

Perioperative Information and Parental Anxiety: The Next Generation

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Patients are frequently dissatisfied with the lack of procedural information they are offered by their physicians (1–3). Investigations that specifically focused on provision of surgical and anesthetic facts revealed a strong desire for more knowledge among patients in Canada, Scotland, and Australia (4,5). Two recent studies among American patients and parents revealed a very strong desire for perioperative information, even greater than that reported previously for non-American populations (6,7). Many anesthesiologists may withhold information because of a belief that details will induce anxiety in their patients, and early studies in this area supported this belief. Alfidi (8) found that although most patients were satisfied when they received more detailed information about the risks of angiography, up to 35% of patients were made uncomfortable by the information. Similarly, in a study by Miller and Mangan (9), adult patients who were given extensive information preoperatively were more tense, depressed, and uncomfortable. More recent reports, however, disagree with the previous studies (6,7,10–12). No increase in preoperative anxiety was demonstrated in a study of British and Scottish men undergoing elective herniorrhaphy when presented with detailed risk information or in Danish patients undergoing general anesthesia (10,11). Likewise, in three recent studies performed in Australia and the United States, patients and parents who received detailed information, including numerical estimates of anesthesia-related complications, were no more anxious than those given minimal information regarding risks (6,7,12).

Parental preoperative anxiety is of particular importance for the anesthesiologist as increased parental anxiety has been shown to result in increased anxiety in their children (13). This heightened anxiety response, in turn, leads to immediate postoperative maladaptive behavioral responses, such as nightmares,

separation anxiety, eating disturbances, and new-onset enuresis (13–15). Indeed, recent reports suggest that up to 54% of all children undergoing general anesthesia develop new negative behaviors after surgery (13–15). Although multiple interventions are available to reduce a child's anxiety, there is a paucity of interventions directed toward reduction of parental anxiety. Given the strong correlation between a child's and parent's anxiety, this is clearly a problem. Preoperative preparation programs have been demonstrated to be efficacious in treatment of parental anxiety on the day of surgery (16). These programs, however, can be very expensive. Thus, there is a need for the development of inexpensive alternative treatment modalities, such as videotapes.

In this issue of the Journal, Cassidy et al. (17) report that a preoperative educational videotape can improve parental knowledge and decrease parental anxiety before pediatric ambulatory surgery. To evaluate whether parental knowledge has indeed improved, the authors developed a validated and reliable instrument to assess parental perioperative anesthetic comprehension in a companion study (18). The strengths of these two studies include rigorous study design, use of state of the art validated psychological instruments, and a randomized trial design with an appropriate control group. However, to apply the results of these studies to our routine clinical practice, the methodology used must be carefully analyzed.

First, although 142 parents met all eligibility criteria for participation, only 85 parents agreed to enroll in the study, and no demographic data are reported for the patients who refused participation ($n = 57$). This raises the possibility of a selection bias. The parents who agreed to participate in the study may have a socioeconomic and educational profile different from that of parents who did not agree to participate. Thus, the question of external validity and the applicability of the results to the general American population can be raised. This concern, however, may be addressed by analysis of the videotape using the Flesch Readability formula (19). If the educational level of the videotape is in the standard range (equivalent to 7–8

Accepted for publication November 10, 1998.

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yr of education), we can conclude that it is appropriate for the general population.

Individuals use different strategies to cope or to handle difficult, unclear, or unpleasant life experiences, such as surgery (20). Although some people try to avoid information about unpleasant or unclear situations (avoidance), other may seek any available information (monitoring) (20). Therefore, it is plausible that parents with an avoidance coping style declined participation in the study and that parents with monitoring coping style agreed to participate in the study. Thus, it is unclear whether videotape has anxiolytic effects on all parents or only on parents with a monitoring coping style. The issue of coping style must be introduced as a covariate in future investigations.

As the authors themselves indicated, parental knowledge and anxiety was assessed only immediately after viewing of the videotape several days before surgery, not on the day of surgery. Thus, the more important clinical question of whether the informative and anxiolytic effects of the videotape were sustained throughout the perioperative period is not known. In view of increased parental anxiety as the time of surgery nears, it may be that an anxiolytic intervention that was effective several days before surgery is not effective on the day of surgery (6).

Cassady et al. challenge our thinking regarding parental anxiety and preoperative preparation programs. For example, is the reduction of parental anxiety during the preoperative period a surrogate outcome? That is, perhaps rather than evaluating the effects of various preoperative interventions on the transient preoperative behavior, we should concentrate on research directed to demonstrating that reduction of preoperative anxiety can change postoperative outcomes. Four decades ago, Janis (21) proposed that moderate levels of preoperative anxiety are associated with good postoperative behavioral recovery, whereas low and high levels of preoperative anxiety are associated with poor behavioral recovery. Although Janis' theory is appealing, his studies were based on descriptive data from nonrandom, limited samples and retrospective reports of questionable validity. Subsequent studies have been critical of Janis' methodology and have indicated that low levels of preoperative anxiety are associated with good postoperative behavioral recovery, whereas moderate and high levels of preoperative anxiety are associated with poor postoperative behavioral recovery (22,23). A far more intriguing question is the possible association between preoperative anxiety and the postoperative clinical recovery. Several cross-sectional cohort studies in adults have demonstrated that the degree of preoperative anxiety is correlated to postoperative outcomes, including pain and analgesic requirements and prolonged recovery and hospital stay (22,24-26). Most of these studies, however, have multiple methodological

flaws. In children, there are no published outcome data regarding a possible association between preoperative anxiety and postoperative clinical recovery. Thus, valid research must be developed in this area.

It is also important to emphasize that the educational videotape described by Cassady et al. may have advantages besides anxiety reduction and increased anesthesia knowledge. First, anesthesiologists have a moral obligation to the process of informed consent. Providing information regarding the planned anesthetic is definitely part of that process. Second, patient satisfaction is another outcome that may be affected by this educational videotape. With the increasing competition for patients among hospitals and health maintenance organizations, satisfying our patients becomes even more important. Finally, this videotape gives us an opportunity to educate the general public about the important role of the anesthesiologist during surgery.

In conclusion, the work of Cassady et al. (17,18) is important because it highlights two important issues. First, before using a newly created behavioral assessment instrument, the reliability and validity of the instrument must be documented. Second, information given to a parent during the preoperative visit may reduce parental anxiety and improve parental knowledge regarding anesthesia.

The author thanks Paul G. Barash, MD, for his critical review of this editorial.

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