The Evaluation of Video Teaching on Preoperative Anxiety in the Outpatient Pediatric Surgical Patient

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Background

- Each year, more than 5 million children undergo surgery in the United States, of which up to 75% experience preoperative anxiety (Perry, Hooper, & Masiongale, 2012)
- Preoperative anxiety is shown to prolong patient recovery, hospitalization, and wound healing, increase use of narcotics and anesthesia, and impact patients' ability to understand healthcare information (Wotman et al., 2017).
- Additionally, "preoperative anxiety in children is associated with a number of unfavorable postoperative outcomes such as increased distress in the recovery phase and postoperative regressive behavioral disturbances such as nightmares, separation anxiety, eating disorders, and bedwetting" (Perry, Hooper, & Masiongale, 2012, p. 69).
- Proper preoperative education can greatly reduce preoperative anxiety for both patients and families (Kassai, B. et al., 2016).
- Video-based preoperative information is shown to alleviate preoperative anxiety in adult patients undergoing spinal anesthesia (Cakmak et al., 2018)

References

Cakmak, M., Kose, I., Zinzircioglu, C., Karaman, Y., Tekgul, Z. T., Pektas, S., … Bozkurt, P. S. (2018). Effect of video-based education on anxiety and satisfaction of patients undergoing spinal anesthesia. *Brazilian Journal of Anesthesiology (English Edition)*, *68*(3), 274-279. doi:10.1016/j.bjane.2018.01.004

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Perry, J. N., Hooper, V. D., & Masiongale, J. (2012). Reduction of Preoperative Anxiety in Pediatric Surgery Patients Using Age-Appropriate Teaching Interventions. *Journal of PeriAnesthesia Nursing*, *27*(2), 69-81. doi:10.1016/j.jopan.2012.01.003

Wotman, M., Levinger, J., Leung, L., Kallush, A., Mauer, E., & Kacker, A. (2017). The Efficacy of Lavender Aromatherapy in Reducing Preoperative Anxiety in Ambulatory Surgery Patients Undergoing Procedures in General Otolaryngology. *Laryngoscope Investigative Otolaryngology*, *2*(6), 437-441. doi:10.1002/lio2.121

Purpose

- The purpose of this MSN Thesis was to evaluate the effect of preoperative video teaching on preoperative anxiety, as measured by the State-Trait Anxiety Inventory for Children (STAI-CH), in pediatric patients age seven to fourteen undergoing outpatient surgery at Monroe Carell Jr. Children's Hospital at Vanderbilt in Nashville, TN.

Sample

- Sixty patients undergoing outpatient surgery at Monroe Carell Jr. Children's Hospital at Vanderbilt in Nashville, TN were enrolled in the study.
- Thirty patients were randomized to the control group and did not watch the preoperative teaching video.
- Thirty patients were randomized to the study group and watched the preoperative teaching video.
- Patients were English-speaking children and ranged in age from seven years to fourteen years
- Subjects were excluded from the study for any of the following reasons: any child younger than age 7 or older than age 14; any parent or child that does not speak English; any child that has a genetic syndrome or developmental disability which could impact the ability to complete the State-Trait Anxiety Inventory for Children; patient is a current hospital inpatient, or will be admitted to the hospital following surgery

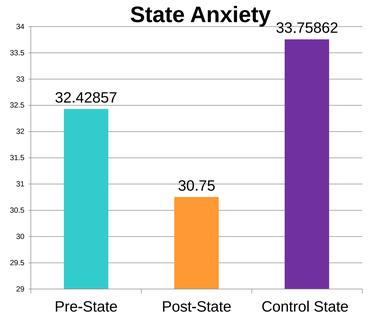
Methods

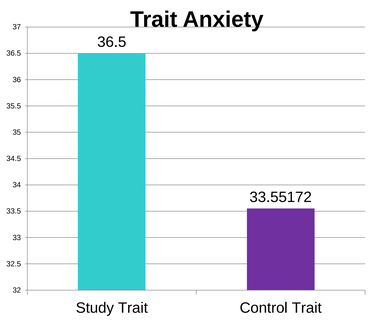
- Preoperative anxiety was measured using the State-Trait Anxiety Inventory for Children (STAI-CH), a 40 question survey that measures both State (S) and Trait (T) anxiety in school-aged children.
- The State-Anxiety Inventory consists of 20 questions that measure "how you feel right now, at this very moment."
- The Trait-Anxiety Inventory consists of 20 questions that measure "how you usually feel."
- The study operated as a two group, post-test comparison study, in which a convenience sample of participants were randomized to either the control or study groups. In addition, those watching the preoperative teaching video were analyzed as a pre-post comparison study of the effect of preoperative video teaching on a child's State-Anxiety.
- All patients enrolled in the study completed the STAI-CH survey, with the S-Anxiety Inventory administered first, followed by the T-Anxiety Inventory. Patients assigned to the study group then watched the preoperative teaching video. After viewing the video, participants in the study group again completed the S-Anxiety Inventory.

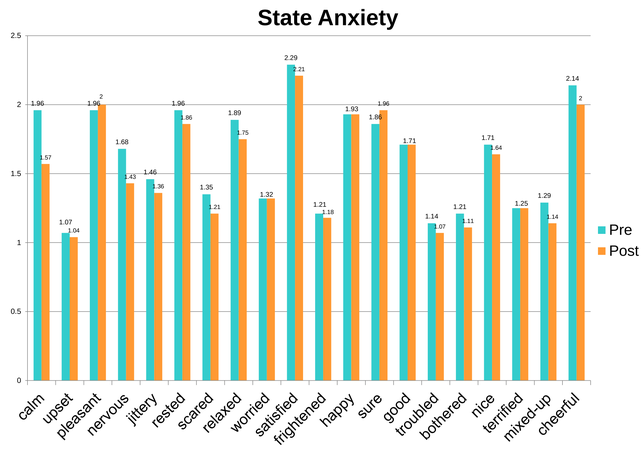
Study Material

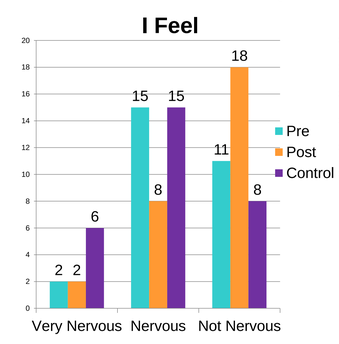
https://www.dropbox.com/s/hlo3454hwf924et/Jenn%20Glenn%20Vanderbilt%20Childrens%20Pre%20Op%20Video.mp4?dl=0

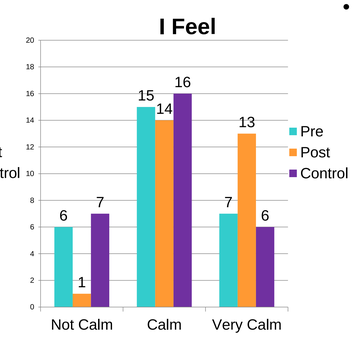
Results











Limitations

- Preoperative anxiety is multifactorial
- Length of STAI-CH survey
- Variations in level and type of previously provided preoperative education and preparation
- Covariate analysis is needed to assess differences in preoperative anxiety between patients that have had surgery before and those that are having surgery for the first time.
- Covariate analysis is needed to assess differences in preoperative anxiety between demographics such as age, sex, and scheduled surgery.

Conclusions

- Preoperative video teaching decreases overall preoperative state-anxiety in the outpatient pediatric surgical patient.
- 61% of patients that watched the preoperative video reported reduced preoperative anxiety after watching the video.
- On a 3-point Likert Scale where 1=Not Nervous, 2=Nervous, and 3=Very Nervous, level of nervousness decreased from 1.68 to 1.43 after watching the video.
- 92% of parents "agree" or "strongly agree" that preoperative video teaching is beneficial for their child.
- On a Visual Analog Scale from 0 to 100 where 0="No, I was Bored" and 100="Yes, it was fun", patients enrolled in the study rated their enjoyment of the video as a mean of 83.10

Implications for Nursing

- Preoperative video teaching can be used to reduce preoperative anxiety, and should be further evaluated for the effect on patient satisfaction and postoperative outcomes including pain and length of stay.
- Preoperative video teaching is inexpensive and convenient, and can decrease patient anxiety.
- Preoperative video teaching should not replace other forms of surgical preparation, but should be used in conjunction with current preparation and education.
- Preoperative video teaching may increase anxiety in certain patients and should be evaluated for use on an individual basis.
- Parental anxiety may also be influenced by preoperative video teaching, and should be evaluated in future studies.