergenler, ameliyat, psikolojik hazırlık, operasyon öncesi ve sonrası anksiyete, operasyon öncesi tutumlar, operasyon sonrası tutumlar, sosyal destek, başaıkma.

To My Family
and
To My Co-workers

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I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work.

Date:

Signature:

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CHAPTER I

INTRODUCTION

In general, patients having surgery are known to experience anxiety and uncertainty before and after their operation. Similarly, surgery creates anxiety and fear in children (Melamed & Siegel, 1975). Medical procedures are very stressful for children and they have less effective coping behaviors. Unfamiliar experiences associated with a hospital encounter can be painful and distressing, especially for younger children (Ellerton & Merriam, 1994). In addition to anxiety due to the surgery, children also experience emotional disturbances because of hospitalization. Especially, children are afraid of doctors, nurses and generally health workers and hospital routines, in other words, they have white uniform phobia. Moreover, they are afraid of a lot of medical procedures such as vaccination or injection. These medical processes increase level of anxiety in children (Schmidt, 1997).

Many researchers describe anxiety as an intense, unpleasant emotional state. There are two main symptoms of anxiety: physical and psychological. Physical symptoms are heart palpitations, tremors, dizziness, nausea, fatigue and insomnia. Psychological symptoms are tension, nervousness, fear, irritability, agitation, restlessness and concentration difficulties (Lazarus, 1991).

There are mainly two types of anxiety which affect patients' reports of physical symptoms and the duration of hospitalization. These are state anxiety and trait anxiety. Trait anxiety is seen as a relatively permanent personality characteristics, whereas state anxiety is seen as a transitory fluctuating state and its level increases in surgery patients. Transitory or state anxiety (A-State) level would be high in circumstances that are perceived as threatening, and relatively low in situations in which there is little or no danger. However, trait anxiety (A-Trait), which refers to relatively stable individual differences in anxiety proneness, should not be influenced by situational stress. Consistent with these assumptions from trait-state anxiety theory, the results of a number of recent studies have indicated that A-State is elevated prior to surgery and declines after surgery and during the post-operative recovery period (Auerbach, Martelli, and Mercuri, 1983).

Also hospitalized children may experience high level of anxiety due to many different factors both physical and psychological. Hospital setting, medical procedures and experienced symptoms cause anxiety and fear in children. Especially, surgery is a very frightening process for children. It appears that the unfamiliarity of the hospital, the staff and the routine is a major cause of psychological upset. Furthermore, separation from their mother and a new place (hospital setting) increase children's anxiety. That's why, psychological preparation before surgery has been effective in decreasing the level of anxiety of children and providing adaptation to the hospital setting and medical treatment.

The aim of this study is to investigate the importance of psychological preparation for surgery in children. Preparatory information and accurate expectations produce cognitive control that diminishes the deleterious effects of

impending stressors (Auerbach et al., 1983). Especially giving information before surgery decreases the level of anxiety of children and children feel good and recovery is fast in post-operative period (Melamed & Siegel, 1975; Wolfer & Visintainer, 1979; Siegel & Peterson, 1980). Children who receive the additional preparation are found to display fewer signs of emotional disturbance while in hospital or during their convalescence at home (Rachman & Philips, 1980). In this study, it is examined whether psychological preparation leads to any variation in level of experienced anxiety before and after surgery. It is also examined whether social support is effective on adaptation to the surgery process. Also, the coping strategies of children who are given information, in other words, prepared for surgery are compared with the coping strategies of children who are in control. Finally, the relationship between child's level of anxiety and parents' level of anxiety is examined.

In the introduction section, the effects of hospitalization and surgery in children, anxiety in children undergoing medical procedures, psychological preparation before surgery, social support and ways of coping of children in hospital settings are presented separately.

1.1 Hospitalization and surgery

Hospitalization and surgery have negative influences on children. There are many different events and influences which make the hospital a potentially stressful place, for example: separation from the family and the siblings; fantasies and unrealistic anxieties about darkness, monsters, murders and wild animals, which are

not specifically related to hospitals but initiated by the strange situation; deprivation of social contacts (which does not seem to pose a major problem today, since other children and visitors are allowed to visit bed without restrictions); social demands and threats; pain and other complications of the illness or surgery; stressful medical procedures, especially extremely painful procedures such as burn wound debriment or bone-marrow aspirations; fears of disablement and death (Rudolph, Denning, and Weisz, 1995).

Children are less able than adults to influence and understand what is happening to them. Children at young ages may also feel abandoned or unloved by being without their families, and some may even believe that they were put in the hospital as punishment for misbehavior (Sarafino, 1990). So children's imagination and fantasies about what is happening to them can be more frightening than reality (Edwards and Davis, 1992).

Separation anxiety is one of the most salient factors that affect children, however; there are controversial findings about the presence of mother during medical procedures. Skipper and Leonard (1968) proposed that the presence of mother is a prime factor in determining whether changes in the child's emotions and behaviors will be detrimental or beneficial to his hospitalization and recovery. Rachman & Philips (1980) suggested that the presence of the child's parents, particularly the principle caretaker, will help to alleviate the distress. On the contrary, parents who appear highly agitated and anxious about their child's welfare before medical treatment seem to transmit their fear and be unable to allay their child's anxiety effectively (Varni, 1983). Studies have found that children with highly anxious parents do not cope with medical procedures as well as those with parents

who are relatively calm (Bush, Melamed, Sheras, and Greenbaum, 1986). In the studies by Shaw and Routh (1982) and Gonzalez, Routh, Saab, Armstrong, Shifman, Guerra and Fawcett (1989), it is found that less distress was displayed when the fearful parent was absent. Another finding is that, younger children showed increased distress when the parents left. Also if children are to be separated from their parents, children are found to fare better if left early rather than if they are left immediately prior to medical treatment procedures (Blount, Davis, Powers and Roberts, 1991). This suggests that both age of the child and the timing of separation from the parent should be considered.

Furthermore, parents' attitudes and expectations (Peterson, 1989), their anxiety levels and whether they are overly protective and reinforcing of dependence (Carson, Council, and Gravley, 1991) are variables that appear to influence the parent-child relationship, and thus the child's ability to successfully cope. It is also found that parents were affected from hospitalization and medical procedures as children were. Especially, mothers of children having chronic illnesses like bone marrow transplant (BMT is currently considered to be a standard therapy for many life-threatening hematologic and oncologic diseases) reported significantly higher levels of depressive symptoms (Manne, Ostroff, Martini, Nereo, DuHamel, Parsons, Williams, Lewis, Vickberg and Redd, 2001).

As it was seen, parent-child relationships have been demonstrated to be related to the child's distress and coping with surgery. For example, Carson and colleagues (1991) found that mothers who were more anxious before the child's surgery, as well as those who were more rejecting, overindulgent, and overprotective, had children

who did not cope well with hospitalization. Also a negative style of interacting with children is associated with more child distress (Blount et al., 1991).

In 1959, the Platt Committee produced its report on the welfare of children in hospitals. Three of the most important recommendations were that pediatric hospitals should encourage unrestricted visit by parents, establish mother and child units, and admit children only when it is inescapable (Rachman & Philips, 1980). Blount et al. (1991) suggested that instead of recommending that parents, even the fearful or anxious ones, be excluded from accompanying their child during medical procedures, they receive training in how to manage their own and their child's distress prior to and during the painful procedures. That's why, children should be informed that their mother or parents will be near by them during the pre-operative period and they will wait outside after the operation.

Studies showed that the preparation of children undergoing medical procedures is not enough, the effectiveness of training of parents on distress level and adjustment is also important. It is beneficial to inform the parents for reducing the child's anxiety and providing both child's and parents' adjustment. Studies (Zastowny, Kirschenbaum, and Meng, 1986; Jay & Elliott, 1990) demonstrated the beneficial effect of stress-inoculation programme for parents whose children are undergoing painful medical procedures. After the stress-inoculation programme (including educational information and training in specific coping skills such as relaxation and self-statement training), parents reported lower anxiety scores and higher positive self-statement scores than did control parents. Stress inoculation for parents was somewhat more beneficial than the child-focused intervention. Pinto and Hollandsworth (1989) used a modeling film either with or without parents being

present. Parents who viewed the film were found to be less anxious than parents who did not view it. Furthermore, children whose parents received such training were more cooperative, especially during stressful procedures such as the preoperative injection, and were rated as better adjusted following surgery (Zastowny et al., 1986). Faust, Olson and Rodriguez (1991) assessed both the child and mother using participant modeling slide-tape. They showed that participant modeling with mother group exhibited significantly fewer distressful behaviors during recovery (post-surgery) than did control group. Parents reported more satisfaction and less anxiety when they received some in-hospital preparation than with home-preparation alone (Wolfer & Visintainer, 1979). Such studies have shown that when parents are effective coping coaches for their children, both adult and child anxiety is reduced. It would seem likely that the potential negative effects of parental presence during invasive diagnostic procedures might be avoided if the parents were not only less anxious but also appropriately trained to deal effectively with their children's distress (Varni, 1983). It appears that well-adjusted children with satisfactory parental relationships may cope well with the negative effects of hospitalization and surgery. In present study, it was expected that parents who are informed would report less anxiety than parents who did not.

1.2 Psychological Preparation For Surgery

Surgery involves a combination of experience of anaesthetic, anticipation of pain and incision using needles or knives. Each of these events is stressful by itself but, used in combination, may be particularly difficult to anticipate and cope with

(Curtis, 2000). Furthermore, surgery is a medical treatment that leads to psychological and physical problems especially anxiety, fear, insomnia and pain in children. Some parents prefer not to talk to their children to be operated, however, this is not a right way. Research has shown that children cope better with medical procedures if their parents give them information about their illnesses and treatment and try to allay their fears than if the parents do not (Sarafino, 1990). Children should be prepared for surgery in an effective way. So, a variety of programmes to help children and parents to understand and deal with their experiences must be employed in hospitals.

Preparing people psychologically for surgery has important implications for their recovery: the more anxiety patients feel before surgery, the more difficult their adjustment and recovery. People with high preoperative anxiety tend to report more pain, use more medication for pain, stay in the hospital longer, and report more anxiety and depression during their recovery than patients with less preoperative fear (Curtis, 2000).

Vernon, Foley, Sipowicz, and Schulman (1965) have suggested that “the major purpose of preoperative preparation is to (a) provide information to the child, (b) encourage emotional expression, and (c) establish a trusting relationship with the hospital staff” (cited in. Melamed and Siegel, 1975). Melamed & Siegel (1975) showed that psychological preparation was followed by reduced anxiety and more effective and cooperative behavior. The benefits of effective preparation for surgery are both physiological and psychological. Physiological benefits include a reduction in stress which in turn decreases sympathetic nervous system arousal and related improvements in the functions of the immune system. Psychological benefits include

a reduction in anxiety and depression and increased level of personal control. All of these benefits in turn promote effective recovery (Curtis, 2000). Also, interventions with surgical patients have attempted to increase control over both emotions and the dangers in the situation and have shown improved coping with emotions and with recovery in the postoperative period. Ridgeway and Mathews (1982) concluded that the evidence from adequately controlled studies shows cognitive coping approaches to be superior, and speculate that this is due to promoting the patients' sense of control.

Good preparation can help children organize their thoughts, actions, and feelings about an event, prior to it happening. It enables mental rehearsal (the "work of worrying") to occur. This can enhance children's sense of control of situations in which they often feel helplessness, by mobilizing coping strategies and raising self-esteem (Edwards and Davis, 1992). Most children benefit from appropriate preparation, which has been found to reduce both pre- and post-surgical distress, anxiety and pain (Melamed & Siegel, 1975). It enables them to cope more effectively with medical procedures and reduces the amount of pain relief they require. Even very fearful children are thought to be calmer before surgery if preparation has taken place (Peterson, 1989).

1.2.1 Ways of Psychological Preparation

In an attempt to alleviate the stressful effects of hospitalization and medical procedures, several methods of psychological preparation have been utilized. Generally, four approaches have been used, all of which are designed to furnish

information to the parents and/or the child. One approach simply involves distributing leaflets to the parents to share with the child. The leaflets contain information about hospital routines and medical procedures the child is likely to experience. In another approach, hospital personnel discuss the routines and procedures with the parents and child. Often this is done at home, before admission. The third method, involves using puppets in a play activity to demonstrate medical procedures, such as surgery or cardiac catheterization. This approach may be especially appropriate for preschoolers and younger school-age children (Sarafino, 1990). The fourth approach is using of a video or film presentation. In the experiment that was used this method by Melamed and Siegel (1975), the children who saw the film of a child being hospitalized and receiving surgery reported less anxiety before and after surgery than those who saw the irrelevant film.

Preparation programmes which use procedural and sensory information (Siegel & Peterson, 1980; Sime, 1976; Auerbach et al., 1983; Wolfer & Visintainer, 1979), coping models (Melamed & Siegel, 1975; Faust & Melamed, 1984; Faust et al., 1991; Shipley, Butt, Horwitz and Farby, 1978; Pinto & Hollandsworth, 1989), games with hospital equipment (Burnstein & Meichenbaum, 1979) and stress-inoculation (Wells, Howard, Nowlin & Vargas, 1986; Jay & Elliott, 1990) have been associated with increased knowledge and less anxiety in adults and children undergoing medical or surgical procedures.

Studies that were done with adults showed that psychological preparation for medical procedures was beneficial on pre- and post-adjustment. Auerbach et al. (1983) demonstrated that patients with a strong preference for information showed much higher level of adjustment when they received specific information than

general information. Yılmaz (2000) examined the effect of preoperation teaching on postoperation complications and patient satisfaction. According to findings, patients showed less post-operative complications and more satisfaction with nursery care; however, there were no differences in patients' time of staying in hospital. In another study, Shipley et al. (1978) examined the effectiveness of preparation on two types of patients, repressors (individuals who tend to avoid information and focus on thoughts unrelated to an upcoming stressors) and sensitizers (people who actively seek information in order to prepare for a stressful event). Results indicate that fear during a stressful procedure (endoscopy) is reduced as a function of the number of prior viewings of a preparation videotape. One viewing of the preparation tape produced increased anxiety in repressors, whereas sensitizers who heard one brief preparation message prior to surgery had less complications and were discharged sooner than sensitizers hearing a control tape. This finding is consistent with the findings of Andrew (1970). Stress-inoculation programme is another effective method of psychological preparation. This training serves as a framework for cognitive-behavioral procedures that teach people to prepare for and actively cope with stressors incurred during medical treatment. Patients who received training reported significantly lower levels of pain and pre-surgical anxiety than patients who didn't receive training. Furthermore, treatment subjects requested and received significantly fewer analgesics for alleviating the pain that they did experience (Wells et al., 1986).

Attempts to enhance children's preparation for medical or dental procedures indicate that information about the event is most beneficial when it is presented in an attenuated form

(Compas, 1987). Melamed & Siegel (1975) argued that use of filmed modeling was more effective in alleviating anxiety than simple verbal, pictorial or actual demonstration of hospital procedures by the concerned staff. On the contrary, Faust & Melamed (1984) demonstrated that same-day surgery patients showed a much larger reduction in their anticipatory medical concern after viewing an unrelated film as compared with a hospital-relevant film. Showing the hospital-relevant film to these children may have created more anticipatory anxiety because these children did not have time to make use of the information provided to help allay their fears and may have even been sensitized. In another study, Faust et al. (1991) found different findings about the effectiveness of modeling that examined the participant modeling in same-day surgery pediatric patients. Results indicate that children exposed to the modeling slide-tape alone had significant reductions in physiological arousal (heart rate/ sweating) after the slide-tape presentation. Differently, children's arousal level significantly decreased when relevant information was presented immediately before surgery in contrast to Faust & Melamed's (1984) study. Similarly, children who viewed the modeling film showed a more positive response on every variable measured, from physiologically indexed anxiety in the form of the palmar sweat to observer-rated anxiety and self-reported fear (Pinto & Hollandsworth, 1989).

Another psychological preparation method, playing with medical equipment was used in Burstein and Meichenbaum's (1979) study. They constructed a free play situation for children to assess their pre- and post-surgery anxiety levels. Children played with either medically relevant toys (information-seeking) or non-relevant (information-avoiding). Results showed that children who played with the medically relevant toys gave less defensive answers on the questionnaire. More

importantly, these children reported less anxiety while hospitalized following surgery.

Active coping processes, specifically the seeking and utilizing of information as a coping strategy seem to be better predictors of reactions to stress events and to surgery (Sime, 1976). Information-seeking was found to be positively related to the child's history of success in coping with medical procedures, parental ratings of child's information seeking behaviors and the child's preference for gaining information (Peterson & Toler, 1986). Sime (1976) showed that well-informed subjects who experienced high levels of preoperative fear received fewer analgesics and sedatives and were hospitalized a shorter period of time than their poorly informed counterparts. Siegel and Peterson (1980) investigated the effectiveness of teaching of two methods (specific coping skills- body relaxation, deep and regular breathing or providing sensory information about the dental experience) in pre-school aged children. Sensory information condition were presented with a description of the basic procedures, typical experience during the restorative dental session. Results indicate that treatment groups (sensory information group and the coping skills group) both exhibited fewer disruptive responses than the control group. In addition, children in the control group were also rated as less cooperative and more anxious than the experimental treatments. Likewise, Wolfer & Visintainer (1979) found that children awaiting tonsillectomy surgery who used the home-preparatory materials alone or in combination with in-hospital preparation showed better adjustment than children in the control group. In another related study, attendance at the preparation programme was associated with lower levels of anxiety in both parents and children (Ellerton & Merriam, 1994). In addition, Alak (1993)

examined the childrens' fears about surgical intervention and some children were informed about surgery procedure. Findings showed that experiment group who received information had lower rates of fear after operation than control group.

It is beneficial to inform the parents for reducing the child's anxiety and providing both child's and parents adjustment. Faust et al. (1991) assessed both the child and mother using participant modeling slide-tape. They showed that participant modeling with mother group exhibited significantly fewer distressful behaviors during recovery (post-surgery) than did the control group. Parents reported more satisfaction and less anxiety when they received some in-hospital preparation than with home-preparation alone (Wolfer & Visintainer, 1979). Also, Jay & Elliott (1990) demonstrated the beneficial effect of stress-inoculation programme for parents whose children are undergoing painful medical procedures. After the stress-inoculation programme (including educational information and training in specific coping skills such as relaxation and self-statement training), parents reported lower anxiety scores and higher positive self-statement scores than did control parents. In the present study, it was expected that parents who are informed would report less anxiety than parents who did not.

1.2.2 Giving information about surgery procedure

Information is central to preparing children for medical procedures, in order for them to develop realistic expectations and make sense of what is to happen. Being informed enables them to be actively involved in their own treatment and to communicate their needs to others. Giving information is also one way of

challenging or correcting misperceptions and inaccurate beliefs. Giving information is also important in terms of the partnership between the child and health professionals will have important implications for long-term management and cooperation (Edwards and Davis, 1992).

Information can be given in many different ways: talking to children, the provision of written information, using simple diagrams, models or videos and through play situations can help make this information more easily accessible.

There are different information sources: other children and adults; directly or as a result of overheard conversations that children may expose to; television, books and how they perceive other people, such as their parents, feel about the situation (Edwards and Davis, 1992). In addition, other children may affect children before operation.

1.2.3 General Principals for Giving Information

Important principles to consider when preparing to give children information is for agreement about what information will be given and by whom, and for clarity and consistency of information to be achieved (Edwards and Davis, 1992). One thing to keep in mind about providing information to children about medical procedures and operation is that unclear information can lead to misconceptions and anxiety and be more harmful than beneficial (Sarafino, 1990). Therefore, the content of the information, how it will be given and the quality of the people who prepare and give the information should be paid attention.

Basic information should be given as clearly and simply as possible, in terms which are familiar to the child and which match the child's level of knowledge.

Information giving can be seen as a highly skillful process with a sequence of stages or tasks. The first stage involves the skills and qualities of the helper in engaging the child and developing an effective working relationship. Subsequent stages involve exploration of current knowledge and of the child's needs and wishes for information.

Giving information effectively involves consideration of the following factors: awareness of the child's emotional state and cognitive abilities, appropriate pacing of information, the language and the terminology used and structuring the information systematically and clearly. Information should be given in the most accessible and meaningful way, taking into account the developmental capabilities of the child, ensuring that one follows the child's lead, checks for understanding and enables him or her ask questions as necessary.

When preparing for procedures, sensory information (what will be seen, heard, felt) and procedural information (what the actual steps to the process are) are both necessary (Edwards and Davis, 1992). Also the patient is given instructions on behaviors that will promote effective recovery (e.g. bed-rest, light exercise, etc) and possible behaviors to avoid (e.g. scratching, smoking, etc.). This of course will vary with the type and nature of surgery (Curtis, 2000). In addition, some questions such as how long the operation would last, where and when they would regain consciousness, the location and intensity of the expected postoperative pain, and lastly assurances about analgesic medication have been asked by children undergoing any surgery (Sarafino, 1990). Finally, the benefits of the operation, the rationale for

treatment and the consequences of not having treatment should be discussed with both child and family (Edwards and Davis, 1992).

1.3 Anxiety , Children & Medical Procedures

According to Lazarus and Averill (1972), “anxiety is characterized by uncertainty: uncertainty about what will happen, when it will happen, and what can be done about it. Ambiguous threat conditions result in anxiety because the individual does not know what will happen” (cited in. Thompson, 1994). Especially, children may be afraid of hospitalization or surgery because of this uncertainty and not knowing what will happen, as a result, their anxiety increases. In medical procedures especially surgery, anxiety peaked in parents and children just prior to surgery (Ellerton & Merriam, 1994).

In general, younger children tend to be more distressed by medical procedures than older children (Peterson, Oliver and Saldana, 1997; Katz, Kellerman and Siegel, 1980). Peterson and Toler (1986) showed that increased age is related with less distress and fear in surgery. Same findings were found in studies including medical procedures (Hubert, Jay, Saltoun and Hayes, 1988; Jacobsen, Manne, Gorfinkle, Schorr, Rapkin and Redd, 1990; Jay, Ozolins, Elliott, & Caldwell, 1983; Katz et al., 1980; LeBaron & Zeltzer, 1984). Melamed and Siegel (1975) also found that young female demonstrated more anxiety than older female. Children showed a greater number of distress-related behaviors than adolescents (LeBaron & Zeltzer, 1984). Wolfer and Visintainer (1979) also showed that younger children undergoing tonsillectomy were more upset and less cooperative during the blood test and

preoperative medication. Contrary to expectation, Öy, İlgen, Ekmekçi, Türkmen, Yılmaz and Başoğlu (1995) showed that state anxiety of secondary school girls was higher than elementary school girls.

In addition, there was a gender difference in terms of expression of distress. Females endorse more pain and anxiety (Melamed & Siegel, 1975; Weisz, McCabe and Dennig, 1994; Katz et al.,1980) than males do. Brown, O’Keeffe, Sanders and Baker (1986) showed that girls were more likely to focus on the negative effect in reaction to a medical stressor. Also girls show more likely to cry, cling, and seek emotional support and boys more likely to engage in uncooperative behaviors such as stalling (Katz et al., 1980). Also in our country, Özusta (1995) found that both the trait and state anxiety levels of girls were higher than boys.

1.4 Coping Strategies

In the 1960s, researchers turned their attention from “coping” to “stress”, and an extensive literature on the effects of stressful life events on physical and psychological health was produced. If individuals cope effectively with the problems they face, they may be able to reduce the harmful consequences of stress (McCrae, 1984).

Lazarus (1991) defined coping as an appraisal process that helps to manage the discrepancy between personal resources and demands of a situation. There are many different classifications of coping strategies in the literature. According to Folkman (1984), generally, there are two types of coping efforts: problem-solving efforts and efforts at emotional regulation. Problem-solving efforts are attempts to do something

constructive about stressful conditions, whereas emotion-focused coping involves efforts to regulate the emotional consequences of the stressful event. Folkman and Lazarus (1986) identified different ways of coping as serving problem or emotion-focused coping functions. Problem-focused coping includes planful problem solving, confrontive coping, seeking of instrumental social support. On the other hand, emotion-focused coping includes distancing, escape-avoidance, self-control, accepting responsibility and positive reappraisal. Also, Carver, Scheier and Weintraub (1989) proposed active coping instead of problem-focused coping. Another classification of coping was repression and sensitization. The sensitizer actively seeks information in order to prepare for a stressful event, whereas the repressor tends to avoid information and focus on thoughts unrelated to an upcoming stressor. In addition, same constructs that describe these two classifications has been used by other researchers. “Information seekers”, “vigilants”, and “monitors” for sensitizers, and “information avoiders”, “deniers”, “avoiders” and “blunters” for repressors have been used (Blount and et al., 1991).

People use many different styles in coping with stress. It was stated that the benefits of psychological preparations for medical procedures seem to depend on the patients’ coping styles, and it may be that different preparations are more helpful for people using avoidance strategies than for those using attention strategies (Sarafino, 1990). When faced with stressful medical procedures, some individuals tend to cope by using avoidance strategies to minimize the impact of the situation. They may deny that a threat exists; refuse to seek or attend to threatening information, perhaps saying, “I don’t want to know”; or suppress unpleasant thoughts. In contrast, other

individuals tend to use attention or “vigilant” strategies, seeking detailed information about the situation (Sarafino,1990).

The meaning or appraisals regarding the stressful event influence the ways of coping. Lazarus and colleagues postulated that two phases of appraisal, primary and secondary appraisal, influence the relations among stress, coping and outcomes/adjustment. Primary appraisal is the attribution of meaning to an event, whereas secondary appraisal means that the evaluation of coping resources and options. These appraisals can have an influence both on an individual’s coping efforts and adaptation (Folkman, 1984). Folkman (1984) described three types of primary appraisals: harm/ loss, threat and challenge. Harm/loss or threat appraisals often are linked to negative emotions, such as anger, fear or resentment, whereas challenge appraisals often are linked to more pleasurable (or least aversive) emotions. Primary appraisals may mediate between coping responses and outcomes (Rudolph et al., 1995). Children’s threat appraisals of medical events have been shown to predict higher levels of anxiety and depression, whereas challenge appraisals are related to more active coping responses like planful problem solving and positive reappraisal (Lengua & Long, 2002). Carver and Scheier (1994) showed that primary appraisals of harm prior to an exam predicted avoidance coping following the exam.

Several models of coping also state that the appropriateness and effectiveness of coping efforts vary depending on specific characteristics of the situation: controllability has been identified as an important dimension (Compas, 1987; Folkman & Lazarus, 1986; Roth & Cohen, 1986). If people think the stressor can be managed, they are more likely to choose problem-focused coping; otherwise, they

tend to rely on emotion-focused coping. Emotion-focused coping is used more often with health-related stressors (Folkman, Lazarus, Gruen, and DeLongis, 1986). Folkman and et al. (1986) found that individuals used more problem-focused coping in situations that they appraised as changeable and used more emotion-focused coping in situations that they appraised as unchangeable realities that they must accept. Psychological symptoms were higher when subjects used more emotion-focused coping with events perceived as controllable and more problem-focused coping with events perceived as uncontrollable (Compas, Malcarne and Fondacaro, 1988). A patient who appraises his or her condition as uncontrollable is likely not to engage in necessary problem-focused coping and therefore decides not to participate in important treatment programs (Folkman, 1984). Avoidance strategies were found to be effective when outcome measures were immediate or short term, whereas approach strategies were found to be more effective when the outcome measures were long term. Illnesses such as asthma, diabetes, and cancer require approach for proper diagnosis or treatment. With other illnesses, such as paralysis, there is no advantage of approach, whereas avoidance serves to reduce anxiety and depression (Roth and Cohen, 1986). Consequently, avoidance is better than approach if the situation is uncontrollable such as hospitalization or surgery, whereas approach is better if there is potential control, such as an exam or working.

1.4.1 Coping strategies of children undergoing medical situations

Children face a variety of threatening aspects in the hospital experience as mentioned before such as threat of physical harm inflicted during the invasive medical procedure, separation distress, uncertainty regarding what will be done, etc. These procedures increase children's anxiety and fear and consequently, they may have difficulty in coping with these stressors. If children are better informed, they may cope better and recovery is fast. So, coping ways of children may be important in adaptation to stressful situations.

Coping efforts of children begin with infant-mother relationship. More specifically, the infant's reactions to separation from the mother may be the infant's first experiences in coping with stress. Behaviors displayed by the infant in response to separation that promote the mother's return can be seen as the earliest forms of coping an individual displays (Compas, 1987).

Compas (1987) suggest that three factors are effective in children's responses to stress. (1) The nature of the infant or young child's dependence on adults for survival emphasizes the need to include the child's social context in understanding his or her coping resources, styles, and efforts. Thus, the relation between the child and the environment may determine the individual's skills or resources. (2) Temperament is frequently cited as playing a central role in influencing the child's coping responses. The child's temperament may define a range of responsivity to stress and influence the style that characterizes the child's coping. More responsive children may need to cope with a greater number of situations than less responsive youngsters. (3) Basic features of cognitive and social development such as self-

perceptions, self-efficacy beliefs, self-control or inhibitory mechanisms, friendships, and parental relationships are likely to affect what children experience as stressful and how they cope. Consequently, the degree to which coping is effective may depend on the goodness of fit between the child and the environment.

Research on children's coping has relied extensively on models of coping in adults. Models of adult coping provide a useful starting point for the study of children's coping (Lengua & Long, 2002). Within both child and adult coping literature undergoing medical situations, there is a great deal of controversial findings about coping ways and their benefit. Also the investigators used different classifications like problem-focused versus emotion-focused (Compas et al., 1988; Kochenderfer-Ladd & Skinner, 2002; Bachanas, Kullgren, Schwartz, Lanier, McDaniel, Smith and Nesheim, 2001), primary versus secondary (Band & Weisz, 1988,1990; Weisz et al., 1994), sensitizer versus repressor (Shipley et al., 1978; Andrew, 1970; Burnstein & Meichenbaum, 1979; Knight, Atkins, Eagle, Evans, Finkelstein, Fukushima, Katz and Weiner (1979) and information-seeking (approach) versus information-limiting (avoidance) (Peterson & Toler, 1986; Thompson, 1994; Hubert et al., 1988; Knight et al., 1979; Smith & Brodzinsky, 2002) and different measurements to assess the coping strategies.

Adjustment to medical processes and symptoms depends on children's coping strategies. Both problem- and emotion-focused strategies have been shown to be important in coping with stress, however, as Folkman (1984) stated that emotion-focused strategies are more effective in uncontrollable medical situations and short-term stressors. Compas (1987) suggested that what is adaptive for controllable stressors may differ from what is adaptive for relatively uncontrollable stressors. For

example, he argued that cognitive strategies involving reframing a stressor may be appropriate and adaptive for low-controllability events such as surgery but not adaptive for addressing interpersonal problems that are potentially controllable by the child. So we expect that children undergoing surgery may benefit from emotion-focused strategies such as positive reappraisal and avoidance.

As seen from literature, there are controversial findings: In a study with children infected with HIV, younger children and children who use more emotion-focused coping strategies were found to exhibit poorer psychological adjustment (Bachanas et al., 2001). In hospitalized children, some evidence indicates that children who tend to use avoidance strategies to cope with stressful events probably derive less benefit from information about medical procedures than those who use attention strategies (Sarafino, 1990). Also, Band & Weisz (1990) suggested that primary control coping (similar to problem-focused) lead to better adjustment when dealing with illness-related stressors (including injections) than secondary coping (similar to emotion coping). Greater reliance on primary control coping (e.g., “taking insulin to control my sugar”) was significantly correlated with higher parental ratings of social and behavioral adaptation to diabetes. Weisz et al. (1994) found a contrasting pattern in a group of child leukemia patients. Results indicate that child reports of increased secondary coping (e.g., “trying to think on the good side”) were consistently related to more favorable adjustment. Children who used greater numbers of coping responses such as reliance on others, problem identification, and problem solutions exhibited less anxiety and withdrawal after surgery (Robins, 1987). In a study that were done with victimized children, problem-solving was beneficial for non-victimized children; however, this type of coping exacerbated

difficulties for victimized children. More importantly, victimized children who use internalizing coping (worrying or blaming oneself) are expected to be at greater risk for loneliness and anxiety. Similarly, Gammon, Daugherty, Finch, Belter and Foster (1992) showed that social withdrawal, self-blaming and emotional regulation were associated with more severe depressive symptoms whereas lower levels of symptomatology were found among children who sought social support and engaged in cognitive restructuring.

Findings demonstrated that questioning about hospital and receiving more accurate information is related with less anxiety and more cooperation. For instance, Peterson and Toler (1986) examined the effect of information-seeking on the level of distress in a sample of children with 5 to 10 year olds undergoing surgery. They showed that information seeking lead to less distress. Children who actively seek information about impending painful events manifest improved adjustment and diminished distress. Contrary to expectation, Thompson (1994) demonstrated that children who used primarily information-seeking or information-limiting strategies were successful (as measured by low anxiety levels) in managing the stress of anticipated hospitalization.

Sensitizing and repressing are two coping styles that older children are more tended to utilize than younger children (de L.Horne and Vatmanidis, 1994). The repressing children exhibited higher scores on a post-surgical self-report measure of anxiety than did the sensitizing children (Burnstein & Meichenbaum, 1979). Although the sensitizers tended to listen carefully, ask questions, and seek information, the repressors seemed to distract themselves from the information, some even covering their ears during presentation (Knight et al., 1979). Shipley et

al.(1978) suggested that repressors and sensitizers might benefit from different preparation strategies, with sensitizers prepared extensively, and repressors left alone or at least left with their defenses. Also Andrew (1970) demonstrated the same results: the short information tape did not provide sufficient additional preparation to affect any change for sensitizers whereas avoiders experienced anxiety arousal as a result of the tape. Children who used a sensitizer style of coping appeared less disturbed on a variety of measures taken at different points around a painful event. Repressing children exhibited higher scores on a post-surgical self-report measure of anxiety than did the sensitizing children.

Empirical data suggest that children may cope in different ways during medical procedures. Gitlin, Markovitz, Pelcovitz, Strohmayer, Dorstein and Klein (1991) explored the manner in which children with inflammatory bowel disease (IBD) mediate stress. IBD subjects report that they have experienced fewer stressful events than the controls. These children tend to use denial defenses as a conflict resolution pattern. This coping way may be adaptive for this illness in short-term. However, Knight et al. (1979) showed that children using denial, displacement, or projection in contrast, had higher anxiety and poorer ratings of ward adjustment than children coping through intellectualization. Vernberg, La Greca, Silverman and Prinstein (1996) evaluated the school-age children in terms of post-traumatic stress symptoms after Hurricane Andrew. The results of this study indicate that children reported using wishful thinking coping most frequently, followed by positive coping, social withdrawal, and blame/ anger, respectively.

Situation-specific variables such as stages of the stressor may influence the coping strategies of children in medical situations. Three stages have been

emphasized, including anticipation or appraisal, encounter, and recovery (Folkman et al., 1986; Peterson, 1989). First, the child experiences the anticipation/preparation phase. During this phase, the child learn that a medical procedure must occur and are provided with various details about the procedure. The next phase is labeled encounter; during encounter the child must actually contact the medical procedure. During the final phase, recovery, the child must return to a preprocedure existence (Peterson et al., 1997). Coping responses that enhance attention may be more adaptive in the preparatory phase or in situations where the stressor is controllable (e.g. seeking information about the nature of upcoming medical procedures), whereas coping responses that reduce attention may be more adaptive in the encounter phase or in situations where the stressor is less controllable (e.g., receiving an injection or undergoing a BMA) (Rudolph et al., 1995).

Siegel & Peterson (1980) observed that hospitalized children were less anxious, more cooperative, and more tolerant of pain during encounter (= the medical event) than children who avoided information during anticipation/preparation. It is clear that children who seek out information during appraisal cope more effectively with subsequent procedures (Peterson & Toler, 1986).

Since the surgery is also an uncontrollable situation, the emotion-focused coping strategies are likely to be used by patients and children. Several studies have shown that blunting and denial which are emotion-focused coping strategies are adaptive mechanisms in preoperative and early postoperative period (Dirik, 2001).

1.4.2 Factors Influencing Coping Strategies in Children

1.4.2.1 Developmental level

Childhood is a time in which children are cared for and protected by their parents. Medical procedures involving children thus provide a paradoxical situation for children and their families. Nowhere else in their experience are children subjected to a planned event that is frightening and often painful, while the parents look on passively or even assist in restraining the children (Peterson et al., 1997). The child's ability to recognize the stressor or the occasion for coping is dependent on the child's developmental level (Peterson, 1989). Younger children display poorer coping possibly due to the cognitive developmental limitations in their ability to deny or distort external threats (Weisenberg, Schwarzwald, Waysman, Solomon and Klingman, 1993). Also younger children depend on their parents. Younger children express confidence in the ability of their parents or the nursing staff to care for them, whereas older children frequently express confidence in their own ability to cope with the experience (Robins, 1987). They also tend to think about managing distressing emotions in terms of changing the situation, rather than using cognitive strategies such as distraction or denial (Altshuler, Genevro, Ruble and Bornstein, 1995). The ability to generate alternative solutions to a problem emerges as important as early as age 4 or 5 and remains a valuable skill throughout life. In contrast, the development of means-ends thinking, defined as mentally articulating the sequence or step-by-step means necessary to carry out a particular solution to an interpersonal problem, does not become significant for adjustment until

approximately ages 8 to 10. Means-ends thinking requires complex cognitive processes that are not sufficiently developed in younger children (Compas, 1987). According to Piagetian theory, children of 12-18 years would be expected to be developing more general and abstract ideas about the nature of illness- an ability to go beyond specific events (Wilkinson, 1988). Empirical data showed that children at earlier development levels tend to be more likely to view medical procedures as assaultive and less likely to understand the beneficial aspects of the procedures, whereas older children are less likely to view procedures as punishment, more likely to recognize the usefulness of treatment and the empathy of the medical staff and better able to comprehend the long-term benefits of the procedures. As children move from magical thinking toward a more accurate understanding of illness and treatment, they also may acquire a greater sense of responsibility for their health and, in turn, engage in self-control strategies that may facilitate treatment (Rudolph et al., 1995).

One study did reveal that increasing age is related to a shift from a more passive experience of pain toward a position of greater perceived control over painful events (Gaffney and Dunne, 1986). The studies examining the relationship between age and coping strategies showed that as age increased, children used more secondary coping (emotion-focused coping) (Band, 1990; Band & Weisz, 1988). Also, Bull & Drotar (1991) found that adolescents reported more emotion-focused coping and fewer problem-solving strategies than did school-age children. In another sample, Compas et al. (1988) showed that the generation of emotion-focused coping strategies increased from sixth to eighth grade, whereas the generation and use of problem-focused coping was relatively consistent. On the contrary, more evidence

showed that increased age is related with more cognitive coping (Brown et al., 1986; Curry & Russ, 1985). Band & Weisz (1988) suggested that older children may engage in higher levels of direct problem solving and lower levels of problem-focused avoidance in relatively controllable medical situations faced by children with diabetes. Lengua and Long (2002) showed that child age was negatively correlated with threat appraisal and avoidant coping. These findings indicate that children are using more adaptive responses to stress as they develop. However, in uncontrollable situations such as medical situations, studies demonstrate that different ways of coping are used (Altshuler et al., 1995; Peterson & Toler, 1986; Weisz et al., 1994; Robins, 1987; Bachanas et al., 2001). Altshuler and et al. (1995) examined the coping ways of children who were hospitalized for surgery. They showed that older children with higher problem-solving scores more frequently suggested behavioral distraction and cognitive distraction strategies as coping options. Likewise, Altshuler and Ruble (1989) reported that the tendency to engage in cognitive distraction during uncontrollable medical procedures increased with age, whereas escape strategies decreased. Also Gökler (2001) in her study with a sample who faced with earthquake disaster consisting children and adolescence demonstrated a positive relationship between age and using of positive coping. Overall, with increasing age, children seemed to move away from primary (similar to problem-focused) to secondary (similar to emotion-focused) coping (Band & Weisz, 1988) because emotion-focused coping strategies require more developed cognitive capacities, such as metacognitive functioning (Lengua & Long, 2002). Older children generally are more likely to use cognitively based coping responses and are more effective at implementing such

responses, but this tendency may depend on the type of stressor being confronted. (Rudolph et al., 1995).

1.4.2.2 Gender

There were some gender differences in using of coping strategies among boys and girls (Compas et al., 1988; Piko, 2001; Bull & Drotar, 1991). It has been suggested by Compas (1987) that “socialization practices as a whole may influence the development and use of different coping strategies. Gender-identity and sex-role socialization may affect the types of coping displayed by boys and girls” (p.401). Both girls and boys were expected to behave in accordance with these gender roles in the society. For instance, girls tend to be allowed greater freedom to express sad or distressed feelings, whereas, boys, from an early age, are found to be more aggressive (Altshuler et al., 1995).

Compas and et al. (1988) showed that girls used more emotion-focused coping strategies than did boys in response to academic events. Also, Bull and Drotar (1991) noted that girls demonstrated more emotion-focused management when dealing with cancer-related stressors, whereas boys engaged in more problem-solving. Passive and support-seeking coping were more common among girls, whereas support-seeking ways of coping played a positive role in psychosocial health among boys (Piko, 2001).

In the present study, girls were expected to show more emotion-focused coping ways like positive coping, blame/anger and avoidance than boys.

1.5 Social Support

Social support have played positive roles in psychological adjustment and health. It is one of the most thoroughly researched stress resistance resources. When individuals experience stressful or threatening events, they often turn to close others for comfort, assistance, and support. Receiving social support, or feeling confident that it will be available when needed, helps individuals cope more effectively with stressful events and appears to have long-term benefits for health and psychological well-being (Collins & Feeney, 2000). Perceived social support may buffer people from the negative psychological consequences of exposure to stressors.

There has been different definitions of social support due to the conceptualization of the construct in the literature. Social support is defined as the resources provided to us through our interactions with other people (Sarafino, 1990). Sarason, Levine, Basham and Sarason (1983) defined social support as “the existence or availability of people on whom we can rely, people who let us know that they care about, value and love us”. According to House (1981),

social support is as an interpersonal transaction involving one or more of the following: (1) emotional concern (liking, love, empathy), (2) instrumental aid (goods or services), (3) information (about the environment), or (4) appraisal (information relevant to self evaluation) (cited in. Dunkel-Schetter, Folkman & Lazarus, 1987).

On the other hand, Thoits (1986) conceptualized social support as a coping assistance. According to Thoits, social support assists people to change the situation, to change the meaning of the situation and the emotional reactions to the situation or to change all of them by the presence of the significant others.

Cohen and Wills (1985) explained two models of social support that demonstrate the links between social support and health. The two dominant models of social support are the main effect model and the buffering model. The main effect model assumes that large social networks have positive effects on well-being unrelated to stress. This model focuses on basic social relationships and networks.

According to the buffering model, social support acts as a “buffer” to protect us from the adverse effects of stressors. This model focuses on functional (the qualities of social relationships) rather than structural supports as compared to the main effect model. There is an interactive or main effect of social support and stress on well-being. The effects of social support on well-being are strong when patients experience stress, however, these effects are little when there is not any stressor. There has been a reduced association between stressors and distress under conditions of greater support. Individuals with high levels of perceived support appear to be more resistant to the adverse psychological effects of stressors than do individuals with relatively low levels of perceived support. According to Cohen & Wills (1985), support is relevant only for subjects under stress. They cited that social support was associated with lower levels of symptomatology for high-stress persons and higher levels of symptomatology for low-stress persons. Also, lower levels of symptomatology were found among children who sought social support (Gammon and et al., 1992).

Positive emotional states are believed to be associated with good social relationships. Optimistic, self-confident people with a sense of personal control may have more social support or be more effective at mobilizing it during times of stress (Taylor, Kemeny, Reed, Bower and Gruenewald (2000). Personality predispositions

influencing support are affiliation and autonomy needs, self-esteem, sociability, locus of control and interpersonal skills (Dunkel-Schetter et al., 1987). Also, Cohen & Wills (1985) proposed that socially competent people are more capable of developing strong support networks and of staying healthy by effectively coping with stressful events or by performing effective health-enhancing behaviors. In addition, high self-esteem was associated with more emotional support received because individuals with strong self-esteem sought emotional support more than did individuals weaker in self-esteem (Dunkel-Schetter et al., 1987). On the contrary, among personality traits, neuroticism relates negatively to perceived support. When neuroticism is statistically controlled, the stress-buffering effect of support on mental health disappears (Bolger and Eckenrode, 1991). As it is seen personality characteristics may affect the perceived social support and the outcome.

People recovering from illness are going to recover more quickly if they have a family to help them. Several studies provided strong evidence that social support was linked with a variety of dependent measures including health, personal adjustment and sense of well-being in different populations (Cohen and Wills, 1985; Sarason et al., 1983; Holahan & Moos, 1986; Fitzpatrick, Newman, Lamb and Shipley, 1988; Rook, 1987). Mostly, the availability of social relationships may be enough for adjustment to and recovery from illness. Diffused social relationships such as with friends and acquaintances, rather than more intimate ones appear to be more affected in individuals with RA (Rheumatoid Arthritis) (Fitzpatrick and et al., 1988). Also having companionate relationships can buffer the effects of stressors on well-being (Rook, 1987). Asthmatic patients with good social supports required lower levels of medication to produce clinical improvement than did asthmatics with poor social

supports (Sarason et al., 1983). In addition, the presence of social support is an important predictor of emotional adjustment in the cancer population (Dunkel-Schetter, 1984).

1.5.1 Social Support, Children and Medical Situations

Social support is an important mechanism that provides children adapting to the stressful results of hospitalism. Support of family members is very important and is not only helpful but also is critical to adjust, to cope with stress. Especially young children need their parents more for such situations. Holahan and Moos (1986) suggested that the availability of family support operate to protect individuals from negative psychological consequences of life stress. The evidence for this view comes from studies of spesific groups who have experienced a particular form of stress (Tak and McCubbin, 2002; Hanson, Henggeler and Burghen, 1987; Pendley, Kasmien, Miller, Donze, Swenson and Reeves, 2002; Vernberg and et al.,1996). Adolescents with type-I diabetes belonging to supportive families have been found to have better control of their diabetes and parental involvement in blood glucose monitoring has been shown to support more frequent monitoring, which is associated with better metabolic control (Pendley et al., 2002). Also, Vernberg et al. (1996) showed that children reported the highest levels of social support from their parents. Perceived social support is a factor influencing the resiliency of relatively high-risk groups of families who have a child with chronic illness (Tak & McCubbin, 2002).

Younger age and living alone are demographic variables that have been linked to seeking social support (Dunkel-Schetter and et al., 1992). In literature, younger

adolescents received more parental support than older adolescents (Hanson, et al. 1987; Pendley et al., 2002). Hanson et al. (1987) suggested that parental support is consistent with the developmental transitions that occur during adolescence. Children perceived their relationships with their mothers and fathers as most important, whereas adolescents perceived greater peer support (Pendley et al., 2002). In addition, there is a gender difference in terms of receiving support. Girls reported higher levels of support than boys (Vernberg and et al., 1996). Kochenderfer-Ladd and Skinner (2002) showed the gender difference in seeking social support in peer victimization. Victimized girls preferred social support seeking more than victimized boys. Asking for help and advice buffer girls from social problems, whereas social support seeking was associated with low peer preference for victimized boys.

Social bonds and relationships and especially the availability and intimacy of mother are very important in terms of personality development in childhood. When social support, in the form of attachment figure, is available early in life, Bowlby (1969, 1973, 1980) believes that “children become self-reliant, learn to function as supports for others, and have a decreased likelihood of psychopathology in later life” (cited in. Sarason et al., 1983). The availability of family supports increased children’s resilience in the face of stress. A supportive early family environment was also correlated with positive adult adjustment and lack of psychiatric disorder (Sarason and et al., 1983). Friedman and Mulhern (1991) stressed the relationship between social support and psychological and pyhsical symptomatology. According to them, susceptibility to risk involving future problems in school and diverse somatic disturbances were more likely to occur in children who were in single-parent households, where a high level of social support would be less likely to be available.

In a study of stressful events and social support with pregnant adolescences, negative life events interacted with total size of the social network and unconflicted network size in predicting depression (Compas, 1987).

In addition to parental support, health professionals' supportive behaviors and interest required for adjustment of children in medical situations. Health workers may play an integral role in encouraging and providing support for treatment-related behaviors. There is much evidence that medical and surgical patients benefit from attention and expressions of friendliness by physicians and nurses (Auerbach & Killmann, 1977). Moreover, rejection of medical treatment was associated with physician hostility and failure to communicate sympathy and support (Auerbach et al., 1983). Also, cancer patients often view medical care as unhelpful unless it is also accompanied by emotional and informational support. Health care providers are seen as most effective when they provide a combination of direct assistance, advice or guidance, and emotional support (Dunkel-Schetter, 1984). Hospital processes and treatment are very uncertain for children undergoing surgery. That's why, both parents and health professionals should provide support and care for adjustment to pre- and post-surgery processes.

In present study, we expected that children who have high levels of social support may report less anxiety before and after surgery. Children who have high social support may cope with the adverse effects of surgery and hospitalism.

1.6 Children's Attitudes Toward Hospital and Health Professionals and Impact of Attitudes on Children's Adjustment

The strongly held common belief is that psychological factors may play a major role in recovering from illnesses and surgery (Rachman & Philips, 1980). Psychological determinants consist of cognitive factors, such as attitudes, beliefs, and intentions; socio-cultural factors, such as family, friends, and health care providers (Carmody, 1997). Thus children's attitudes or beliefs about hospital and health professionals may affect their compliance to the medical managements and also adjustment to hospitalization.

Attitudes are likes and dislikes- favorable or unfavorable evaluations of and reactions to objects, people, situations, or any other aspects of the world, including abstract ideas and social policies. We often express our attitudes in opinion statements (Atkinson, Atkinson, Smith, Bem, and Nolen- Hoeksama, 1996). Most present-day social psychologists would accept that the term "attitude" should be used to refer to a relatively enduring tendency to respond to someone or something in a way that reflects a positive or a negative evaluation of that person or thing (Manstead, 1996).

A child's attitudes are largely shaped by their own experience with the world, but this is usually accomplished by explicit teaching and implicit modeling of parental attitudes. Thus many childhood attitudes are probably a combination of the child's own experience and what s(he) has heard from parents (Fishbein and Ajzen, 1975). In accordance with it, Moscovici (1990) stressed the importance of society by stating that ideas about illness and health vary and these ideas are shaped by the

information people get from social sources (cited in., Bozo, 2001) and by their own past experience with illness (Echabe, Guillen, and Ozamiz, 1992). Also one study showed that many children who had previous day surgery experience themselves reported high levels of anxiety just prior to surgery (Ellerton & Merriam, 1994). Therefore, previous aversive experiences with health professionals and hospitals may lead to the development of negative attitudes. As these authors state that children have attitudes about health professionals and hospital as a result of previous experiences or other sources of information like their family, friends, relatives or media. Patient-physician interaction has an important effect on developing of children's attitudes. Patient-physician interaction is related to patient satisfaction, better understanding, and recall of information, and greater compliance to the recommendation of the physician (Sadava, 1997). Also, Goldring, Taylor, Kemeny, Anton (2002) demonstrated that physician recommendation is a significant predictor of medication-taking behavior. Therefore doctors' and nurses' responses to children and their type of communication (kind or not) are effective in developing of negative or positive attitudes in children. These positive or negative attitudes affect patients' responses to medical procedures or medical staff. Ajzen and Fishbein (1977) have argued that a person's attitude toward an object influences the overall pattern of his responses to the object. Also, according to the theory of reasoned action, people's behaviors are a function of their beliefs (Ajzen and Fishbein, 1980). Children who have positive attitudes or beliefs might show better adjustment and participate in therapy. However, negative attitudes lead to experienced difficulty in adjustment to medical treatment and hospital routines.

Another factor that affects the attitudes of children is fears about hospital and medical procedures. These may lead to negative attitudes. Medical phobias are common place, especially an excessive fear of injection. A few people may have such extreme fear of doctors that they avoid seeking help, with sometimes fatal consequences. How such fears and phobias of medical situation develop has been the subject of a great deal of research. Certainly, prior traumatic experiences in medical settings are important factors about which clinicians often do not question their patients. Not all such fears and phobias, however, are the result of traumatic experiences. Plain ignorance and unfamiliarity with doctors, clinics, and hospitals can lead to fear of the unknown. Seeing others express fear in medical setting or hearing them talk about their medical fears and phobias can also lead to patients' developing increased anxiety about such situations. For examples, parents can unwittingly convey medical anxiety to their children (de L.Horne & Vatmanidis, 1994). Such medical fears and anxiety may lead to negative attitudes toward hospital and health professionals as a result these factors may have difficulties in adjustment.

Consequently, we can say that examination of children's attitudes or beliefs about hospital and health professionals is not only important for understanding the compliance to the medical treatment but also for interventions to facilitate their adjustment.

1.7 Aims of the Study:

In the present study, the effects of psychological preparation for surgery (giving information about surgery) on the level of anxiety of children in preoperative and postoperative period were examined. Children have many difficulties while being applied a variety of medical procedures. There is not such a study in Türkiye that examined the experiences of children in hospital settings to our knowledge. The aim of the present study is to evaluate the relationship between psychological preparation, attitudes toward health professionals and hospital, social support, coping strategies and sociodemographic variables with preoperative anxiety and postoperative anxiety in children undergoing surgery. In literature, parents who appear highly agitated and anxious about their child's welfare before medical treatment seem to transmit their fear and be unable to allay their child's anxiety effectively. Studies have found that children with highly anxious parents do not cope as well with medical procedures as those with parents who are relatively calm (Bush et al., 1986; Carson et al., 1991). Also the relationship between children's level of anxiety and their parents' level of anxiety was examined. The hypotheses of the present study are proposed as follows:

1. Subjects who have received preparatory information will show less post-intervention anxiety and postoperative anxiety than the comparison subjects.
2. Subjects who have received information together with their mother will report less anxiety than interview and control group in post-intervention and post-operation period.

3. Subjects who are only interviewed will show a significant difference in terms of anxiety compared with control group in post-intervention and post-operation period.
4. Subjects who have not received any information will show no difference in terms of anxiety, and attitude scores in post-intervention and post-operation period .
5. Subjects who have received preoperative information, informed together with mother and only interviewed will have more positive attitudes toward health professionals and hospital compared with control in pre and post-operation period.
6. Mothers who have been informed will expected to report less anxiety than mother groups who are not received any information.
7. Subjects who have high social support will show less pre-operative and post-operative anxiety.
8. Subjects of very anxious parents will be likely to be more anxious pre- and postoperation period.
9. Girls undergoing surgery will show higher state-anxiety than boys in pre-operation and post-operation period.
10. Subjects who have received information, have received information together with mother and subjects who only have been interviewed are expected to cope with the operation more effectively than control subjects, thus we expect that positive coping may be more adaptive and can be used mostly by these groups.

CHAPTER II

METHOD

2.1 Sample

The sample consisted of 60 children of predominantly low socio-economic status, scheduled for indirect inguinal hernia, undescended testis, tonsillectomy and recurrent adenoid and their parents at a child surgery service of child surgery hospital.

There were 15 children for each four group (information group/ information together with mother/ only interviewed group/ control- no-information group). Of these children 21 (35%) were female and 39 (65%) were male. The age range of children participating in the study was 7 to 14 years of age, with a mean age of 9.72. The main disorders were hernia, undescended testis, tonsillectomy and recurrent adenoid (see Appendix A for a brief description of these disorders). Of these children 32 (53.3 %) had hernia, 13 (21.7 %) had undescended testis, 11 (18.3 %) had tonsillectomy, and 4 (6.7) had recurrent adenoid. 45 % of children participating have two siblings, 28.3 % of them have three siblings, 11.7 % have one sibling, 10 % have four sibling and 5 % have five siblings. Nearly 57 (95 %) children have been living with their nuclear family, only 3 (5 %) come from divorced families. Almost all

mothers (65 %) graduated from primary school, 15 % of them from secondary school, 13.3 % from high school and illegible ones were % 6.7. A great proportion of the mothers are housewives (91.7 %). 76.7 % of fathers are workers. Also education level of father is mostly primary school (58.3 %), 21.7 % of them are high school and 18.3 % are secondary school.

2.1.1 Medical history variables:

Eight of the children (13.3 %) had been previously hospitalized because of several reasons, 52 (86.7 %) had not. 3 children (5 %) have been experienced a long-term illness whereas 57 of the children (95 %) have not. A great proportion of the children (54 %) had not experienced serious illness or accident. The current illness of 30 children (50 %) have appeared suddenly whereas 30 of them (50 %) have experienced their illness in varied time periods. 50 % of mothers of these children reported that their disease had been happened 0-6 months ago. Almost all children (100 %) did not have any information about their illness and surgery. 44 % of the children wanted to receive information, 16.7 % of them did not want and 10 % of them showed uncertainty about receiving information.

Some sociodemographic characteristics and medical history variables of the sample are presented in table 1.

Table 1 Sociodemographic characteristics of the sample

Sociodemographic Variables	N	%	Mean	S.D.
<i>Gender:</i> Female	21	35.0		
Male	39	65.0		
<i>Age</i>			9.72	2.06
<i>Group</i>				
Information	15	25.0		
Information together with mother	15	25.0		
Interview	15	25.0		
Control	15	25.0		
<i>Type of surgery</i>				
Hernia	32	53.3		
Undescended testis	13	21.7		
Tonsillectomy	11	18.3		
Recurrent adenoid	4	6.7		
<i>Education Level</i>				
Primary school	49	81.7		
Secondary school	11	18.4		
<i>Number of siblings</i>			2.51	.99
1.00	7	11.7		
2.00	27	45.0		
3.00	17	28.3		
4.00	6	10.0		
5.00	3	5.0		
<i>Parents:</i> Married	57	95.0		
Divorced	3	5.0		
<i>Education level of mother</i>				
Primary	39	65.0		
Secondary	9	15.0		
High	8	13.3		
Illegible	4	6.7		
<i>Occupation of mother</i>				
Houseworker	55	91.7		
Others (worker etc.)	5	8.4		
<i>Education level of father</i>				
Primary	35	58.3		
Secondary	11	18.3		
High	14	23.4		
<i>Occupation of father</i>				
Worker	46	76.7		
Others	10	16.7		
Unemployed	4	6.7		

2.2 Intervention Conditions:

1. Information: The information script included the procedures the surgery would engage in and the physical sensations that children experienced before and after the operation, such as skin preparation, pre-medication. Immediate post-surgical events were outlined (e.g. incisional discomfort, nausea, numbness and pain etc.) as well as reassurance being given about the long-term effects (e.g. return to full activity, eating-drinking habits, etc.). Information manual was prepared by the investigator by cooperating with surgeons, anesthesia specialists and health workers who work in operating room. In addition, the developmental characteristics of the child were taken into account while preparing the information manual for surgery (the Information Manual is in Appendix-B). In this group, preoperative measures were measured and then information manual was given to the child alone. After giving information, the child were assessed again in terms of the anxiety level and the state form of anxiety was given.

2. Informed together with mother: The same information manual was given to both children and their mothers together, after the preoperative measures were filled out. Finally, in order to assess the effect of information, the state anxiety form was given to both children and their mothers

3. Mere interviewed group: Children were interviewed about the ward and the hospital routines and also their hobbies or sphere of interests. For this aim, in pre-operative stage, a form which contain hobbies and sphere of interests was applied with child after all preoperative questionnaires completed. At the end of this stage,

children and their mothers filled out again the state anxiety form (the Interview Form is in Appendix-B).

4. Control: (No-information-interview). Any intervention was not applied. However, the criteria was valid here (Children should have no operation before). Only pre-operation and post-operation measures were applied in control group compared to experimental groups.

2.3 Instruments

The research consist of a Brief Information Form and five self-report questionnaires. These are the state form of the State-Trait Anxiety Inventory for children (STAIC), Ways of Coping Inventory for Children (KIDCOPE), Attitudes Toward Health Professionals and Hospital Scale, Social Support Scale and the state form of the State-Trait Anxiety Inventory (STAI).

A Brief Medical History Form was prepared by the investigator to obtain information about sociodemographic characteristics such as age, sex, education. Also this form included the frequency of pain experienced leading up to the illness and children's thoughts relating to surgery, hospital setting, health workers and information about previous experienced traumatic event.

Pre-operative measures: Before the surgery, a Brief Information Form, the State form of State-Trait Anxiety Inventory for Children (STAIC), Ways of Coping Inventory for Children (KID-COPE), the Social Support Scale, Attitude Scale about Hospital and Health Professionals and the State form of State-Trait Anxiety Inventory (STAI) measures were obtained from each patient in all groups.

Investigator wrote the name of the patients on the first page of the set in order to follow the patients and applied the second set of questionnaires to the same subjects after the operation.

Post-operative measures: After the operation, State form of State-Trait Anxiety Inventory for Children (STAIC), Ways of Coping Inventory for Children (KIDCOPE), Attitude Scale about Hospital and Health Professionals and State form of State-Trait Anxiety Inventory (STAI) were measured.

Mother-related measures: Mothers whose children undergoing surgery filled out the State form of State-Trait Anxiety Inventory (STAI) before and after the operation.

PRE-OPERATION	ALLOCATION	POST-OPERATION
Intervention & Measures: *Brief Information Form *STAI-C *KIDCOPE *THE SOCIAL SUPPORT SCALE FOR CHILDREN *ATTITUDE FORM FOR CHILDREN *STAI	1) Informed Group (n:15) 2) Informed together with mother (n:15) 3) Only Interviewed Group (n:15) 4) Control (n:15)	Measures: *STAI-C *KIDCOPE *ATTITUDE-FORM FOR CHILDREN *STAI

Figure 1 Overview of the design.

2.3.1 State-Trait Anxiety Inventory for Children (STAIC)

The State-Trait Anxiety Inventory for Children (STAIC) (Spielberger, 1973), consist of two separate, self-report scales measuring two distinct anxiety concepts:

state anxiety (A-State) and trait anxiety (A-Trait). State Anxiety Scale of the STAIC, which aims to measure currently felt anxiety was used in this study.

The STAIC A-State scale consists of 20 statements that ask children how they feel at a particular moment. It is designed to measure transitory anxiety states which are subjective, consciously perceived feelings of apprehension, tension, and worry that vary in intensity and fluctuate over time. The STAIC A-Trait scale also consists of 20 statements that ask children about how they generally feel. It measures relatively stable individual differences among children in tendency to experience anxiety states. Each item is rated on a 3-point scale (See Appendix F).

The translation and the back-translation of the STAIC has been established by several psychology professors, until a 90% consensus has been established, STAIC has been administered in groups to obtain the normative data. Test-retest reliability measure was obtained on 99 (42 female, 57 male) children after a six-week interval. Criterion validity data were obtained through individual administration. The Cronbach Alpha coefficient was .82 for the A-State, and .81 for the A-Trait. Test-retest reliability coefficients for both A-State and A-Trait were significant ($r=.60$; $r=.65$, respectively). In the current study, the Cronbach Alpha coefficient was .82 for pre-operation period, .86 for post-intervention period and .86 for post-operation period. Analyses of variance yielded significant age and sex differences on both scales. It has been found that girls and older children (ages 11-12) had higher scores than boys and younger children (ages 9-10) (Özusta, 1995).

2.3.2 Ways of Coping Inventory for Children (*KIDCOPE*)

KIDCOPE (Spirito, Stark, & Williams, 1988) is a brief 15-item checklist that is widely used in coping literature to assess different types of coping styles that children and adolescents employ in a given situation (cited in., Gökler, 2001).

The measure was designed to assess the frequency of the use of 10 different coping strategies; namely, distraction, social withdrawal, cognitive restructuring, self-blaming, blaming others, problem-solving, emotional regulation, wishful thinking, social support and resignation.

Vernberg et al. (1996) tried to empirically categorize these 10 coping strategies into groups. A principal component analysis (PCA) with varimax rotation for all 15 items of the *KIDCOPE* indicated 4 factors with eigen values greater than 1,0: positive coping, blame and anger, social withdrawal and wishful thinking.

In order to draw a reliable picture of the children's general coping pattern with emotional stress, a specific stressor is named (in the current study, "the worst thing that happened to you because of the surgery"), and the researchers asked the participants to specify 3 recent affective situations that they encountered during or after the surgery. In the original form of *KIDCOPE*, with respect to a stressful event (in this case, surgery) the children are asked to indicate how frequently s/he used each of the coping strategies to cope with the stressor, using a 4 point scale (0: not at all, 1: sometimes, 2: a lot, 3: almost all the time). In the current study, to simplify the presentation to the children, the scale was reduced to a 3-point response format (0: not at all, 1: sometimes, 2: almost all the time) (See Appendix G).

Since, there is no prior research in Turkish literature that used KIDCOPE, the scale was translated into Turkish by 2 clinical psychologists and one child and adolescent psychiatrist who are fluent in English. Then, the translated scale was evaluated by one clinical psychology and one child and adolescent psychiatry professor.

The items of the scale were examined by principal component analysis (PCA) with varimax rotation. The initial analysis, employing an eigenvalue of 1.00 as the criterion, resulted in 5 factors explaining %50.29 of the variance. Further analysis with restrictions on the number of factors revealed that 4 factors explaining %43.19 of the total variance produced the clearest factor solution. A factor loading of .35 was taken as the criterion to determine the item structures of these factors. Factor loadings of all 15 items were above this criterion and each item was included under the factor on which it had the highest loading. Five items loaded on the first factor labelled as “positive coping” with an internal consistency of .55. Three items loaded on the second factor labelled as “blame and anger” type of coping with an internal consistency of .52. Four items loaded on the third factor called “avoidance coping” with an internal consistency of .46. The remaining three items loaded on the last factor called “wishful thinking” with an internal consistency of .21.

The internal consistency of the whole scale was found as .59; and the results of split half reliability yielded $\alpha = .40$ for part one (8 items) and $\alpha = .43$ for the second part (7 items) (Gökler, 2001).

The reliability analysis was run to assess the internal consistency of the whole scale, which is composed of 15 items. The cronbach alpha was found to be .70.

The factor structure of the scale was examined by principal component analysis (PCA) with varimax rotation. The initial analysis, employing an eigenvalue of 1.00 as the criterion, resulted in 6 factors explaining 67.98 % of the variance. Further analysis with restrictions on the number of factors revealed that 3 factors accounted for 44.66 % of the total variance produced the clearest factor solution. A factor loading of .30 was taken as the criterion to determine the item compositions of these factors. Factor loadings of 14 items were above this criterion and each item was included under the factor on which it had the highest loading. However, only one item (item 13) was below the criterion and it was excluded.

Eight items loaded on the first factor labelled as “positive coping” with an internal consistency of .72. Four items loaded on the second factor labelled as “blame and anger” with an internal consistency of .60. The remaining two items loaded on the third factor called as “avoidance” with an internal consistency of .47. Table 4 displays the item composition of the factors, the factor loadings of the items and Cronbach alpha reliabilities of the factors.

Table 2 KIDCOPE: Item Composition of the Factors, Their Factor Loadings and Cronbach Alpha Value.

Factor and Item	Component		
	1	2	3
<i>Factor 1: Positive Coping</i>			
(1) just try to forget it	.71		
(11) try to calm myself down	.70		
(8) try to fix the bad things of answers	.64	.33	
(14) try to feel better by spending time with others like family, grownups, or friends	.63	-.31	
(5) try to see the good side of things	.60		
(9) try to fix the bad things by doing something or talking to someone	.55	-.52	
(12) wish the bad things had never happened	.41		
(1) do something like watch TV or played a game to forget it	.32		
<i>Factor 2: Blame and Anger</i>			
(10) yell, scream, or get mad		.72	
(6) Blame myself for causing the bad things that happened		.67	
(7) Blame someone else for causing the bad things that happened		.65	
(3) stay by myself		.53	
<i>Factor 3: Avoidance</i>			
(4) didn't speak about bad things			.82
(15) didn't do anything because the bad things couldn't be fixed		.39	.54
Explained variance (%)	19.40	14.52	10.74
Cumulative variance (%)	19.40	33.92	44.66
Cronbach Alpha Value	.72	.60	.47

2.3.3 Attitudes Toward Hospital and Health Professionals Scale

Attitudes toward hospital and health professionals scale was developed for the aim of the study by the researcher. The scale was developed in order to evaluate the thoughts and fears of the children about hospital and health professionals (doctors, nurses etc.). Each item is rated on a 5-point scale ranging from (1) to used a great

deal (5). The highest score is 75 and the lowest score is 15. Reversed items are 4,7,9, 10,14 and 15. High total scores indicate the positive attitudes towards health professionals and hospital, whereas low total scores show negative attitudes toward them. After reliability analysis, 6 items were deleted and reliability of remaining 9 items was .69 for pre-operation period and .68 for post-operation period. Since factor structure did not show any conceptual framework, we preferred to use attitude scale as a total scale (see Appendix E).

2.3.4 Social Support Scale

Social Support Scale for children was developed by the researcher in order to measure perceived social support in children. There is not any questionnaire to evaluate the impact of the social support in children in our culture. In order to measure social support in children, the items were constructed by evaluating the social support literature (Pendley et al., 2002; Hanson et al., 1987; Tak and McCubbin, 2002; Vernberg et al., 1996). In addition, the Multidimensional Scale of Perceived Social Support that was developed by Eker & Arkar (1995) in a Turkish sample was considered by the researcher.

The scale consists of seven items (e.g. “my father and mother are always together with me”, “my family try to help me for everything”) to be rated on a 5-point scale ranging from “not at all” to “very much”. The highest score that will be taken is 35 and the lowest score is 7. Reversed items are 3 and 7 (see Appendix D).

The reliability analysis was conducted in order to assess the internal consistency of the whole scale composed of 7 items. The Cronbach alpha was found

to be .55. Two items (5, 7) were deleted and the Cronbach alpha reliability of the remaining 5 items was increased to .71.

A principle component analysis (PCA) with varimax rotation was carried out. The initial analysis, employing an eigen value of 1.00, resulted in that only one component was extracted explaining 50.867 % of the variance. Table 2 displays the item composition of the factor, the factor loadings of the items and Cronbach alpha reliability of the factor.

Table 3 SOCIAL SUPPORT: The item composition of the factor, its factor loadings and Cronbach Alpha Value.

Factor and Item	Component
	1
SOCIAL SUPPORT	
(4) My family listen to my problems and look for answers.	.843
(6) my family want to help me my decisions	.803
(2) my family try to help me in everything	.711
(2) My mother and father are always with me whenever I need them.	.635
(3) not remember the situations that my family help	.529
<i>Explained variance (%)</i>	50.867
<i>Cumulative variance (%)</i>	50.867
<i>Cronbach alpha value</i>	.71

2.3.5 State-Trait Anxiety Inventory for Mothers (STAI)

The STAI was developed by Spielberger, Gorsuch and Lushene (1970). The State-Anxiety scale is a sensitive indicator of changes in transitory anxiety. The STAI A-State requires people to describe how they feel at a particular moment in time; the STAI A-Trait scale asks people how they generally feel. It has been

demonstrated that scores on the A-State scale increases in response to situational stress and decline under relaxed conditions, and that scores on the A-Trait scale are relatively impervious to stress.

State-Trait Anxiety Inventory (STAI), is a self-report measure consisting of a 20-item state anxiety scale (how one feels right now) and a 20-item trait anxiety scale (how one generally feels) (Spielberger, Gorsuch and Lushene, 1970). State Anxiety Scale of the STAI, which aims to measure currently felt anxiety was used for mothers in this study. It has 20 items. Mothers were instructed to indicate “what they have been feeling when they learned their children being operated” by rating their level of anxiety on a 4 point scale (1=not at all, 2=somewhat, 3=moderately so, 4=very much). This instruction was given in both pre-operation and post-operation period and they evaluated their anxiety levels in both two periods. Possible scores range from a minimum of 20 to a maximum score of 80. High total scores indicate intense fear, approaching terror and panic, medium scores indicate moderate levels of tension and worry, whereas low scores reflect feeling calm (see Appendix H).

The psychometric properties of State-Trait Anxiety Inventory (STAI) were evaluated in a Turkish sample by Öner and Lecompte (1983). The test-retest reliability coefficient ranged between .26 and .68 for state scale and .26 and .68 for trait scale of STAI over 365 days for five groups of students. They showed that STAI has high internal reliability. Alpha coefficients were found to range between .94 and .96 for state anxiety scale and .83 and .87 for trait anxiety scale. Item-total correlations were found to range between .42 and .85 for state anxiety scale and .34 and .72 for trait anxiety scale. These results demonstrated that psychometric properties of STAI are also satisfactory for use with Turkish samples.

2.3.6 Brief Information Form

The background variables were asked to child and his/her parents. These variables were age, year of birth, education level of the child, education level and job of parents. Also, the number of sibling was asked. Whether the child had previous hospital or operation experience was asked. If he/she had hospital experience, then “when” and “why” questions were asked. However, if she/he experienced operation, these subjects were not admitted to the research (see Appendix C). Other questions regarding child’s previous illness experiences were following:

“Have you ever had any long-term (chronic) disease?”, then “how long have you been experienced?”, “have you ever experienced any accident?”, “did your current illness happen in a sudden way?” and “when?”.

Lastly, “do you have any information about your illness?”, if his/her answer “yes”, then “who informed you?”. If the answer is “no”, then “do you want to learn?” was asked to children.

2.4 Procedure

Children who applied to Child Surgery Service and had a diagnosis were oriented to the investigator by the surgeon. All children and their mothers were assessed by the investigator before and after the surgery. Interviews and measures lasted approximately 30 to 40 minutes and were conducted by the researcher herself. Prior to interview, the patients were informed about the nature of the interview. Only children who have operated for the first time were admitted to the study due to the aim of the study (the effect of the psychological preparation on children’s anxiety

level and coping behaviours). These children randomly assigned to groups. An overview of the design and summary of the measures used was shown in Fig.1.

2.5 Analysis of Data

Data was analyzed by using the appropriate programmes of the Statistical Package for the Social Science (SPSS).

After conducting Factor Analyses with the measure of STAI-C, with the measure of Social Support Scale for Children Inventory, with the measure of Attitude Toward Health Professionals and Hospital Scale, with the measure of KIDCOPE, a correlation matrix was done for all variables and their subscales. The purpose of the examining of correlation matrix was to see the correlations between each variable of the present study, which are the sociodemographic variables, medical history variables, pre-operative state anxiety, post-intervention state anxiety, post-operative state anxiety, social support, attitudes toward health professionals and hospital and kidcope. Repeated measures ANOVA and paired-samples t test was conducted to examine the group differences in anxiety levels, attitude scores and coping ways. A pearson correlation analysis was run between mother anxiety and child anxiety total scores for both pre- and post-operation period.

CHAPTER III

RESULTS

3.1 Anxiety Levels

3.1.1 State Anxiety

Preoperative- anxiety scores were obtained by summing up the responses of the 20 items of the state scale of STAIC. The scale is administered before the surgery (M=34.13, SD: 6.07, min:21, max:53) with a Cronbach alpha reliability of .82, and after the intervention programme (giving information, interview etc.) (M=28.61, SD=5.78, min:20, max:43) with a Cronbach alpha reliability of .86 and then after the operation (M=26.30, SD=4.90, min:20, max:40), with a Cronbach alpha realibility .86. Changes in anxiety levels are shown in Figure 2.

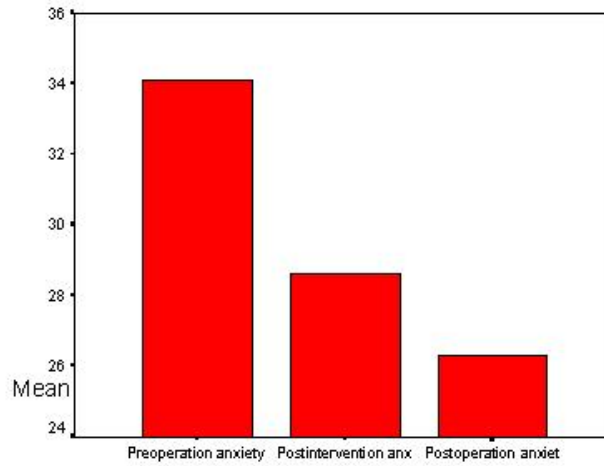


Figure 2. Anxiety levels of children anticipating surgery

3.1.2 Changes in Anxiety Levels (Pre-operation anxiety, post-intervention anxiety, post-operation anxiety)

3.1.2.1 Gender

In order to examine the differences between three anxiety levels by also considering the gender differences, a 2 (gender) by 3 (Pre-operation anxiety, post-intervention anxiety, post-operation anxiety) analysis of variance with repeated measures on the last factor was conducted. The results of the ANOVA are shown in table 4.

Table 4 Gender differences in preoperation anxiety, post-intervention anxiety, and post-operation anxiety.

Source	DF	MS	F	p
Gender	1	184.62	3.24	.077
Error	58	33.478	-	-
Anxiety	1	1956.308	85.05	.000
Gender*anxiety	1	121.108	5.26	.025
Error	58	23.001	-	-

The significant main effect for anxiety showed that, there was a significant decrease in anxiety scores from the pre-operation (M=34.13; SD=6.07), the post-intervention (M=28.61; SD=5.78) to the post-operation period (M=26.30; SD=4.90). The main effect for gender was not found to be significant. Gender by anxiety interaction was significant. In order to examine this, post-hoc comparisons were conducted. Table 5 presents the mean of preoperation, post-intervention and post-operation anxiety scores of girls and boys.

Table 5 Means of preoperation, post-intervention and post-operation anxiety scores for girls and boys*

	Pre-operation Anxiety	Post-intervention Anxiety	Post-operation Anxiety
Girl	37.24a	29.28c	26.67d
Boy	32.46b	28.25c	26.10d

*Means with different subscripts are significantly different from each other at .05 significance level according to posthoc comparisons.

The results of post-hoc comparisons by Tukey-HSD showed that girls had significantly higher pre-operation anxiety as compared to boys ($F(1,58)=9.69$, $p<.05$). There was no difference between girls and boys in the post-intervention ($F(1,58) = .428$, $p= .516$) and post-operation anxiety level ($F(1, 58)=.178$, $p=.674$).

3.1.2.2 Level of information

In order to examine possible differences in anxiety levels of children undergoing four groups, a repeated measures ANOVA, with preoperative anxiety,

post-intervention anxiety and post-operative anxiety as within subjects variable, and level of information as between subjects variable, 4 [(Level of information: information, information together with mother, interview, control) by 3 (Anxiety: preoperative anxiety, post-intervention anxiety and post-operative anxiety)] was conducted. Table 6 presents the results of this analysis.

Table 6 Results of Level of Information by Anxiety Analysis of Variance

Source	DF	MS	F	p
Information level	3	77.50	1.332	.273
Error	56	58.175	-	-
Anxiety	1	1840.83	84.029	.000
Information level*anxiety	3	76.122	3.475	.022
Error	56	21.907	-	-

The results revealed that the main effect for level of information was not significant ($F(3,56)=1.33$, $p=.273$). The main effect for anxiety was significant ($F(1, 56)=84.029$, $p<.001$). Also, level of information by anxiety interaction was found to be significant ($F(1, 56)=3.475$, $p<.05$). In order to find out the source of difference, post-hoc comparisons with Tukey were conducted. The results revealed that post-intervention anxiety scores of children, who had in control group ($M=32.06$; $SD=5.71$), were significantly higher than children who were in information group ($M=28.9$; $SD=6.15$) and information together with mother group ($M=26.53$; $SD=5.80$) and interview group ($M=26.93$; $SD=4.04$). Table 7 presents the results of post-hoc comparisons.

Table 7 Means and standard deviations of pre-operation, post-intervention and post-operation anxiety scores for level of information*

	Pre-operation	Post-intervention	Post-operation
Information	36.73a (5.81)	28.93c (6.15)	25.2e (3.5)
Information together with mother	34.00a (5.5)	26.53c (5.8)	25.0e (4.08)
Interview	32.93ba (6.40)	26.93c (4.04)	26.2e (4.75)
Control	32.86ba (6.30)	32.06d (5.71)	28.8f (6.30)

*Means with different subscripts are significantly different from each other at .05 significance level according to posthoc comparisons.

According to the results of Tukey, preoperative anxiety scores of children who were in information group were significantly higher than children who were in interview group and control group. However, there were no significant differences between the preoperative anxiety scores of children who were in information group and information together with mother group. In addition, there was no significant difference between preoperative anxiety scores of children who were in information together with mother group and interview group. Also, there was no significant difference between interview and control group.

For the post-intervention period, anxiety scores of children who were in information group were significantly lower than children who were in control group. In the same way, post-intervention anxiety scores of children who were in information together with mother group were significantly lower than children who were in control group. Also, post-intervention anxiety scores of children who were in interview group were significantly lower than children who were in control group.

However, there were no significant differences between anxiety scores of children undergoing information, information together with mother and interview group.

For the post-operation anxiety, anxiety scores of information, information together with mother and interview group were significantly lower than control group. Children who were in control group reported higher anxiety compared with other three treatment groups.

Results demonstrated that there was a significant decrease in anxiety scores from pre-operation to post-intervention, from pre-operation to post-operation and from post-intervention to post-operation period depending to intervention methods (level of information) in 3 groups. However, it was not found to be a significant difference in anxiety scores of control group.

3.1.2.3 Social support

In order to examine possible differences between three anxiety levels by also considering the social support, a 2 (social support:high/low) by 3 (anxiety:preoperative/ post-intervention/post-operative) analysis of variance with repeated measures on the last factor was conducted. The results of the ANOVA are shown in table 8 .

Table 8 Social support and anxiety levels

Source	DF	MS	F	p
Social support	1	105.426	1.860	.179
Error	49	56.685	-	-
Anxiety	1	1580.945	58.227	.000
Anxiety*Social support	1	10.592	.390	.535
Error	49	27.152	-	-

The results revealed that the main effect for social support was not significant. However, the main effect for anxiety was significant ($F(1,49)=58.23, p<.05$). Social support by anxiety interaction was not significant. In order to examine the main effect for anxiety, post-hoc comparisons with Tukey were conducted. According to the results, children with high social support reported lower anxiety than children with low social support in post-intervention period. However, there was no difference between high and low social support scores in pre-operation and post-operation period. Table 9 presents the results of post-hoc comparisons.

Table 9 Means and standard deviations of high/low social support in anxiety levels*

	Pre-operative Anxiety	Post-intervention Anxiety	Post-operative Anxiety
Low Social Support	34.42a (5.25)	29.84b (4.86)	27.19d (3.94)
High Social Support	34.00a (7.40)	27.00c (6.40)	25.48d (5.08)

*Means with different subscripts are significantly different from each other at .05 significance level according to posthoc comparisons.

3.2 Attitudes Toward Hospital and Health Professionals

Preoperative attitude scores were obtained by summing up the responses to the 9 items of the attitudes toward health professionals and hospital scale administered before the surgery ($M=35.56, SD: 5.50, min:19, max:22$). Cronbach alpha reliability of preoperative scores of the attitude scale was .69.

Post-operative attitude scores were obtained by summing up the responses to the 9 items of the attitudes toward health professionals and hospital scale

administered after the operation (M=37.30, SD=5.45, min:45, max:45). Cronbach alpha reliability was .68. Changes in attitude scores are shown in Figure 3.

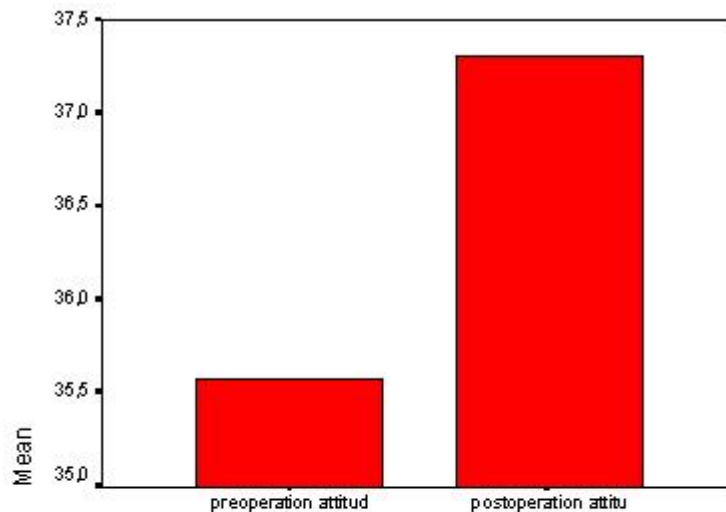


Figure 3. Pre- and post-operation attitudes toward hospital and health professionals of children anticipating surgery

3.2.1 Level of information

A paired-samples t test have been conducted in order to determine whether there exists any difference between level of information and the pre-attitude and post-attitude scores of children undergoing surgery. The results showed that there was a mean difference between pre-attitude (M= 35.80; sd=6.13) and post-attitude (M=38.40; sd=5.80) scores only in information group, $t(14) = -2.55, p < .05$. In pre-operation period, children who had in information group have less positive attitudes (M=35.80) toward health professionals and hospital compared to post-operation period (M=38.40). It was not found to be a significant mean difference between pre-attitude and post-attitude scores of other three groups.

In order to examine possible differences in attitude levels of children undergoing four different levels of information, a repeated measures ANOVA, with preoperative attitude and post-operative attitude as within subjects variable, and level of information as between subjects variable, 4 [(Level of information: information, information together with mother, interview, control by 2 (Attitude: preoperative attitude, post-operative attitude)] was conducted. Table 10 presents the results of this analysis.

Table 10 Results of Level of Information by Attitude Total Scores Analysis of Variance

Source	DF	MS	F	p
Information level	3	14.067	.261	.853
Error	56	53.933	-	-
Attitude	1	90.133	10.89	.002
Information level*attitude	3	4.511	.545	.653
Error	56	8.274	-	-

The results revealed that the main effect for level of information was not significant ($F(3, 56) = .261, p = .853$). The main effect for attitude showed that there was a significant increase in attitude scores from the pre-operation ($M = 35.57; SD = 5.50$) to post-operation period ($M = 37.30; SD = 5.45$), ($F(1, 56) = 10.89, p < .001$). Also, level of information by anxiety interaction was not found significant ($F(3, 56) = .545, p = .653$). Table 11 presents the means and standard deviations of preoperation and post-operation attitude scores.

Table 11 Means and standard deviations of preoperation and post-operation attitude scores.

	Pre-operation attitudes	Post-operation attitudes
Mean	35.57	37.30
Sd	5.50	5.45

3.2.2 Gender

In order to examine the differences between two attitude scores by also considering the gender differences, a 2 (gender) by 2 (Pre-operation attitude, post-operation attitude) analysis of variance with repeated measures on the last factor was conducted. The results of the ANOVA are shown in table 12.

Table 12 Results of Gender by Attitude Total Scores Analysis of Variance

Source	DF	MS	F	p
Gender	1	304.66	6.41	.014
Error	58	47.548	-	-
Attitude	1	66.78	8.27	.006
Gender*attitude	1	8.68	1.076	.304
Error	58	8.072	-	-

The significant main effect for attitude showed that there was a significant increase toward positive attitudes from the pre-operation (M=35.56; SD=5.50) to the post-operation period (M=37.30; SD=5.45). The main effect for gender was found to be significant. Table 13 presents the mean of preoperation and post-operation attitude scores of girls and boys.

Table 13 Means of pre-operation and post-operation attitude scores for girls and boys*

	Pre-operation attitude	post-operation attitude
Girls	33.76a	34.76b
Boys	36.54a	38.66c

*Means with different subscripts are significantly different from each other at .05 significance level according to posthoc comparisons.

Post-hoc analysis by Tukey showed that girls (M=34.76; SD=6.01) had significantly negative attitudes toward health professionals and hospital compared with boys (M=38.68; SD=4.64) in post-operative period. However, there was no difference between girls and boys in their pre-operation attitude scores ($F(1,59) = 3.63, p = .06$).

3.3 Ways of Coping

3.3.1 Gender Differences in Coping

In order to examine the gender differences in coping strategies a 2 (gender) by 3 (coping: positive coping; blame/anger; avoidance) ANOVA, with repeated measures on KIDCOPE was conducted. Results of this analysis are presented in Table 14.

Table 14 Results of Gender by Coping Style Analysis of Variance

Source of Variance	DF	MS	F	p
Gender	1	.161	.689	.410
Error	58	.234	-	-
Coping	1	3.82	16.95	.000
Gender by Coping	1	.115	.508	.479
Error	58	.226	-	-

As table 14 shows, gender main effect was not found to be significant ($F(1,58)=.68, p=.41$). Coping main effect was significant ($F(1,58)=16.95, p<.05$). The significant main effect for coping showed that positive coping ($M=1.31; SD=.38$) is significantly higher than blame & anger ($M=.41; SD=.41$) and avoidance ($M=.92; SD=.53$). Also avoidance ($M=.92; SD=.53$) is significantly higher than blame & anger ($M=.41; SD=.41$). Gender by coping factors interaction was not found to be significant. Means and standard deviations of KIDCOPE factors are presented in Table 15.

Table 15 Means and Standard Deviations of KIDCOPE Factor Scores*

	Positive Coping	Blame/Anger	Avoidance
M	1.31a	.41b	.92c
SD	.38	.41	.53

*Means with different subscripts are significantly different from each other at .05 significance level according to posthoc comparisons.

3.3.2 Level of Information in Coping

In order to examine the differences between three coping factors by also considering the level of information differences, a 4 (level of information: information; information together with mother; interview; control) by 3 (coping: positive; blame/anger; avoidance) analysis of variance with repeated measures on the last factor was conducted. The results of the ANOVA are shown in table 16.

Table 16 Results of Level of Information by Coping Style Analysis of Variance

Source of Variance	DF	MS	F	p
Information Level	3	.452	2.049	.117
Error	56	.221	-	-
Coping	1	4.65	28.81	.000
Information Level by Coping	3	1.38	8.59	.000
Error	56	.136	-	-

The results revealed that the main effect for information level was not found to be significant ($F(3,56)=2.049$, $p=.117$). However, the main effect for coping was significant ($F(1,56)=28.81$, $p<.001$). Information level by coping interaction was also found to be significant ($F(3,56)=1.38$, $p<.001$). In order to find out the source of difference, post-hoc comparisons were conducted. Table 17 presents the means of coping factors for four levels of information.

According to the results of Tukey, positive coping scores of children who are in information and information together with mother group are significantly higher than children in interview and control group. However, there were no significant differences between information and information together with mother group. For the blame & anger subscale, information group have lower scores compared to control group. Also, information together with mother group have significant lower scores on blame & anger subscale than interview and control group. There was no significant difference between information and information together with mother group in blame&anger subscale. Finally, almost three groups (information/information together with mother/ interview) have found to be significantly different from control group in terms of avoidance subscale. Children in control group have significant higher scores on avoidance subscale than other three groups.

Table 17 Means and Standard Deviations of coping factors for four levels of information*

	Positive Coping	Blame/Anger	Avoidance
Information	1.40a (.32)	.32c (.35)	.83e (.40)
Information together with mother	1.48a (.29)	.23c (.25)	.66e (.58)
Interview	1.20b (.47)	.50cd (.40)	.83e (.48)
Control	1.14b (.34)	.60d (.51)	1.33f (.40)

*Means with different subscripts are significantly different from each other at .05 significance level according to posthoc comparisons.

3.4 Anxiety Level of Mothers of Children in Pre and Post-Operation Period

A paired-samples t test was conducted in order to determine whether there exists any difference between pre and post-operation anxiety scores of mothers in four groups. The results indicate that the mean for pre-operation anxiety scores (M=49.60;sd=10.99) was significantly greater than post-operation anxiety scores (M=41.40; sd=8.84), $t(14)=9.75$, $p=.000$ in information group. Also, in information together with mother group, the mean for pre-operation anxiety scores (M=46.93;sd=8.89) was significantly greater than post-operation anxiety scores (M=36.26; sd=8.49), $t(14)=5.87$, $p=.000$. In interview group, the mean for pre-operation anxiety scores (M=46.40;sd=8.87) was significantly greater than post-operation anxiety scores (M=36.33; .sd=7.98), $t(14)=4.68$, $p=.000$. Finally, for control group, the mean for pre-operation anxiety scores (M=45.93;sd=11.34) was

significantly greater than post-operation anxiety scores ($M=40.86$; $sd=9.53$), $t(14)=4.43$, $p=.001$. So, the pre-operative anxiety levels of mothers of all groups were significantly higher than post-operative anxiety levels of them. In addition, there was a significant decrease in anxiety levels from pre-operation ($M=47.21$; $sd=9.93$) to post-operation period ($M=38.71$; $sd=8.85$).

3.5 Correlations among the variables of the present study

Table 18 presents the Pearson correlation coefficients among the potential independent variables that are used, and the dependent variables, which were the three anxiety measures (pre-operative anxiety/ post-intervention anxiety/ post-operation anxiety), pre and post-operation attitude towards health professionals and hospital, social support and coping factors.

As can be seen from table 18, preoperative anxiety was negatively correlated with sex (1=female, 2=male). There was a negative correlation between pre-operation attitude and pre-operation anxiety. Post-operation attitude was negatively correlated with pre-operation anxiety. In addition, there was a positive relationship between pre-operative anxiety and post-intervention anxiety.

Post-operation attitude was also negatively correlated with post-intervention anxiety. Post-intervention anxiety was positively correlated with post-operative anxiety. Also, there was a positive correlation between group and post-operation anxiety.

Pre-operation attitude was positively correlated with post-operation attitude. Among the sociodemographic variables, sex was positively correlated with post-

operation attitude. In addition, social support was positively correlated with pre-operation attitude and post-operation attitude.

Group was negatively correlated with positive coping and blame/anger subscales of KIDCOPE, whereas it was positively correlated with avoidance subscale of KIDCOPE. Among the sociodemographic variables, age was positively correlated with positive coping subscale of KIDCOPE. In addition, post-intervention anxiety was positively correlated with blame/anger and avoidance subscales of KIDCOPE. Post-operation anxiety was positively correlated with blame& anger subscale of KIDCOPE.

Table 18 Pearson Correlations of the Demographic Variables, Social Support, Pre-operation and Post-operation Attitudes, Pre-operative Anxiety, Post-intervention Anxiety, Post-operation Anxiety, Factors of KIDCOPE.

	1	2	3	4	5	6	7	8	9	10	11	12
1.Group		-.047	-.200	-.289*	-.068	-.116	-.235	.191	.276*	-.316*	.306*	.354*
2.Sex			.018	.231	.243	.345*	-.378**	-.086	-.055	.048	-.157	-.083
3.Age				.184	.072	.182	.181	-.039	.127	.292*	-.154	-.138
4. Social support					.484**	.373**	-.053	-.206	-.132	.175	-.205	-.059
5.Pre-attitude						.731**	-.315*	-.185	-.054	.142	-.214	.014
6.Post-attitude							-.370**	-.306*	-.088	.147	-.173	-.076
7.Pre-operative anxiety								.630**	.194	.078	.108	-.010
8.Post-intervention anxiety									.482**	-.116	.256*	.346**
9.Post-operative anxiety										-.213	.371**	.222
10.Positive coping											.051	-.048
11.Blame & Anger												.238
12.Avoidance												

**p<.01 (2-tailed), *p<.05 level (2-tailed)

Sex (1=Female, 2=Male)

3.6 Age and Coping

A Pearson correlation analysis was run between age and the scores from the three subscales of KIDCOPE representing different coping styles. According to the

results of the analysis, it was found that there is a significant positive relationship between positive coping and age ($r=.29$, $p<.05$). However, the relationship between age and other subtypes of coping were not found to be significant.

3.7 The Relationship Between Anxiety Level of Child and Mother

A Pearson analysis was run between mother anxiety scores and child anxiety total scores for both pre and post-operation period. According to the results of the analysis, it was found that there is a significant positive relationship between level of anxiety of mother and anxiety level of child in post-operation period ($r= .29$, $p<.05$). However, the relationship between pre-anxiety scores of mother and child was not found to be significant.

CHAPTER IV

DISCUSSION

This study aimed to investigate the effects of psychological preparation on preoperative and postoperative anxiety levels of children anticipating surgery, their pre-operation and post-operation attitudes, and ways of coping. In addition, as suggested by Blount et al. (1991) anxious mothers may also distress their children. Therefore, in this study the relationship between the anxiety level of children and their mothers was examined.

It is not unusual for people to be informed about what is happening and how they will be influenced when they undergo a strange or unfamiliar experience. If there is not enough information for individuals to make sense of what is happening, they may become overwhelmed emotionally. In medical settings, such strong emotions as fear, anxiety, and anger can render a person unable to collaborate with doctors, nurses, and other medical staff and can even have a detrimental effect on treatment by necessitating increased use of anesthetics (de L.Horne & Vatmanidis, 1994).

Stress studies have led psychologists in a search for more effective ways to help patients deal with very stressful events in their lives (Andrew,1970). There are obvious potential threats for the surgical patient such as anaesthesia, pain, physical restriction, life-threatening procedures, being away from home, meeting new people and so forth (Johnston,1988). Therefore, the assessment of patients having an

invasive medical procedure requires careful attention for informing the patients about what is happening, the necessities of the operation (e.g.,do they know someone else who has had the same operation?) and their ability to understand and relate to themselves any information they have been provided (de L.Horne & Vatmanidis, 1994). .

Hospitalization and medical procedures especially surgery are stressful events that may potentially lead to long-term adverse psychological effects. Particularly children without any previous experience regarding hospitalization or medical procedures have experienced more distress (Ellerton & Merriam, 1994).

Particularly, in Turkey, the research on surgery-related distress in children and adolescents have been pursued by nurses or social workers (Yılmaz, 2000; Karayurt, 1997; Üstün, Atasoy and Tiryaki, 2002). There are almost no psychologists who carried out research in this area. However, those research findings may be more meaningful when these results are applied to real life experiences. Therefore, this is the first experimental study examining the effects of psychological preparation on children anticipating an operation in Turkey.

4.1. Changes in Anxiety Levels From Preoperation, Post-intervention to Postoperation Period

In line with the literature, State Scale of STAI-C scores for pre-operation period were found to be higher than the post-operation period. There was a significant decrease in state anxiety levels from preoperation, post-intervention to the postoperation. This finding indicates that state scores was high before but not after

surgery (Spielberger et al.,1973; Auerbach,1973). The state anxiety scores of this study were highest at the first testing period prior to surgery and declined after information presentation, and remained low after surgery. Similar results were also reported by Auerbach et al. (1983).

This may be due to the fact that first of all after the surgery everybody may feel an expected relief. In addition, the intervention programme may further contribute to the decrement of the preoperation anxiety levels.

Consistent with the previous research findings (e.g., Melamed & Siegel, 1975; Weisz et al., 1994; LeBaron & Zeltzer, 1984; Katz et al., 1980), preoperative anxiety levels were higher in females compared to males in the current study. It has been reported that females experience more transitory anxiety than males in the preoperative and postoperative period. The observed differences may be either due to the actual experiencing of the symptoms or to the socially desirable reporting of them (Vogel&Vernberg, 1993). Girls express their emotions more easily than boys (Ollendick et al., 1985). Also, girls were more likely to focus on the negative affect in reaction to medical stressors (Brown et al., 1986). These present findings also are consistent with the findings of Özusta (1995) in Turkey. However, they are incongruent with Öy et. al.(1995) who indicated that there was no gender difference in the state anxiety scores of elementary and junior-high school students. However, they showed that trait anxiety level of girls was higher than boys. The role of developmental level on expressing emotions is important. Younger children are not aware of their feelings whereas, older children are mostly aware of their emotions and they express themselves, therefore anxiety symptoms are observed mostly in older children (Strauss et al., 1988). Another explanation of this discrepancy about

gender may be linked to socialization experiences where boys are encouraged to adopt more stoic attitudes about pain, girls are encouraged for passive, affective expression. Thus, males may become increasingly aware of and responsive to social expectations and may become more reluctant to demonstrate distress (Rudolph, et al., 1995). According to the results of observations of current study, particularly boys are imposed to believe in a “strong man” model by their parents. These boys reported that “I’m a man, I’m not afraid of anything”. Such an idea is taught to children by their families. Therefore, socio-cultural conditions may be contributing factors for girls to report more anxiety. However, there were no differences between girls and boys in term of post-intervention and post-operative anxiety level. The sex effect seems to contribute to only_preoperative anxiety; however, it seems unrelated to post-intervention anxiety and post-operative anxiety. Probably the influence of information may diminish the gender differences in post-intervention and post-operation anxiety.

4.2.Level of Information

In the present study, it was found that there was a significant decrease in anxiety scores from pre-operation, post-intervention to post-operation period in experimental groups (information/ information together with mother/ interview). However, in control group, there was not any significant difference between post-intervention and post-operative anxiety levels.This can be explained by the intervention method (preparatory information and interview). Children who received information alone or with mother and who are only interviewed were found to

demonstrate lower levels of anxiety than children in control group in post-intervention period.

Current study findings are generally consistent with the literature, suggesting that psychological preparation before surgery would result in decreased anxiety (Ellerton & Merriam, 1994; Melamed & Siegel, 1975; Wolfer & Visintainer, 1979; Siegel & Peterson, 1980; Karayurt, 1997). Children who informed about surgery procedure alone or with their mothers showed less anxiety levels than the control group of children. Probably, the preparatory information and accurate expectations produce cognitive control that diminishes the deleterious effects of impending stressors (Auerbach et al., 1983). Furthermore, preparation provides predictability for individuals. Unpredictable events can produce “a variety of cognitive, affective, and somatic disturbances”. The likelihood of an unpredictable and uncontrollable event leading to stress effects is increased if the event is significant and potentially aversive (cited in., Rachman & Philips, 1980). Thus, predictability is desirable in itself and also increases one’s chances of coping with stressors. It follows, therefore, that any psychological procedure that increases a patient’s capacity to predict a potentially stressful event or sequence of events is desirable in itself and provides a basis for improved coping behavior (Rachman & Philips, 1980).

Another interesting finding of the present study was related to the effect of interviewing. The interview procedure include talking with children about their hobbies, their life, not their feelings about surgery. Findings showed that children who were only interviewed with reported significantly less anxiety than children in the control group. This finding is consistent with Dirik (2001) indicating that patients seemed to be pleased from the communication and attention. The explanation for the

patients being pleased from psychological assessment may be that patients need to talk about their feelings with the health staff. In addition, this study illustrated that children and their mothers seemed to be pleased from the interviews and preparation when they leave the hospital. Therefore, these present results suggested that mere talking with patients and sharing their feelings or fears about stressful medical routine and procedures, lead to relaxation as a result decreased their anxiety levels.

In addition, there were no significant differences among anxiety scores of children receiving information, children receiving information together with their mothers and children were in the mere interview group for the post-intervention period. Thus with children who are in the mere interview group, giving information is one of the most important psychological technique in terms of diminishing anxiety levels and for an appropriate adjustment. Furthermore, the current results showed that even mere talking with children or communicating before surgery can also be beneficial, compared to children with no preparation at all.

Psychological preparation for medical procedures is most effective when its content is matched to the needs of the person (Sarafino, 1990). Sometimes preoperative information about surgery may be more stressful for individuals. Reviews by Averill (1973) and Thompson (1981) propose that “information may not be always helpful”. Infact, Langer, Janis, and Wolfer (1975) suggested that “preoperative information might tune some individuals into pain and discomfort and actually create more problems” (cited in., Suls & Wan, 1989). It is questionable that all kinds of information are equally beneficial. A distinction made in this area is between sensory information, which describes the sensations that the patient or subject will likely experience, and procedural information, which emphasizes the

sequence of medical or laboratory procedures (Suls & Wan, 1989). Other lines of research have specifically questioned individual versus standard preparation- that is, whether all subjects may be expected to benefit from a given procedure. Instead of using either or standard procedures, some have divided subjects into two or three personality types (Andrew, 1970). Andrew suggested that a much briefer preparation could also be effective in minor surgery sample. Infact, Suls and Wan (1989) showed that preoperation involving a combination of sensory and procedural information is associated with the largest and most consistent benefits. Procedural information presents details about the procedures and steps to be taken, whereas sensory information provides the preparatory or interpretational set that facilitates such processing. Therefore, the amount of information and its content is very important since unclear information can lead to misconceptions and anxiety and be more harmful. More study is needed to identify the effectiveness and generalizability of information preparation for medical procedures considering the individual-difference factors, different operations and different age groups.

The present findings on levels of post-operative anxiety showed that post-operative anxiety scores of information, information together with mother and the mere interview group were significantly lower than control group. This may be a result of intervention method. As shown from control group, children in control reported higher anxiety compared to other three treatment groups. It can be said that as a result of preoperative preparation, treatment subjects experienced relief and reported lower anxiety levels since children who were informed to know what they would experience before and after surgery. However, the control subjects experienced both more preoperative and postoperative anxiety due to uncertainty.

Also this finding is consistent with Egbert and colleagues (1964). They showed that “the poorly informed patients experienced more emotional disturbance in post-operative period” (cited in., Rachman & Philips, 1980). Also, children in all groups demonstrated a feeling of comfort possibly due to the completion of the operation.

Adequate information and communication with the patient are therefore of vital importance. Health professionals should offer information about typical sensations to be expected both during and after the invasive medical procedures. This allows the patient to develop realistic expectations about the procedure and the associated level of pain (de L. Horne, D.J., & Vatmanidis, P., 1994).

Parents often felt that they lacked the information needed to be of concrete help to the child (Ogilvie, 1990). Current findings demonstrate that there is not a significant difference between the mere information group and information together with mother group. Prior studies showed that children who have been prepared with their parents for aversive medical procedures reported more satisfaction and lower levels of anxiety (Jay & Elliot, 1990; Faust et al., 1991; Wolfer & Visintainer, 1979). These studies indicate that parents reported more satisfaction and less anxiety when they received some in-hospital preparation. Strengthening family participation in a child’s care and responding to family concerns are viewed as legitimate goals of the health care team. Also reduced anxiety in the parents may lead to less anxiety in the hospitalized child and thus minimize the chance of adverse long-term effects and encourage coping behaviors of both the child and the parents (Ogilvie, 1990).

4.3. Social Support

An individual's family may play an integral role in encouraging and providing support for treatment-related behaviors (Pendley et al., 2002). Current study demonstrated that social support was found to be related with post-intervention anxiety. This finding indicates that children with high social support reported less anxiety than children with low social support in post-intervention period. This result seems to indicate that social support may be a protective factor against stressful medical procedures only in post-intervention period. However, children need more their parents' support and help particularly in pre- and post-operation. Another explanation for this result is that this decreased anxiety may be a result of preoperative preparation. In addition, findings showed that there was no difference between high and low social support scores in pre-operation and post-operation period. This result is consistent with Dirik (2001)'s findings that social support was not found to be related with preoperative anxiety level.

4.4. Pre-Operative and Post-Operative Attitudes

Attitudes or beliefs play an important role in our behaviors. Thus children's attitudes about hospital and health professionals may influence their adjustment and their participation to medical treatment.

Current study showed that children who were in information group had more negative preoperative attitudes towards hospital and health professionals compared with post-operative attitudes. This difference may be a result of information. After

giving information, children may have more positive attitudes towards hospital and health professionals in post-operation period. Psychological preparation for surgery may foster positive attitudes towards hospital and health professionals. However, there was not any significant difference between preoperative and postoperative attitude scores of information together with mother group, the mere interview group and control group. Also, there was a significant increase in attitude scores from the preoperation to postoperation period. Children had negative attitudes towards hospital and health professionals in preoperation period, whereas they reported more positive attitudes after postoperation period. This can be explained that this difference is not itself a result of preoperative preparation, but also is due to the ending of the operation. Having previous experience increase the fears and anxiety levels of children in pre-operation period and also children may have difficulty to attend to the treatment. In addition, other information sources like relatives, friends who had been operationed before or the media, may affect these attitudes. Uninformative doctors and intimidating nature of doctors' language are the primary patient complaints (de L.Horne & Vatmanidis, 1994). So these factors may lead to negative attitudes in children instead of positive attitudes. Providing an appropriate level of communication can avoid conflict between the patient and the doctor regarding information control (by either party) and may also extinguish patient noncompliance (de L.Horne & Vatmanidis, 1994). However, before admission to the hospital, children do not know about the medical procedures and hospital routine. Also they do not anticipate what they will experience They communicate with doctors, other health workers and face with hospital setting and routine. Such an

interaction and novel experience may provide children having positive attitudes in post-operation period.

When the pre-operative and post-operative attitudes towards hospital and health professionals between girls and boys were compared , it was seen that girls had negative attitudes towards hospital and health professionals compared with boys in post-operative period. However, there was no gender difference in terms of attitudes in preoperative period. The explanation of this finding is that girls may be more sensitive to pain than boys. Several investigators have found that female endorse more pain and anxiety (Melamed & Siegel, 1975; Weisz et al., 1994). It is seen that post-operative pain may lead to negative attitudes in girls.

4.5. Coping Ways of Children Undergoing Surgery

The factor analysis of the 15 item KIDCOPE revealed that coping ways can be grouped into three categories: positive coping, blame & anger, and avoidance. Cronbach alpha reliability of the whole scale was .70 for pre-operation coping and .66 for post-operation coping. The factor number and structure of KIDCOPE is slightly different from factor analysis of the other studies (Vernberg et al., 1996; Gammon et al., 1992; Gökler, 2000)

The present findings on coping are the first to be reported in child surgery in Turkey. In the present study, it was found that there was a positive relationship between age and positive coping. This means that as the developmental level of the child increases, there is also an increase in the use of positive coping. Similar result was consistent with Gökler (2000)'s study with children who have been exposed to a

severe earthquake disaster. The extent to which a given behavior is effective in coping with a stressor is dependent both on the child's age and on the level of other abilities (Peterson, 1989). Overall, studies showed that older children generally are more likely to use cognitively based coping responses and are more effective at implementing such responses (Rudolph et al., 1995). However, there was no significant relationship between other types of coping and children's age. In addition, there were not any gender differences in terms of the use of coping, a finding consistent with Gökler (2000).

The present study adds to current information on coping efforts of children and adolescents undergoing operation. The three subtypes of coping identified here were significantly different in frequency from each other. Children reported using positive coping, most frequently, followed by avoidance and blame & anger type of coping. This result implies that children anticipating an operation mostly use positive coping that is defined as a cognitive strategy (Curry & Russ, 1985), emotion-focused coping (Folkman & Lazarus, 1986) or secondary control (Band & Weisz, 1990) in literature.

When examined the coping efforts of children under experimental groups, children who received information alone or informed together with mothers, reported using "positive coping" more than children in the interview and the control group. This result indicates that giving information about surgery procedure leads to the use of effective coping efforts like positive coping and also these groups, as will be reminded, showed less anxiety as well. This current finding consistent with Pick, Pearce, and Legg's (1990) study where patients who use positive cognitive coping strategies were found to experience less intense early postoperative pain. Also, Kraaij, Garnefski, de Wilde, Dijkstra, Gebhardt, Maes, & ter Doest (2003) showed

that positive reappraisal had a negative direct relationship with symptoms of depression and anxiety.

In the current study items under the positive coping category were more representative of the cognitive coping strategies like positive reappraisal and distracting (e.g., try to fix bad things by thinking of answers; try to see the good side of things). Positive coping way involve efforts to maintain or regain a positive emotional or cognitive state without the use of hostile, passive or isolative cognitions or behaviors (Vernberg et al., 1996). Also, Vernberg (1996) stated that positive coping does not appear to fit neatly into formulations derived from other research on coping. For example, several items appear to represent problem-focused coping (e.g., try to fix the bad things by doing something or talking to someone, try to fix the bad things by thinking of answers), whereas others seem more emotion-focused (e.g., try to calm myself down; try to see the good side of things).

Many researchers defined positive coping with under different classifications in their models or studies. Curry and Russ (1985) defined the positive coping restructuring or attention to positive features of the treatment and diversionary thinking or attempts to divert one's thoughts away from the stressor as a cognitive strategy. Also in Lazarus and Folkman's coping model, positive reappraisal and distancing are types of emotion-focused coping, which is directed at regulating the emotional consequences of an event. Finally, according to Band & Wiesz (1990) secondary control is defined as efforts to maximize one's fit to current conditions (cognitive distraction /self-talk). Pain-related medical stressors that are inherently unalterable might well evoke the use of emotion-focused or secondary control coping and such strategies might be more adaptive (Rudolph et al., 1995).

Current findings suggested that positive coping may be an adaptive coping way in children undergoing medical procedures or surgery which is uncontrollable and also immediate and short-term. Consistent with the literature, using of emotion-focused coping strategies to deal with short-term stressors and in uncontrollable situations is effective strategy.

These findings are incongruent with previous research suggesting that positive coping was significant predictor of and positively correlated with PTSD (Post Traumatic Stress Disorder) symptomatology, in a disaster sample (Vernberg et al., 1996; Gökler, 2000). Thus, these results imply that in uncontrollable, long-term stressors, positive coping way is not an adaptive way for adjustment.

Furthermore, these two groups (information alone and informed mother group) reported less frequency in the use of “blame & anger” type of coping than the interview and the control group. Therefore, this finding suggests that preparatory information may initially lead to self-control and mastery, in addition, it leads to the use of more attention (active) strategies than avoidance (passive) strategies. Consistent with the previous research (Gökler, 2000), blame and anger was the type of coping that was linked with the highest level of PTSD symptoms. Cognitive coping strategies such as self-blame, catastrophizing and rumination had a positive direct relationship with symptoms of depression and anxiety in adolescents (Kraaij et al., 2003). Also Asarnow, Glynn, Pynoos, Nahum, Guthrie, Cantwell, and Franklin (1999) demonstrated that blame and anger is found to be correlated with mental health outcomes and may be a risk factor for developing increased symptomatology (cited in. Gökler, 2000).

In the present study children in control group have significantly higher scores on “avoidance” subscale than other three treatment groups. Consistent with literature, the repressing children exhibited higher scores on a post-surgical self-report measure of anxiety than sensitizing children (Andrew, 1970). Previous research had suggested that children who sought out information and actively advocated asking questions were less anxious, were more cooperative, and had higher tolerance for pain than children who avoided information (Peterson, 1989). In line with the literature, current findings showed that control children had higher levels of anxiety than other treatment groups.

Overall, it was concluded that preparatory information may increase the positive coping efforts of children, give control to children, increase self-efficacy feelings and also leads to decrease of their anxiety.

4.6. Anxiety Levels of Mothers

In the present study, preoperative anxiety levels of mothers were greater than levels of postoperative anxiety independent of type of preparation. There was a decrease in anxiety levels from preoperation to postoperation period. Only one explanation of this finding is that they feel comfort due to the ending of the operation. Mothers reported the lowest scores of anxiety as the operation completed. This finding is consistent with Ellerton & Merriam (1994). They showed that parents reported the lowest scores as they prepared to leave the hospital.

4.7. Anxiety Level Between Child and Mother

Current study findings showed that there is a positive relationship between level of anxiety of mother and level of anxiety of child in postoperation period. There can be two explanations for this result. First one is that discharge of the child from hospital within hours of surgery is also associated with increased parental responsibility for early postoperative care (Ellerton & Merriam, 1994). Also some mothers may be more anxious than their children. After the operation, particularly when awakening from the anaesthesia, mothers may become more anxious and they may reflect their anxiety to their children. Thus, children of very anxious parents are likely to be more distressed as mentioned in the literature (Bush et al., 1986; Shaw & Routh, 1982; Gonzalez et al., 1989). Also mothers may be anxious because of recovery and recurrent of the symptoms and surgery. However, according to present findings, the relationship between pre-operative anxiety scores of mother and child was not significant.

4.8. Implications

The results proposed by the current study may have some implications for the child surgery clinics. First of all, preparatory information is vital for children in order to adjust the adverse effects of hospitalization and cope effectively with medical procedures. In my opinion, children will benefit considerably from determined and systematic attempts to provide psychological preparation for their admission to a hospital and treatment.

Implications of these findings for intervention with children should be cautiously advanced. It potentially may be important to help children to realistically assess their role in uncontrollable, negative events, and to help them remain socially connected. An important implication which can be drawn from the results of this study is that encouraging children to focus on positive thoughts, especially on the outcome of the operation (recovery) also may prove beneficial.

In Turkey, conduction of such kind of a preparation programme seems to be quite difficult. According to investigator's observations, particularly psychological impact of illness, treatment and effects of hospitalization or operation and fears has been ignored by health professionals. They have only focused on the physical treatment of the patients. I hope that these research findings are considered by health managers and are applied in hospital settings. People can not receive enough health services because there are many problems related to health. State hospitals lack of health personnel and the number of patients are quite high. A small number of pediatric hospitals today provide general preparation for their patients about the hospital routine and general medical procedures. However, in special hospitals or

centers preparation techniques have been applied and they have a psychologist for these conditions in order to inform the patients and manage the stressful effects of medical procedures. Therefore, there is need for psychologists to clarify the nature of the psychological reactions that people have in the hospital, to predict vulnerability and to develop methods for preventing or reducing stress (Rachman & Philips, 1980).

Preparation of children for medical procedures must begin with family. Parents play an important role in preparing their children. In addition, pre-school institutions and schools should employ some preparatory programmes (e.g. hospital tours) for children. Illness and health concepts and illness preventions may be taught. However, these preparation programmes must be prepared carefully by specialists considering the developmental level, gender, previous experience and also their family. Platt committee recommend the removal of the physical, personal, and professional barriers to parental visits. They would like to see the hospital staffs encouraging parents to participate actively in caring for their children, a move that would of course require that space and equipment of a suitable kind is provided (such as feeding chairs, bathrooms, and TV seats). They further recommend improved preparation and health education both at home and in schools and a form of induction process for children who are about to go into a hospital (Rachman & Philips, 1980). In addition, many advances may be occurred for physical and psychological care of children in child-surgery services like child-oriented units, parent rooming-in and preadmission units (Wolfer & Visintainer, 1979).

Current study findings showed the effect of mere interview with the child. The impact of health care practitioners who are involved in the procedures can not be

underestimated. Hospital staffs are occupied with hospital routine and the physical and medical procedures. Therefore, nurses and doctors working with children could be taught about the psychology of separations, illnesses, and admissions, and trained to comfort children and encourage the active help of parents. None of these efforts will qualify as successful until the last nurse is heard to explain that she “can not talk to the children because she has too much work to do” (Rachman & Philips, 1980). To achieve the most effective communication, doctors and other health care professionals need to know how to assess a patient psychologically and how to communicate effectively, with the patient. by reducing the patient's anxiety and ignorance and building up the patient's knowledge and skills, the professional can be assured of the most successful outcome of the surgical intervention (de L.Horne & Vatmanidis, 1994).

Contemporary psychology can contribute to an understanding of the causes of illness and the psychological processes involved in being a hospitalized person. Psychology can also assist the physician or clinician in carrying out effective interventions (de L.Horne & Vatmanidis, 1994). As current study findings suggested that psychological techniques focus on alleviating the fears associated with invasive medical procedure and reducing psychological stress.

4.9.Limitations

Despite the contributions of the current study, several limitations should be noted.

First of all, the sample consisted of children coming from low socio-economic status. Some children had difficulty to answer the questions and to differentiate the feelings about surgery. Therefore, despite the careful employment of random sampling, this population might not have been the exact representative of the children undergoing surgery.

Also the sample consisted of children anticipating short-term surgery. These children admitted to the surgery after one day they applied to the surgery clinic. When the operation completed they were discharged on the same day after operation. The present results are limited to hospitalization for hernia, tonsillectomy and adenoidectomy surgery which is highly standardized and predictable. The same effects can not necessarily be expected for major surgery or more complex procedures in which the variability and uncertainty in response and outcome are high. Different types of surgery may produce different psychological consequences. In both medical and lay terminology a distinction is made between “major” and “minor” surgery. The incidence of long-term and severe psychological problems does seem to be higher for these patients than for those undergoing surgery of minor objective complexity such as hernia or cholecystectomy operations (Kincey, 1989). In this study, children had undergone in a minor surgery.

The current study also suffers from some methodological problems. KIDCOPE appeared as one of the most frequently used tool to assess coping efforts in children

after traumatic experiences (Gökler, 2000). According to the literature review for selection of research instruments, KIDCOPE was found to be used to assess the coping efforts in Turkish population. However, it was seen that this scale was not appropriate for assessing the coping strategies of children under main medical procedures or surgery. Therefore, development of a scale pertaining to only medical procedures can be suggested.

Another methodological problem is related with state scale of STAI-C. The state scale of STAI-C was developed for evaluating the state anxiety levels of children; however, younger children have difficulty in understanding the very general items. Therefore, in medical situations, a scale that only measures anxiety specific to surgery, including surgery related worries and fears, can be developed. In addition, the developmental levels of children can be paid attention while developing such an instrument.

Another limitation is reliance on children's self-reports. A major disadvantage of self-report data in children is the difficulty in obtaining an accurate description or rating of internal states such as anxiety or pain. For instance, one patient appeared calm yet reported experiencing relatively high pain and anxiety if he was interviewed in private (LeBaron & Zeltzer, 1984). Also, the current study's observations showed that a boy seemed calm and he reported that he was not anxious, fearful; however, after asking their fears or concerns directly, he mentioned about mutilation fear ("they will cut me, they will use knife etc.). In this age group (7- 14) children are not conscious about their feelings and thoughts, so their answers are not very trustable. That is why, in addition to children, parents should be admitted to the study. It will be important to include measures from other sources, such as parents, health

professionals on direct observation to evaluate more completely the surgery procedure.

Another issue worth considering is external factors. Children may learn something about surgery and medical procedures from different sources and they may have misbeliefs. The current study considered children who had not any previous experience due to the aim of the study; however, to prevent such circulation of information is quite difficult. This may limit the generalizability of the study's findings.

One shortcoming of the current investigation was the failure to assess recovery variables because of children having immediate, short-term operation. Post-surgery measures of recovery can be obtained from the hospital charts and nurses and include such items as number of days in the hospital, number of analgesics, number of sedatives, frequency of vomiting, nausea, and post-surgical wound complications. In addition, mothers' reports of children's post-surgical behaviors may be obtained. Also, the question of whether preoperative preparation makes a difference in physiologic recovery after minor surgery was not measured.

Lastly, there are limitations of dependent variables utilized. The anxiety level and coping ways are the outcome measures of the current study. Further investigation may assess the relation between children's coping descriptions and their adjustment. Adjustment may be assessed by two ways: general adjustment (parents' reports of the children's behavioral and emotional problems) and specific adjustment (illness-specific adjustment related to illness and its treatment in the reports of trained observers and of children themselves) (Weisz et al., 1994).

4.10. Directions for Future Research

It will be fruitful for future research to replicate these findings in other types of surgery especially in children suffering long-term chronic illnesses on diverse samples with a wide age range. Furthermore, parents who have children undergoing surgery and those who have children with chronic illnesses may be compared in terms of coping strategies.

Further investigation of children's coping efforts following medical procedures or long-term (chronic) diseases is needed to clarify the most important distinctions among various coping strategies in both pre- and post-operation period.

It is recommended to include more items representing subtypes of coping. It is also suggested for future investigators to develop a culturally-oriented coping scale in order to better assess the typical coping efforts of children and adolescents in Turkey.

In the literature, there are some findings that cognitive coping skills for preparation was found more beneficial than sensory and procedural information. Cognitive-behavioral preparation methods, include relaxation, coping strategies such as refocusing attention and using self-statements, videos, films, or live modeling, and disseminating information about the invasive medical procedure. All of these methods have been found to be effective in preparing patients psychologically for invasive medical procedures (Pinto & Hollandworth, 1989). Ridgeway and Mathews (1982) demonstrated that information about surgery did, indeed, show enhanced scores on knowledge, using the researchers' ratings, but the cognitive-coping strategy appeared to have the greatest effect on the indices of recovery. The cognitive-coping

technique was much more effective preparation than giving standard information about procedures. Patients in the cognitive-coping group reported worrying less. For future research, more combinations which include both cognitive- behavioral training and information may be suggested.

Surgery can be regarded as a major stressor for any patient. High preoperative emotional arousal may negatively influence adjustment during surgery as well as the postoperative recovery rate. Consequently, the strategies individuals employ for coping with this stress are of prime importance for the quality of their adaptation (Krohne, DeBruin, El- Giamal, Schmukle, 2000). So in terms of preventive efforts, teaching effective coping skills for medical procedures is important in terms of children's adjustment.

Also pre-operation conditions (e.g., previous surgery or hospitalization, children's personality characteristics) and post-operation conditions (e.g., the role of significant others, recovery variables) may be taken into consideration while preparing such programmes for children in future studies.

Personality characteristics of children may play an important role in adjustment to medical procedures and hospitalization. Previous findings showed that "difficult" children are described as displaying irregularity in biological functions, negative withdrawal responses to new stimuli slow adaptability to change, and have intense mood expressions which are usually negative. "Easy" children, on the other hand, are characterized by regularity in biological functions, positive approach responses to new stimuli, high adaptability to change, and have mild or moderately intense moods, which are usually positive in nature (cited in., Melamed, 1991). Therefore, it is suggested to examine children's or adults' personality characteristics for future

investigations and while preparing psychological intervention programmes these characteristics are taken into consideration.

Previous investigators showed that children who prepared psychologically for surgery recovered fast, left from the hospital earlier and took fewer analgesics followed by operation compared to those not prepared (Melamed & Siegel, 1975; Wolfer & Visintainer, 1979; Siegel & Peterson, 1980). Also in future studies, these findings can be replicated by considering the recovery variables such as staying time in hospital, amount of taking analgesics.

Another suggestion is that the specific meaning of medical procedures for children should be examined by asking directly and observing by the investigator. For instance, surgery may be assessed as a threat by some children; however, some of them may perceive it as a challenge. As McCrae (1984) stated that challenges differ from threats in their generally positive tone, although, like any stressor, they require exceptional efforts from the individual. Rational action, positive thinking, escapist fantasy, self-blame, restraint, self-adaptation and humor were used primarily by subjects facing challenge. Therefore, children who think that operation leads to their recovery and not perceive surgery as a threat may cope effectively. Furthermore, in the current study, some children reported that “I am afraid but I will recover after operation, I will escape from pain”. This type of interpretation is seen as an effective coping way for these children. They are focused on the result (recovery), not the process. More information is needed regarding how children appraise the stress associated with hospitalization and major surgical procedures. The particular points that they appraise as stressful (e.g., admission, first night in the

hospital, anesthesia induction, post-operative pain and restriction, or discharge) can be studied (Robins, 1987).

In present study, preoperative preparation material was used both by children and mothers. It is suggested to prepare a specific booklet for parents in future studies. Parents could be taught how to cope with their own anxiety and distress for their children. Also psychological programs for preparing patients for surgery have to meet certain requirements: They must be short, immediately effective, and should take into account the variety of coping efforts employed by the individual patient in this threatening and largely unfamiliar situation. (Krohne et al., 2000).

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APPENDICES

APPENDIX-A

TONSILLECTOMY AND ADENOIDECTOMY (T & A)

Health problems from disease in the tonsils and adenoids are among the most common problems in the general population. Complaints of sore throat, upper respiratory infection, and associated ear disease account for the greatest number of patient visits in most general pediatric practices.

Children apply to the otolaryngologists with many complaints. These are nasal obstruction, snoring, mouth breathing, sleep apnea or sleep disturbance, severe orofacial or chronic adenoiditis, recurrent otitis media/ acute otitis media, chronic otitis media with effusion or chronic otitis media. This disease is treated with two medical ways. Firstly, these children are treated with medical managements which consist of antibiotherapy decongestant, and sometimes antihistaminics. If these medical therapies is not successful, then surgery is chosen as a second way. Surgical treatment is named as “adenoidectomy/ adenotonsillectomy”. Both of them are applied under general anesthesia and these are same-day and elective surgery.

T & A are major surgical procedures. The physician must be aware of all the possible complications and must treat them with care and respect. Identifying higher-risk patients preoperatively and using appropriate perioperative and postoperative management increases the safety of these procedures (Brodsky, 1993).

HERNIAS IN CHILDREN

The majority of inguinal hernias in infants and children are indirect hernias. Boys are more commonly affected than girls in a ratio of 9:1. The diagnosis is often apparent as a bulge and can be observed in the groin with crying and straining. Physical examination is enough for diagnosis; however, diagnosis may depend on visualization of these events by the referring pediatrician or parent. Inguinal hernia is a high-risk hernia as it is frequently complicated by incarceration, occasionally leading to strangulation and obstruction.

The operation is usually performed shortly after the diagnosis is made. Attempts to reduce an incarcerated hernia using sedation and manual reduction are successful in more than 80% of cases. An elective operation is then carried out within 24h of the reduction. The operation is usually performed under general anesthesia.

With the exception of infants who require extended observation, most patients are discharged from the day surgery room within 2h after operative repair. Oral intake may be resumed when the child awakens. There are no activity restrictions for infants but older children should refrain from bicycle riding or other vigorous physical activity for one month (Grosfeld, 1995).

UNDESCENDED TESTIS

Undescended testis (orchidopexy) is a common abnormality affecting 4-5% of male infants at birth. In preterm infants the incidence may be as high as 20% or more.

Children are recommended for surgery for three common reasons: abnormal fertility in the undescended testis, a risk of testicular tumors in adult life, and the obvious cosmetic abnormalities. With the current practice of recommending surgery at a much younger age, it is hoped that the risk of cancer in the next generation will be lower, although this has not yet been proved. Operation can be performed at any time between 6 months and 2 years of age, depending on the experience of the surgeon. As undescended testis is now a day-case procedure the type of anesthesia reflects the need for early mobilization.

The patient is discharged from the hospital the same day, unless an overnight stay is necessary. Most boys return to normal activities within 2-3 days, although they may need to refrain from active sport for 1-2 weeks. The dressing is removed and the position of the testis checked after 1-2 weeks and again at 6 months after surgery (Hutson, 1995).

APPENDIX B

BİLGİ FORMU

“Şimdi sana ameliyattan önce ve sonra, neler yaşayacağın konusunda bilgi vereceğim. Aklına takılan, merak ettiğin herhangi bir şey olursa bana sorabilirsin.

Ameliyat için özel bir kıyafet giyeceksin. Seni ameliyat için götürecek olan görevli de senin kıyafetine benzer bir kıyafet giyecek. Ameliyata girmeden önce sana sakinleştirici bir iğne yapılacak, canını yakacak tek işlem bu olacak. Bundan sonra canını yakacak başka bir müdahale olmayacak.

Ameliyathaneye girdiğin zaman, çevreni gözlemleyebilirsin, oradaki aletlere bakabilirsin. Penceresi olmayan bir odayla karşılaşacaksın. Etrafta bilmediğin ve daha önce hiç görmediğin bir çok alet bulunuyor. Şu anki yatağına benzeyen biraz daha yüksek bir yatakta yatacaksın. Başını yukarı kaldırdığında, tavanda 2 büyük lamba göreceksin. Doktorun ve onun yardımcıları da ameliyat için özel bir kıyafet giyecekler. Ağız ve burunlarını örten sadece gözlerini görebildiğin bir maske takacaklar. Başlarında komik yeşil şapkalar olacak.

Sana pilotların uçarken kullandığı bir maske takacaklar. Maskeden kokulu bir hava gelecek, senin nefes almanı kolaylaştıracak. Bu havayı teneffüs ettiğinde uyuyacaksın. Sen uyurken neler olacak? Merak ediyor musun? Doktorun ve yardımcıları senin iyileşmen için gerekli olan işlemi yapacaklar. Ameliyat sırasında ağrı ya da acı hissetmeyeceksin.

Ameliyattan sonra yatağında uyanacaksın. Annen yanında olacak, annenin sesi değişik gelebilir. Uyandıktan sonra kendini garip hissedebilirsin, hafif bir ağrın olabilir. Ağrın olmasın diye sana ağrı kesici bir ilaç verilecek. Ameliyat sonrasında çabuk iyileşmek istiyorsan, doktorunun dediklerini yapmalısın. Ameliyattan sonra doktorun onay verene kadar birkaç saat hiçbir şey yiyip içmeyeceksin.

Taburcu olduktan sonra ise ameliyat olduğun bölgeyi temiz tutman gerekiyor. Yaran iyileşene kadar ani hareketlerde bulunmamalısın ve darbe almamaya dikkat etmelisin. Kontrollere gelmelisin.”

GÖRÜŞME FORMU

1. Kardeşin var mı? Kaç yaşında?
2. Okul başarın nasıl?
3. En çok hangi dersi seviyorsun?
4. Arkadaşlarınla neler yapıyorsun?
5. En iyi arkadaşın kim?
6. Neler yapmaktan hoşlanırsın?
7. Şimdiye kadar nereleri gezdin ve nereye gitmek istersin?
8. Sinemaya gitmekten/ resim yapmaktan hoşlanır mısın?
9. Büyüdüğünde hangi mesleği seçmek istiyorsun?

APPENDIX C

KISA BİLGİ FORMU

Cinsiyeti: Kız () Erkek ()

Görüşme tarihi:

Doğum tarihi:

Eğitim durumu:

Annenin eğitim düzeyi:

Mesleği:

Babanın eğitim düzeyi:

Mesleği:

Daha önce hiç hastaneye yattın mı? Evet () Hayır ()

Evet ise..ne zaman -ne için?

Uzun süredir devam eden bir hastalığın var mı ? Evet () Hayır ()

Evet ise...hastalığın nedir? Ne zamandan beri devam ediyor?

Daha önce senin veya ailenin başından geçen bir kaza var mı? Evet () Hayır ()

Şu anki hastalığın ani bir şekilde mi ortaya çıktı? Evet () Hayır ()

Ne zaman ortaya çıktı?

Hastalığın hakkında bilgin var mı? Evet () Hayır ()

Evet ise.. kim tarafından bilgi verildi?

Hayır ise..öğrenmek ister misin?

APPENDIX D
SOSYAL DESTEK ÖLÇEĞİ

Aşağıda zor durumlarda kaldığında kimlere başvurduğun ve kimlerden yardım aldığınla ilgili maddeler var. Sana uygun olan kutuyu işaretlemeni istiyorum.

1. İhtiyacım olduğunda annem babam her zaman yanımdadır.

- Hiç katılmıyorum Katılmıyorum Kararsızım Katılıyorum
 Tamamen katılıyorum

2. Ailem bana her konuda yardımcı olmaya çalışır.

- Hiç katılmıyorum Katılmıyorum Kararsızım Katılıyorum
 Tamamen katılıyorum

3. Ailemin bana yardımcı olduğu durumları pek hatırlamıyorum.

- Hiç katılmıyorum Katılmıyorum Kararsızım Katılıyorum
 Tamamen katılıyorum

4. Ailem sorunlarımı dinler ve çözüm arar.

- Hiç katılmıyorum Katılmıyorum Kararsızım Katılıyorum
 Tamamen katılıyorum

5. Sorunlarımı paylaşabileceğim bir arkadaşım var.

- Hiç katılmıyorum Katılmıyorum Kararsızım Katılıyorum
 Tamamen katılıyorum

6. Kararlarımı vermemde ailem bana yardımcı olmaya isteklidir.

- Hiç katılmıyorum Katılmıyorum Kararsızım Katılıyorum
 Tamamen katılıyorum

7. Sorunlarımı ailemle konuşmadığım zamanlar olur.

- Hiç katılmıyorum Katılmıyorum Kararsızım Katılıyorum
 Tamamen katılıyorum

APPENDIX E

HASTANE VE SAĞLIK PERSONELİNE YÖNELİK TUTUM ÖLÇEĞİ

Aşağıda kişilerin hastane ve sağlık personeline ilişkin olarak yaşadıkları bazı duygu ve düşünceler yer almaktadır. Her ifadeyi dikkatle okuyup sana uygun olan ifadenin önündeki kutucuğa (×) işareti koyun.

1. Hastanelerde hastalara iyi bakım verilmiyor.

- Hiç katılmıyorum Katılmıyorum Kararsızım Katılıyorum
 Tamamen katılıyorum

2. Hastanede olacaklar konusunda hiçbir şey bilmiyorum.

- Hiç katılmıyorum Katılmıyorum Kararsızım Katılıyorum
 Tamamen katılıyorum

3. Hastane kötü kokan bir yerdir.

- Hiç katılmıyorum Katılmıyorum Kararsızım Katılıyorum
 Tamamen katılıyorum

4. Hastaneye gidenler iyileşir.

- Hiç katılmıyorum Katılmıyorum Kararsızım Katılıyorum
 Tamamen katılıyorum

5. Hastanede insanlar daha kaygılı olurlar.

- Hiç katılmıyorum Katılmıyorum Kararsızım Katılıyorum
 Tamamen katılıyorum

6. Hastanede acı çeken insanları görmek beni üzer.

- Hiç katılmıyorum Katılmıyorum Kararsızım Katılıyorum

Tamamen katılıyorum

7. Doktorlar hastalarına hastalık hakkında bilgi veriyorlar.

Hiç katılmıyorum Katılmıyorum Kararsızım Katılıyorum

Tamamen katılıyorum

8. Doktorlardan çok korkarım.

Hiç katılmıyorum Katılmıyorum Kararsızım Katılıyorum

Tamamen katılıyorum

9. Doktorlar ve diğer sağlık personeli bizi yeniden sağlığınıza kavuşturur.

Hiç katılmıyorum Katılmıyorum Kararsızım Katılıyorum

Tamamen katılıyorum

10. Doktorlar hastalarına karşı sıcak ve yakın davranırlar.

Hiç katılmıyorum Katılmıyorum Kararsızım Katılıyorum

Tamamen katılıyorum

11. Sağlık personelinin görünce bana acı vereceklerini düşünüyorum.

Hiç katılmıyorum Katılmıyorum Kararsızım Katılıyorum

Tamamen katılıyorum

12. Doktorlar bazen anlamadığımız şeyler söylüyorlar.

Hiç katılmıyorum Katılmıyorum Kararsızım Katılıyorum

Tamamen katılıyorum

13. Hemşirelerden korkarım.

Hiç katılmıyorum Katılmıyorum Kararsızım Katılıyorum

Tamamen katılıyorum

14. Hemşireler bizi iyileştirmek için iğne yaparlar.

Hiç katılmıyorum Katılmıyorum Kararsızım Katılıyorum

Tamamen katılıyorum

15. Hemşireler her konuda yardımcı olurlar.

Hiç katılmıyorum Katılmıyorum Kararsızım Katılıyorum

Tamamen katılıyorum

APPENDIX F

KENDİMİ NASIL HİSSEDİYORUM? (STAI-C)

<p>Kızların ve erkeklerin kendilerini anlattıkları bazı cümleler aşağıda verilmiştir. Her cümleyi dikkatle okuyun ve “şu anda” nasıl hissettiğinize karar verin. Daha sonra sizi en doğru anlatan ifadenin önündeki kutucuğa (x) işareti kovun. Yanlış ya da doğru cevap diye bir şey yok. Herhangi bir cümle üzerinde fazla zaman geçirmeyin. Tam bu anda, bu dakikada nasıl hissettiğinizi en iyi anlatan ifadeyi seçmeyi unutmayın.</p>			
1. Kendimi	<input type="checkbox"/> çok sakin hissediyorum	<input type="checkbox"/> sakin hissediyorum	<input type="checkbox"/> sakin hissetmiyorum
2. Kendimi	<input type="checkbox"/> çok öfkeli hissediyorum	<input type="checkbox"/> öfkeli hissediyorum	<input type="checkbox"/> öfkeli hissetmiyorum
3. Kendimi	<input type="checkbox"/> çok huzurlu hissediyorum	<input type="checkbox"/> huzurlu hissediyorum	<input type="checkbox"/> huzurlu hissetmiyorum
4. Kendimi	<input type="checkbox"/> çok sınırlı hissediyorum	<input type="checkbox"/> sınırlı hissediyorum	<input type="checkbox"/> sınırlı hissetmiyorum
5. Kendimi	<input type="checkbox"/> çok huzursuz hissediyorum	<input type="checkbox"/> huzursuz hissediyorum	<input type="checkbox"/> huzursuz hissetmiyorum
6. Kendimi	<input type="checkbox"/> çok dinlenmiş hissediyorum	<input type="checkbox"/> dinlenmiş hissediyorum	<input type="checkbox"/> dinlenmiş hissetmiyorum
7. Kendimi	<input type="checkbox"/> çok ürkmüş hissediyorum	<input type="checkbox"/> ürkmüş hissediyorum	<input type="checkbox"/> ürkmüş hissetmiyorum
8. Kendimi	<input type="checkbox"/> çok rahatlamış hissediyorum	<input type="checkbox"/> rahatlamış hissediyorum	<input type="checkbox"/> rahatlamış hissetmiyorum
9. Kendimi	<input type="checkbox"/> çok endişeli hissediyorum	<input type="checkbox"/> endişeli hissediyorum	<input type="checkbox"/> endişeli hissetmiyorum
10. Kendimi	<input type="checkbox"/> çok hoşnut hissediyorum	<input type="checkbox"/> hoşnut hissediyorum	<input type="checkbox"/> hoşnut hissetmiyorum
11. Kendimi	<input type="checkbox"/> çok korkmuş hissediyorum	<input type="checkbox"/> korkmuş hissediyorum	<input type="checkbox"/> korkmuş hissetmiyorum
12. Kendimi	<input type="checkbox"/> çok mutlu hissediyorum	<input type="checkbox"/> mutlu hissediyorum	<input type="checkbox"/> mutlu hissetmiyorum
13. Kendimden	<input type="checkbox"/> çok eminim	<input type="checkbox"/> eminim	<input type="checkbox"/> emin değilim
14. Kendimi	<input type="checkbox"/> çok iyi hissediyorum	<input type="checkbox"/> iyi hissediyorum	<input type="checkbox"/> iyi hissetmiyorum
15. Kendimi	<input type="checkbox"/> çok başım derte hissediyorum	<input type="checkbox"/> başım derte hissediyorum	<input type="checkbox"/> başım derte hissetmiyorum
16. Birşeylerin beni	<input type="checkbox"/> çok rahatsız ettiğini hissediyorum	<input type="checkbox"/> rahatsız ettiğini hissediyorum	<input type="checkbox"/> rahatsız ettiğini hissetmiyorum
17. Kendimi	<input type="checkbox"/> çok keyifli hissediyorum	<input type="checkbox"/> keyifli hissediyorum	<input type="checkbox"/> keyifli hissetmiyorum
18. Kendimi	<input type="checkbox"/> çok dehşete kapılmış hissediyorum	<input type="checkbox"/> dehşete kapılmış hissediyorum	<input type="checkbox"/> dehşete kapılmış hissetmiyorum
19. Kendimi	<input type="checkbox"/> çok karmakarışık hissediyorum	<input type="checkbox"/> karmakarışık hissediyorum	<input type="checkbox"/> karmakarışık hissetmiyorum
20. Kendimi	<input type="checkbox"/> çok neşeli hissediyorum	<input type="checkbox"/> neşeli hissediyorum	<input type="checkbox"/> neşeli hissetmiyorum

APPENDIX G

ÇOCUKLARDA BAŞAÇIKMA ÖLÇEĞİ (KIDCOPE)

Çoğu çocuk ameliyat öncesi birtakım zorluklarla karşılaşır. Lütfen aşağıdaki cümleyi, boş bırakılan yere ameliyatla ilgili seni üzen, kaygılandırıcı veya korkutan 3 şeyi yazarak tamamla.

Beni şu anda ameliyatla ilgili üzen ve kaygılandırıcı şeyler :

a) _____

b) _____

c) _____

Aşağıda çocuk ve gençlerin sorunları (problemleri) çözmek ya da kendilerini daha iyi hissetmek için yaptığı şeylerin bir listesi vardır. Biraz önce yazdığın, ameliyatla ilgili seni üzen, korkutan şeyleri düşün. Aşağıdaki her cümleyi okuyarak, bu üzücü şeyleri (sorunları) çözmek ya da kendini daha iyi hissetmek için, o cümlede yazanları ne kadar sıklıkta yaptığını işaretle. Lütfen hiçbir soruyu boş bırakma.

	Hiçbir zaman	Bazen	Her zaman
1. Sadece olanları unutmaya çalışıyorum.			
2. Olanları unutmak için televizyon seyretmek ya da oyun oynamak gibi şeyler yapıyorum.			
3. Kendi kendime kalıyorum.			
4. Olan kötü şeyler hakkında konuşmuyorum.			
5. Olayların iyi yanlarını görmeyi deniyorum.			
6. Kendimi yaşanan bu kötü olaylara neden olmakla suçluyorum.			
7. Başkalarını yaşanan bu kötü olaylara neden olmakla suçluyorum.			
8. Kötü şeylerin üstesinden gelmek için çözümler düşünüyorum.			
9. Kötü şeylerin üstesinden gelmek için birşeyler yapıyorum ya da birileriyle konuşuyorum.			
10. Bağırıp çağırıyor, çılgına dönüyorum.			
11. Kendi kendimi sakinleştirmeye çalışıyorum.			
12. Kötü şeylerin hiç olmamış olmasını diliyorum.			
13. Olanları değiştirebilmeyi diliyorum.			
14. Ailem, büyükler ya da arkadaşarımla zaman geçirerek kendimi daha iyi hissetmeye çalışıyorum.			
15. Hiçbir şey yapmıyorum, çünkü kötü şeylerin oluşu durdurulamaz.			

APPENDIX H
DURUMLUK KAYGI ÖLÇEĞİ (STAI)

AÇIKLAMA: Aşağıda kişilerin kendilerine ait duygularını anlatmada kullandıkları bir takım ifadeler verilmiştir. Her ifadeyi okuyun, sonra da **o anda** kendinizi nasıl hissettiğinizi gösteren ifadelerden uygun olanını işaretleyin. Doğru ya da yanlış cevap yoktur. Herhangi bir ifadenin üzerinde fazla zaman kaybetmeden **anında** nasıl hissettiğinizi gösteren cevabı işaretleyin.

	Hiç	Biraz	Oldukça	Tamamen
1. Şu anda sakinim	()	()	()	()
2. Kendimi emniyette hissediyorum	()	()	()	()
3. Şu anda sinirlerim gergin	()	()	()	()
4. Pişmanlık duygusu içindeyim	()	()	()	()
5. Şu anda huzur içindeyim	()	()	()	()
6. Şu anda hiç keyfim yok	()	()	()	()
7. Başıma geleceklerden endişe duyuyorum	()	()	()	()
8. Kendimi dinlenmiş hissediyorum	()	()	()	()
9. Şu anda kaygılıyım	()	()	()	()
10. Kendimi rahat hissediyorum	()	()	()	()
11. Kendime güvenim var	()	()	()	()
12. Şu anda asabım bozuk	()	()	()	()
13. Çok sinirliyim	()	()	()	()
14. Sinirlerimin çok gergin olduğunu hissediyorum	()	()	()	()
15. Kendimi rahatlamış hissediyorum	()	()	()	()
16. Şu anda halimden memnunum	()	()	()	()
17. Şu anda endişeliyim	()	()	()	()
18. Heyecandan kendimi şaşkına dönmüş hissediyorum	()	()	()	()
19. Şu anda sevinçliyim	()	()	()	()
20. Şu anda keyfim yerinde	()	()	()	()