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Preparing the family and children for surgery

Ahmad Al-Sagarat

Mutah University, aa967@uow.edu.au

Haytham Mohammad Al-Oran

Ministry Of Health and Primary Center Health Care

Hala Obeidat

Mutah University

Adlah Mohammad Hamlan

Mutah University

Lorna Moxham

University of Wollongong, lmoxham@uow.edu.au

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Preparing the family and children for surgery

Abstract

The focus of this literature analysis is the concept of preparing the family and children for surgery. As posited in the literature, surgery causes stress and anxiety that have a negative impact on both parents and their children. Therefore, the need for health care professionals to facilitate positive preparation for surgery to minimize anxiety and enhance postoperative recovery is important. Preparing the family and children for surgery is discussed in depth under the following themes: Preoperative Anxiety in Children, the Impact of Preoperative Anxiety on the Pediatric Patients and Parents, Preoperative Psychological Preparation for Children and Parents, and the Role of Nurse Practitioners in Preoperative Preparation. Through reviewing the literature, it would appear that some areas of preparation for parents are not as sufficient as they could be, particularly with regard to adequate preoperative education programs. The majority of studies reported that therapeutic play and clown interventions used for psychological preparation of parents and their children have been effective in minimizing and decreasing anxiety levels.

Keywords

children, surgery, family, preparing

Disciplines

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The focus of this literature analysis is the concept of preparing the family and children for surgery. As posited with the literature, surgery causes stress and anxiety that has a negative impact on both parents and their children. Therefore, the need for health professionals to facilitate positive preparation for surgery to minimize anxiety and enhance post operation recovery is important.

Preparing the family and children for surgery is discussed in depth under the following themes: Preoperative Anxiety in Children, the Impact of Surgery on the Pediatric Patient and Parent, Preoperative Psychological Preparation for Parents and their Children, and the role of Nurse Practitioners in Pre-operation Preparation. Through reviewing the literature, it would appear that some areas of preparation for parents are not as sufficient as they could be, particularly with regard to adequate pre-operative education programs. The majority of studies reported that therapeutic play and clown interventions used for psychological preparation of parents and their children have been effective in minimizing and decreasing anxiety levels.

Keywords : preoperative preparation, pediatric day surgery, , children preoperative anxiety, day surgery, preoperative education, surgery, preoperative anxiety, therapeutic play intervention , and clown intervention

Preparing the family and children for surgery

Surgery is a potentially stressful and threatening experience for both parents and their children, regardless of whether it is during an operation or the preoperative period. (Frisch et al., 2010; Lee et al., 2013; Rasti, Jahanpour, & Motamed, 2014). Physiological and psychological health needs of children are significantly different from adults. Children are vulnerable to stress and anxiety surrounding surgery because of the limits of their cognitive functioning, lack of self-control, reliance on others, as well as limited experience and knowledge about health care (Perry, Hooper, & Masiongale, 2012; Lee et al., 2013; Dionigi, Sangiorgi, & Flangini, 2014; Rasti, Jahanpour, & Motamed, 2014). Additionally, children have a limited ability to understand the reason for surgery, which can contribute to their anxiety, fright, anger, and feelings of helplessness (William et al., 2007). Parents also experience anxiety and stress, which could be transferred to children indirectly. Therefore, prior to surgery, families and their children need to be well prepared to minimize their anxiety, enhance their feeling of control, and promote postoperative recovery (Frisch et al., 2010). The needs of children undergoing surgery are different to those of adults. This special population are a vulnerable client group as they differ emotionally, psychologically and physiologically from adults. (Lee et al., 2013). This article focuses on investigating preparing children and families for surgery.

Literature Search Strategy:

In order to find relevant literature on this topic, the author/s searched electronic medical and health care databases, including CINAHL, Ovid, PubMed, and

EBSCO host. This search strategy revealed that most of the literature was found through EBSCO host.

The following search terms were used as keywords: “preoperative preparation,” “pediatric day surgery,” “pre-surgical preparation programs for children,” “children preoperative anxiety,” “day surgery,” “preoperative education,” “surgery,” and “preoperative anxiety.” The search strategy identified 71 relevant articles; 62 articles were quantitative, four articles were qualitative and five were meta-analyses. All of the identified articles were reviewed, and after analysis 48 articles were included as they had a direct connection to the topic.

Literature review themes:

After an integrative review of the literature, all of the identified relevant articles were extensively reviewed to ascertain themes related to preparing the family and children for surgery. Three themes were identified: Preoperative Anxiety in Children, the Impact of Preoperative Anxiety on Pediatric Patients and Parents, and Preoperative Psychological Preparation for Children and Parents .

Preoperative Anxiety in Children

Anxiety is a basic human reaction to impending danger or illness, or a response to any unknown situation (Bailey,2010) . Although preoperative anxiety is considered a normal part of the preoperative experience, it is a pervasive problem with regard to health outcomes and the most common experience of children when confronting surgery or medical procedures (Li, Lopez & Lee, 2007; Vagnoli, Caprilli, & Messeri, 2010; Bailey, 2010). According to Pritchard (2009), anxiety is “a common phenomenon and is accepted as a normal response in anticipation of a surgical or invasive procedure.”

Children and their parents experience significant anxiety and distress during the preoperative period (Lee et al., 2013; Fernandes, Arriaga, Esteves,

2014). The literature frequently describes these responses as “psychological upset” or “emotional distress,” which vary in characteristics and intensity (Kain et al., 2009; Pritchard, 2009; Fortier et al., 2010; Bailey, 2010; Rasti, Jahanpour, & Motamed, 2014). Pritchard (2009) emphasized that the preoperative anxiety response includes both physiological and psychological reactions in the human body. Physiological responses include increased heart rate, elevated blood pressure, elevated body temperature, and sweating. Psychological responses include changes in behavior such as restlessness, crying, nervousness, fear, strong verbal protest, withdrawal from human interaction, and decreasing communication (Vaezzadeh et al., 2011; Lee et al., 2013; Rasti, Jahanpour, & Motamed, 2014; Messina et al., 2014).

Numerous factors can contribute to surgical anxiety for pediatric patients and their parents. These include but are not limited to, separation from parents and siblings; pain or discomfort; lack of control; fear of unfamiliar hospital staff and environment; and fear of induction anesthesia (Perry, Hooper, & Masiongale, 2012; Rasti, Jahanpour, & Motamed, 2014; Dionigi, Sangiorgi, & Flangini, 2014). Furthermore, the association between temperament and behaviors in children with preoperative anxiety was examined by Wright, Stewart and Finley (2013). In their study, 61 children who were undergoing day surgery completed the Emotionality, Activity, Sociability, and Impulsivity (EASI) temperament survey; the modified Yale Preoperative Anxiety Scale (MYPAS); and the Connors’ Parent Rating Scale–Revised: Long Form (CPRS–R:L) to examine symptoms of cognitive problems, oppositional behavior, perfectionism, social problems, psychosomatic complaints, anxiety-shyness, and hyperactivity-impulsivity. Additionally, data on age and gender were also collected. Results revealed that the temperament and behavior of the child was

significantly associated with preoperative anxiety. In addition, the results indicated no significant relationship between preoperative anxiety and predictor variables (age and gender).

Regarding perioperative anxiety, Fortier et al. (2010) conducted a study to identify perioperative anxiety among children who were undergoing surgery and risk factors which correlated with anxiety levels throughout the perioperative period. In their study, 261 children between 2–12 years old who were undergoing tonsillectomy and adenoidectomy surgery were included. The child's age, gender, previous surgeries, behavior and temperament were examined as predictors of perioperative anxiety. Parent predictors were also examined, as well as age, monthly income and anxiety levels. The research team utilized the MYPAS, the Numeric Rating Scale (NRS), the EASI Instrument of Child Temperament, the Child Behavior Checklist (CBCL), the Visual Analog Scale (VAS), and the State-trait Anxiety Inventory (STAI) to measure parent anxiety level. Results revealed that anxiety levels among children who were undergoing surgery increased significantly prior to surgery. Further, the results suggest that low child sociability and high anxiety levels among parents were significantly associated with higher levels of perioperative anxiety. Consequently, children and their parents need to be well prepared before surgery, and minimizing their level of anxiety should be a central goal of preoperative preparation. Moreover, health care teams should anticipate preoperative anxiety in both parents and their children as a normal aspect of the surgical experience (Justus et al., 2005). A critique of the literature on preoperative anxiety identified a limitation in the methodology of previous studies regarding the environment inside the operation room as a predictive factor affecting child anxiety.

Impact of Preoperative Anxiety on Pediatric Patient and Parent.

Surgery causes psychological distress for both pediatric patients and their parents, manifesting in various emotional states, including anxiety, fear and depression (Fortier et al., 2010; Frisch et al., 2010; Perry et al., 2012) . In addition, surgery produces many physiological, cognitive, emotional, and behavioral changes which can persist beyond the immediate preoperative phase (Lee et al., 2013).

In this regard, Scrimin et al. (2009) investigated the effect on parents (n=154) of children who were undergoing surgery by examining factors that contribute to parents' anxiety and stress within the first 24 hours after their child had surgery. The study results revealed that parents reported significantly high levels of anxiety and stress. In addition, the results indicated that the gender of parents, the type of surgery the child was having, the education level of the parents, and social support were significantly correlated with parents' anxiety and stress.

Additionally, preoperative anxiety showed an increase in the need for anesthesia, with delayed anesthesia induction and an increase of anesthetic risk, provoking the release of stress hormones, which can impact upon postoperative recovery such as respirations, increased risk for pulmonary problems, decreasing activity levels,; increased risk of thrombosis, and increased risk for bowel problems (Bailey, 2010). The association between preoperative anxiety and cooperation of children during induction and the postoperative period was examined by Li and Lam (2003). The study sample consisted of 112 children who were admitted for circumcision surgery. The results of this study revealed that parents' high anxiety levels were associated with their children's high

anxiety levels. Results suggested that children who reported high levels of preoperative anxiety were less cooperative during anesthesia induction.

Kain et al. (2006) studied the association between preoperative anxiety and the postoperative recovery process. In their study, 241 children who were undergoing tonsillectomy and adenoidectomy surgery were included. Results revealed that preoperative anxiety among children who were undergoing surgery was significantly associated with painful postoperative recovery and also sleep problems.

The relationship between preoperative anxiety levels and postoperative nausea and vomiting was studied by Musaid (2012) using a cross sectional cohort design. 51 children (aged 5-16 years) who were undergoing surgery were included, with anxiety levels measured using the State-Trait Anxiety Inventory for Children (STAI). The researchers found that 65% of the study sample reported nausea and 41% reported vomiting in the postoperative period. Overall, children who vomited in the postoperative period were less anxious in the preoperative period, which indicated no significant relationship between anxiety in preoperative and postoperative nausea and vomiting. Consequently, it is vital to identify factors that contribute to parents' anxiety and stress. The impact of surgery on parents and their children should be an important consideration when interacting with parents and their children to provide appropriate support, orientation and education to maintain parent and child wellbeing and to minimize anxiety levels (Li & Lam 2003; Scrimin et al., 2009; Pritchard 2009).

Preoperative Psychological Preparation for Children and Parents

Psychological preparation refers to preparedness - both mental and emotional - of a child who is undergoing major medical invasive procedures or minor operation.(Matsumori, 2014). The main goals of preparation include:

minimizing anxiety levels, improving post operation adjustment, familiarizing the patient with the surgical procedure, preventing the negative impacts of surgery, dealing with future traumatic experiences, building a trusting relationship between the family and health care team, and enhancing coping strategies for patients and their parents (Vaezzadeh et al., 2011; Fincher et al., 2012; Athanassiadou et al., 2012; Matsumori, 2014).

Contemporary health care practice would suggest that preoperative psychological preparation for surgery is common. But it is often focused on the child and parents are often only indirectly involved in these interventions (Kain et al., 2007; Yip et al., 2009; Chundamala et al., 2009). Matsumori (2014) conducted a survey to identify awareness among health care professionals regarding preoperative psychological preparation by investigating the prevalence of psychological preparation among children who were undergoing surgery. A total of 178 physicians and 291 nurses completed a self-administered survey. Results indicate that 90% of participants were aware of psychological preparation, but felt that preparation depended on the child's age. In this study, the results indicated preparedness and orientation mainly focused on parents and not the child. This paper asserts that intervention should not be compartmentalized and that both the family and the child should be prepared.

Consistent with previous studies (Li, Lopez & Lee 2007; Fincher et al., 2012), Cuzzocrea et al. (2013) evaluated the effectiveness of preoperative psychological preparation on anxiety levels among parents and their children who were undergoing surgery. They measured behaviors with the Induction Compliance Checklist, the modified Yale Preoperative Anxiety Scale (mYPAS), and the Pre-operative Anxiety and Information Scale for mothers. A total of 50 children and their mothers were randomly assigned to one of two

groups: a control group without any preparation, or an experiential group which received a preoperative psychological preparation program and support from a psychologist. Results revealed that children who received a preparation program were less anxious and more cooperative during anesthesia induction and that the mothers of these children were also less anxious and reported significantly greater satisfaction.

This integrative review of the literature, extensively analyzed articles related to preoperative preparation for parents and their children. This resulted in three themes being identified: information preparation, therapeutic play, and clown interventions.

Information preparation

Education is an effective method for improving and enhancing knowledge and attitudes, not only for parents, but also their children (He et al., 2015). Information provided by health care professionals takes two forms: verbal or written (Spencer & Franck 2005). The most common types of information provided during preparation for surgery include procedural content (what happens) and sensory (what will it feel like) (Maclaren & Kain 2007). Regarding the time health care professionals spend with families, Kain et al. (2009) study suggests that healthcare providers only spent 2.75 – 4.81 minutes interacting with parents and children in the preoperative area.

He et al. (2015) conducted a study to evaluate the effectiveness of preoperative information for parents and their children who were undergoing surgery. A total of 162 participants were included. They randomized participants to a control group who received routine care, or an intervention group, who received an educational program intervention and routine care. Results indicated that parents who received the education program reported

greater satisfaction, more knowledge, and improved attitude and behavior related to postoperative pain management.

McEwen et al. (2007) evaluated the effectiveness of videotaped preoperative information on parents' anxiety levels. 111 parents participated of which . 56 were placed in a control group and 55 were placed in the intervention group. Parents who were randomized into the intervention group watched an information video about surgical procedures for eight minutes. The study results revealed that parents who watched the preoperative information video reported lower anxiety levels. Wakimizu et al. (2009) studied the effectiveness of psychological preparation for parents and their children at home. In their study, 161 participants were randomly assigned to one of two groups. Both groups viewed an education video at home prior one week to hospitalization. 81 were placed in a control group without any further education preparation and 77 were in the intervention group who watched the same video again at home and at day of surgery. The results showed that psychological preparation at home was effective in reducing anxiety levels among both parents and their children and provided them with more information about surgery.

Conversely, Hee et al (2012) conducted a study to evaluate the effectiveness of preoperative anesthetic education on anxiety levels among children undergoing general anesthesia. 100 children between the age of 6 to 15 years. were placed in a control group (n=50) or an experimental group (n=50). Results revealed no difference in anxiety behavior at induction of anesthesia between the two groups. Similarly, Li (2005) examined the impact of information preparation for pediatric day surgery. The study revealed no

difference in anxiety levels between pre and post operation even though participants had been given information before surgery.

Consistent with the previous studies (Brewer et al., 2006; Li, Lopez, & Lee, 2007; Li & Chung, 2009), Vaezzadeh et al. (2011) compared preoperative information and therapeutic play, with results revealing that the provision of preoperative information was less effective than therapeutic play. On the other hand, an integrative literature review reported that preoperative information and distribution of information within leaflets reduced parents' anxiety levels and increased satisfaction toward the quality of health care provided (Spencer & Franck 2005; Smith & Callery 2005).

Therapeutic play intervention

Erikson (1963) reported that Play is the beginning form of the child ability and way of communication to master reality by planning and experimenting, and provides them opportunities to develop mastery of self and the environment. Specifically though, therapeutic play is defined as a set of structured activities designed to educate, prepare children psychologically for medical procedures and minimize their negative emotional experience that associated with hospitalization (Li, Lopez, & Lee, 2007; Li & Lopez, 2008). The goals of therapeutic play are to facilitate emotional comfort and physical well-being for children undergoing surgery, facilitate communication between health care professionals and parents, minimize children's anxiety levels and decrease children's negative emotional responses pre and post operation (Li & Lopez 2008; Vaezzadeh et al., 2011; He et al., 2015).

Therapeutic play interventions included preoperative tour visits to the operating theater where children are encouraged to touch and explore the various pieces of equipment that are available such as cardiac monitors and

leads, pulse oximeters, intravenous equipment and oxygen masks and medical procedure demonstrations on dolls (William et al., 2007; Kain et al., 2007; Li & Lopez, 2008). Although parents do not directly participate in therapeutic play activities, they benefit from watching the activities and the explanations that were given to their children and this resulted in them feeling comfortable and well informed about the surgery. Parents' involvement in therapeutic play interventions enhance their perceptions of professional competence and quality of care (Li & Lopez 2008).

Florance Erickson (1958), pioneer of therapeutic play, conducted a study which concluded that preschool-aged children who had participated in therapeutic play with clinical equipment and a demonstrative procedure doll, appeared calmer, more cooperative and better able to express feelings about hospital experiences. Li et al. (2007) conducted an experimental study to discover how therapeutic play interventions affect anxiety levels among children undergoing surgery. Therapeutic play included doll demonstrations, and tour visits to the operating theatre. Children who received the therapeutic play intervention felt less anxiety. In this context, Li and Lopez (2008), conducted a study to evaluate the effectiveness of therapeutic play in preparing children and their parents for surgery. The therapeutic play intervention used included parents and their children visiting the operating theatre, and children seeing a demonstration of the surgical procedure performed on a doll. The results suggest that children who participated in the therapeutic play interventions had lower anxiety levels in the pre- and post-operative periods and that their parents felt more comfortable, satisfied and well-informed. This is consistent with previous studies by Li et al., (2007), William et al., (2007), Li and Lopez, (2008) and Vaezzadeh et al., (2011), He et al. (2014) also studied

the effectiveness of therapeutic play interventions on preoperative anxiety levels among parents and their children. They used the State Anxiety Scale for Children and Adults to measure anxiety levels. A total of 106 parents were randomly assigned to one of two groups: a control group (n=53) who received routine surgical preparation and an experimental group (n=53) who received therapeutic play prior to surgery (visit tour, watching video and photo file of operation room, doll demonstration) and routine preparation. Results revealed that parents and their children who received therapeutic play interventions reported lower levels of anxiety.

Clown Intervention

Clown therapy is a contemporary and effective method used to decrease levels of preoperative anxiety not only among children, but also their parents (Vagnoli, Caprilli & Messeri 2010; Fernandes & Arriaga 2010). Increasingly there are a wide range of studies that demonstrate the efficacy of clown therapy prior to surgery in diminishing fear, stress and other emotional problems among children (Vagnoli, Caprilli, & Messeri 2010; Dionigi, Sangiorgi & Flangini 2014; Agostini et al., 2014).

Agostini et al. (2014) conducted a randomized controlled study to investigate how clown interventions affect anxiety levels among parents and their children. 50 participants were assigned randomly to one of two groups. 25 were allocated to a control group without interventions and 25 to an experimental group which received the clown intervention. Results revealed children in the clown intervention group felt less anxiety as did the mothers of children who received the clown intervention. Similarly, Yun et al. (2015) conducted a quasi-experimental study to evaluate the effectiveness of clown interventions prior to surgery on anxiety levels among parents and their children. 50 children and their

parents were included and were assigned randomly to one of two groups: 27 to the control group and 23 to the intervention group. The authors found that preoperative clown interventions were effective in decreasing anxiety levels among parents and their children. These results were also found in an earlier study by Fernandes and Arriaga (2010) who suggest that the use of preoperative clown interventions is effective for decreasing anxiety levels not only for children, but also for their parents.

Golan et al. (2009) conducted a study to compare the efficacy of clown interventions and midazolam. A total of 65 participants were assigned randomly to one of three groups: group 1 (n=22) received midazolam via oral route, group 2 (n=21) received the clown intervention in the preoperative area and inside the operation room, and group 3 (n=22) did not receive any interventions. Results indicated that the group who received the clown intervention were less anxious than the other groups and further that preoperative clown interventions were more effective than administering midazolam. Similarly, Vagnoli, Caprilli, and Messeri, (2010) conducted a study to examine which preoperative intervention is more effective regarding preoperative anxiety levels. The study sample consisted of 75 children who undergoing surgery aged between 5 to 12 years. They were assigned randomly to one of three groups: group 1 (n=25) received oral midazolam with the presence of their parent during induction, group 2 (n=25) received the clown intervention with the presence of their parent in both the preoperative and operation rooms and group 3 (n=25) did not receive any intervention – they were just accompanied by one parent in the operation room. The study revealed that the clown intervention was the most effective method used to decrease preoperative anxiety levels among children and their parents.

Conclusion

Parents and their children experience anxiety and stress during the preoperative period. The purpose of this literature review was to investigate how preoperative preparation for children and their parents before surgery can impact on anxiety levels, enhancing their coping and promoting post-operative recovery. Factors contributing to the anxiety levels and emotional distress of parents and their children included un-familiarity with the surgical setting, threatening medical equipment, painful procedures, and inadequate preoperative preparation.

Nurses need to understand the emotional and psychological responses of parents and their children who are undergoing surgery. This will enable the development of interventions that reduce parental and child anxiety and enhance coping strategies with regard to the stress of surgery and associated procedures. Currently, interventions like an information approach, therapeutic play and clown interventions have demonstrated efficacy in minimizing anxiety levels and enhancing post-operative outcomes when given preoperatively.

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