Background

The Vecta mobile sensory station is a device created to help calm children with sensory processing disorders. It may include a bubble tube, colored lights, sound, projected images and fiberoptics. Perioperative areas are especially traumatic for all children. Research effort has gone toward comparing various methods of controlling children's anxiety in perioperative settings. Clowns and computer games have been shown to increase coping during induction of anesthesia and videos on iPads have been shown to decrease heart rate in children and increase cooperation prior to procedures, compared to no intervention. This was the first study done using a Vecta machine.

Aim

The Vecta station is designed for children with autism, who make up about 10% of surgical patients. This quality improvement project aimed to determine if the Vecta machine would improve patient experience in the perioperative unit of Ruby Memorial Hospital regardless of a sensory disorder.

Project Design

The Vecta station was implemented in WVU Children's Hospital. Patients were offered the station, either preoperatively or post-operatively. Patients and their parents were approached privately with the unit and given the opportunity to play with it. If they were interested, the machine was set up in the room adjacent to the gurney. Patient information (age, gender, time of admission, time of discharge, and procedure) were gathered by the survey administrator. The surveyor asked the patient’s nurse if pre-medications were administered, and if so, the route. After the patient was taken to the OR or discharged, the machine was removed from their room, and the caregiver was asked to fill out the “Parent Question” section of the Vecta IQ data form. The patient’s pre-op or post-op nurse then completed the pre-op or post-op nurse section of the survey. This study was approved by the institution’s IRB.

Outcomes

- All parents surveyed felt that the wait for surgery was manageable. This included 7 parents prior to implementation of the Vecta sensory station and 112 after.
- Patients were scheduled for ENT, eye, dental, or urological surgery or gastroscopy.
- 48 were female, 64 were male. Mean age was 4.7 years.
- 27 had autism or a behavioral disorder. 38% of these were given Versed, compared to 53% of those without behavioral disorders. (p=0.11)
- 71.4% of caregivers said the Vecta station helped pass waiting time a lot, 26.8% said the unit helped a little, and 1.8% said the unit did not help at all.
- Over 98% of caregivers said they would ask for the Vecta the next time their child needed surgery.
- 86.6% of nurse respondents felt that the unit was helpful. 1.8% said it interfered with their ability to deliver care for the patient.

Discussion

Children and parents clearly enjoyed using the Vecta station. Most nurses also felt that it was helpful. Our greatest problem was having manpower to administer the unit as it needed to be cleaned after each use. The station was on loan to us for a short time, so we were not able to involve enough children with autism to evaluate it specifically in that group. The amount of time spent with the Vecta station per child varied and this may have affected parents’ perception of its value. Also, multiple people administered the Vecta, so the introduction and directions regarding its features may have varied and also affected patients’ experience.

Next Steps

Our next step is to design an outcomes survey for the caregivers of patients with autism to see if the Vecta improves their in-hospital experience.

References


The team

Katharina Mitchell and Kristin Davis are 2nd year medical students at West Virginia University School of Medicine. William Kohler is an undergraduate student at St. Vincent College. Bridget Radmer is a child life specialist at WVU Medicine. Denise Holcomb is a perioperative nurse at WVU Medicine. Michele Carr is a professor in the Department of Otolaryngology–Head and Neck Surgery at West Virginia University.