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Supporting Adoption of Atraumatic Care by Rural Hospital Nursing Staff through Education

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NURS 783 DNP Project III

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Abstract

Problem Statement: While atraumatic care is often practiced in children's specialty hospitals, it is less likely to be a part of the care provided in rural hospitals (Li et al., 2018). Nurses in this setting may not feel equipped or supported to provide atraumatic care. **Purpose:** The purpose of this DNP Project is to support increased knowledge and utilization of atraumatic care by nursing staff providing care for pediatric patients in rural community hospital through a professional development education program. **Methods:** An educational program development project was created, implemented, and evaluated to support the utilization, awareness, and knowledge of atraumatic care among nursing staff in departments that interact with pediatric patients (emergency department, OR, outpatient surgery). The program was used during orientation for all nurses and nursing assistive personnel during a 3-month period. **Participant Inclusion Criteria:** All nursing staff (Registered Nurses, Licensed Practical Nurses, and Nursing Assistants) (n=18) during hospital orientation and annually all staff providing patient care for pediatric patients at Baptist Health Corbin. **Method:** A pre-survey (n=21) determined current knowledge base, and staff needs. The professional development intervention was based on this survey, extant evidence on atraumatic care, organizational needs and resources, and Family-Centered Care framework. Efficacy was determined by conducting a post-test and with a post-education program evaluation. All participants scored 90% or above on the posttest. The post-education evaluation supported an improvement in knowledge regarding atraumatic care strategies.

Keywords: pediatric population, atraumatic care, outlying hospital, developmentally specific care

Supporting Adoption of Atraumatic Care by Nursing Staff through Education

Atraumatic care is a general philosophy of providing therapeutic care that is defined in *Wong's Nursing Care of Infants and Children* as "care that minimizes the psychologic and physical stress that health promotion and illness can inflict" (Wong & Hockenberry, 2003). The Wong-Baker foundation is a leading care technique resource for nursing. The Wong-Baker FACES pain scale is widely used to assess pain in children and the foundation is also a leading expert in nursing education related to the specialty of pediatrics. The foundation exists to provide global access to Wong-Baker FACES Pain Rating Scale and to promote optimal pain assessment, pain management, and atraumatic care (Wong-Baker Faces Foundation, 2016).

While atraumatic care is encouraged for all providers that care for children, the focus of atraumatic care is on the care techniques provided by nurses and nursing assistive personnel. Atraumatic care is a therapeutic care service provided by nurses using interventions that can eliminate and minimize the experience of psychological and physical distress in children and families during the healthcare process (Handayani & Daulima, 2020). Atraumatic care within the framework of Family-Centered Care (FCC) effectively provides developmentally appropriate care for the pediatric population to reduce stress related to hospitalization. Key elements of atraumatic care include therapeutic play, distraction techniques, and nurse patient/parent relationships. Therapeutic play is an effective nondirective modality for helping children deal with their concerns and fears; at the same time, it often helps the nurse gain insight into children's needs and feelings (Hockenberry & Wilson, 2021). Therapeutic nurse to patient/parent relationships are meaningful with the child and the family to promote empowerment and control for the family as well as the child. Distraction is accomplished by focusing the child's attention on something other than the procedure or painful experience

(Hockenberry & Wilson, 2021). The overall goal in providing atraumatic care is as follows: First, do no harm. Three principles provide the framework for achieving this goal: (1) prevent or minimize the child's separation from family, (2) promote a sense of control by the child, and (3) prevent or minimize bodily injury and pain (Hockenberry & Wilson, 2021).

Today most pediatric health practitioners believe that Family-Centered Care is the best way to deliver care to children in hospitals, and in the wider health services. Although many say they believe they practice FCC, it is not implemented effectively (Joly & Shields, 2009). Family-Centered Care is characterized by a relationship between healthcare professionals and the family, in which both parties share the responsibility for the child's healthcare (Done et al., 2020). Patient- and family-centered care (PFCC) emerged as a concept only during the twentieth century second half, at a time of increasing awareness of the importance of meeting the psychosocial and developmental needs of children and the family's role in promoting the health and well-being of their children (Tripodi, et al., 2017). Ribeiro et al. (2016) noted that although the family can gain space for participation as it develops and dominates some knowledge about hospital care, the attitudes of nursing and health professionals can create an environment in which the family feels safe and strengthened to face the hospitalization of the child. Children cite attributes of an approachable nurse as smiling, happy, playful, creative, competent, and willing to talk and listen to them. Thus, the responsibility remains with nurses to create an environment where in hospitalized children feel their voices are heard, they are understood, and respected with unprecedented dignity (Petronio-Coia & Schwartz-Barcott, 2020).

Most atraumatic care strategies are provided by nurses and nursing assistive personnel; therefore, requires educational preparation and support regarding the principles and care strategies associated with atraumatic care. Specialized pediatric educational opportunities may

be available at minimal costs, including online, trainings at national meetings, or the use of simulation (Pilkey et al., 2019). Nurses who are caring for the pediatric population require the knowledge base and professional development support to provide care related to growth and development, cultural considerations, mental well-being as well as the physical conditions of the child. Basic communication skills based on the age of the child can drastically affect the child's response to the hospital environment. For example, the preschool age child interprets words literally, therefore the nurse must be very careful with the words that he/she chooses to explain procedures and interventions. Another key component of atraumatic care is distraction techniques. Many of these can be provided with a very cost-effective approach. For example, utilizing books for the child to read, music to listen, or using electronic devices such as iPads with games while undergoing procedures.

Review of Literature

The literature review consisted of atraumatic care strategies, patient/parent satisfaction with atraumatic care and the lack of atraumatic care being utilized in non-Children's hospitals. The search process included CINAHL, PubMed, and ProQuest. Keywords included: therapeutic play, distraction techniques, pediatric population, variations in care, quality care, creative play, hospitalized child, family centered care, atraumatic care, satisfaction, and children. The literature search found five hundred thirty-six articles and forty were selected for full reading/review. Inclusion criteria included operationalization of atraumatic care, time frame of 5 years, peer reviewed, benefits/barriers to this type of care, gaps in these care tactics, and support/education for nurses related to atraumatic care tactics. Twenty peer review articles published with the last five years were selected to be included in the literature review.

Leading experts in the care of pediatric patients endorse the utilization of atraumatic care tactics that support the child as well as the entire family. The American Academy of Pediatrics (AAP) and the Wong-Baker Foundation (Wong) support the utilization of atraumatic care within the framework of FCC to decrease stress for the child as well as the family during hospitalization. The American Academy of Pediatrics (2021) recommends promoting the development, dissemination, and implementation of evidence-based guidelines and other strategies to improve diagnostic accuracy, therapeutic effectiveness, and the minimization of unwanted variation in care in all hospital settings. The AAP promotes the utilization of atraumatic care strategies to increase therapeutic effectiveness and minimize variation in care for the pediatric patient. The Wong-Baker Foundation promotes the utilization of atraumatic care strategies through nursing education.

The atraumatic care assessed throughout the literature included therapeutic play, distraction techniques, and nurse patient/parent relationships. Dabas (2019) noted that atraumatic care is the provision of therapeutic care by health personnel through the use of interventions that eliminate or minimize psychological and physical distresses experienced by children and their families in the health care system. Creative play interventions are feasible nursing interventions that have a strong potential satisfaction with care by the child and family (Teksoz et al., 2017). Communication and the relationship of the parent and the pediatric patient with the nurse have also been noted as part of atraumatic care. Child comfort and nurse-patient communication are the most important dimensions of care noted by parents of the overall inpatient care for their children (Feng et al., 2020). The insertion of play activities in the process of care in pediatric nursing contributes to the reduction of the stressful effects of hospitalization and makes the care considerably easier and humanized (Paula et al., 2019) The conclusions

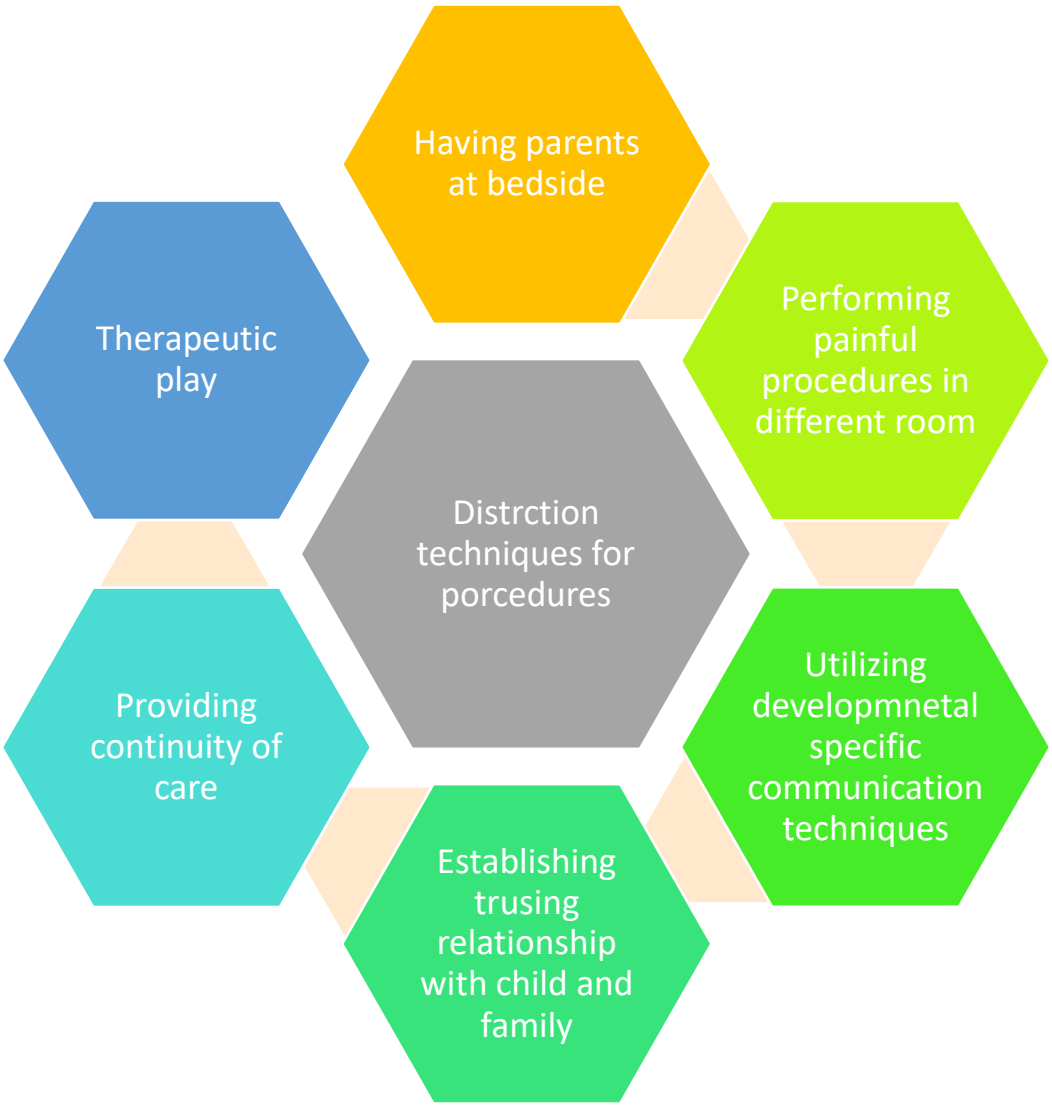
across the studies reviewed were similar, atraumatic care reduces the distress that the pediatric population experiences during hospitalization. While the literature notes limited implementation of atraumatic are in non-pediatric specialty hospital, some aspects of atraumatic care have been explored in the literature including play strategies, distraction, and nurse to patient/parent relationships. Atraumatic care strategies that were not noted in the literature review included medication strategies for painful procedures such as the utilization of EMLA cream for IV/blood draw sticks and guidelines for basic communication with children based on developmental level. For example, speaking directly to and including the school age child in the teaching and preparation for procedures, allowing the preschooler and toddler to touch the equipment before it is utilized, and performing most invasive assessments/procedures last for the infant.

Benefits of Atraumatic Care

It is well established that atraumatic care decreases psychological distress that can occur with hospitalization and painful procedures experienced by children. Girgin & Gol (2019) noted that distraction techniques such as balloon inflation, ball squeezing, and coughing were all effective in reducing pain and fear associated with venipuncture in children aged 7-12 years. Distraction techniques using toys is noted to be effective in reducing pain intensity during immunization among infants (Dabas, 2019). Distraction techniques including storytelling, pictures and coloring activities can be considered and efficient alternative to traditional pharmacological premedication for children undergoing day surgery (Al-Yateem, et al., 2016). The findings of this literature review support the practice of atraumatic care to reduce distress for this population. A collaborative effort between the nurse, parent, child life specialist, and other members of the child's health care team helps ensure the best possible hospital experience for the child and family (Hockenberry & Wilson, 2021).

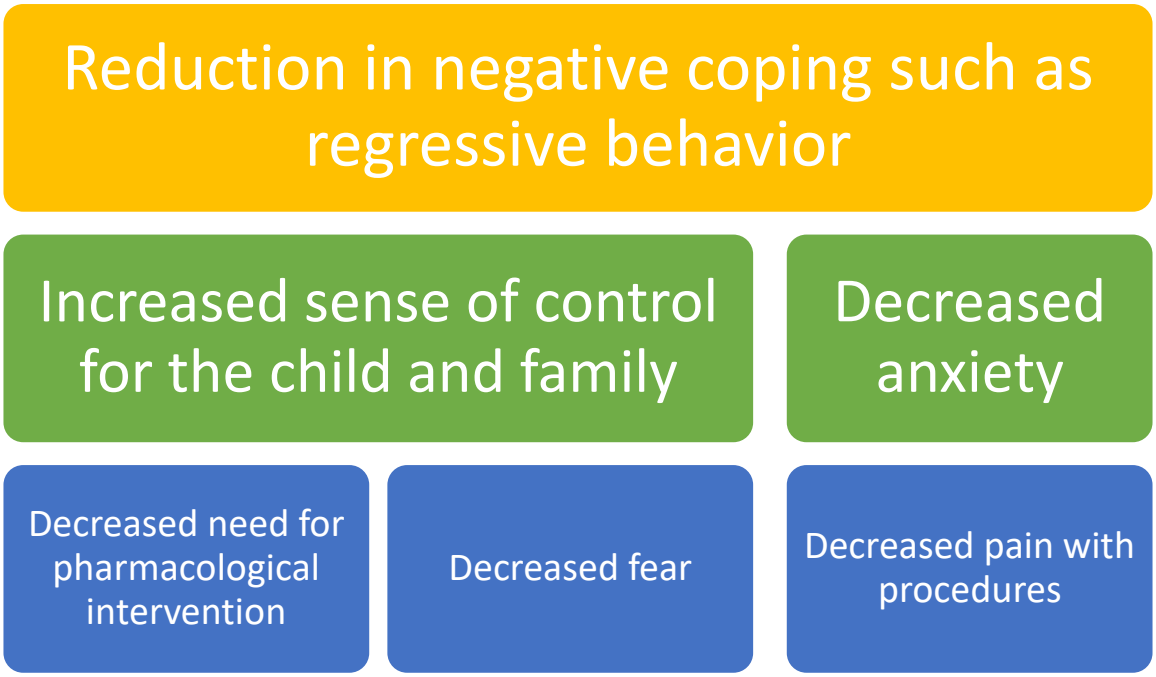
Children's hospitals provide developmental sensitive care that includes therapeutic play, distraction, and effective communication with patients and parents that ensures the least amount of distress possible for this vulnerable population. Strategies such as the use of play, toys, video games, painting, and music among others have been reported in the literature to achieve a lower level of anxiety and stress in hospital settings in general (Al-Yateem et al., 2016). Play is essential to children's mental, emotional, psychological, and social well-being and does not stop when a child is ill or hospitalized. Of all hospital facilities, the playroom or activity room alleviates the stressors of hospitalization (Hockenberry & Wilson, 2021). Pediatric nurses have been using play (even directed medical play) in their practices to provide therapeutic care and emotional support to children and their families for a very long time (Moore et al., 2015). Through play the child can feel more secure in the strange hospital environment, release tension, express feelings, and have the opportunity to make choices and be in control. The purpose of ensuring the parent's involvement in the care of their children is to develop mutual relationships among the health staff, the patients, and their families. This mutual relationship is believed to play a significant role in improving the quality and the safety of health care as well as the parent's satisfaction with the care (Cimke & Mucuk, 2017). The relationship between the nurse and the family is at the heart of atraumatic care as parental presence and involvement in care greatly reduces the anxiety and fear of the child. Figure 1 illustrates specific atraumatic care strategies for pediatric patients. Figure 2 illustrates the benefits of atraumatic care strategies.

Figure 1 Specific Atraumatic Care Strategies



(Al-Yateem et al., 2016); (Dantas et al., 2016); (Hockenberry & Wilson, 2021); (Moore et al., 2015).

Figure 2 Specific Benefits that Atraumatic Care Provide the Pediatric Patient



(Al-Yateem et al., 2016); (Dantas et al., 2016); (Hockenberry & Wilson, 2021); (Moore et al., 2015).

Operationalization of the Philosophy of Atraumatic Care

Several of the studies also addressed the utilization of atraumatic care strategies operationalized with nursing interventions. A study conducted by Dantas et al. (2016) explored the reactions of children during intravenous drug administration before and after the use of therapeutic play technique and analyzed their companions' perceptions regarding effects on the child's preparation for intravenous drug administration and recommended the utilization of the technique to improve care and reduce stress during drug administration. Teksoz et al. (2017) investigated the impact of creative play on the satisfaction of children/parents and determined that creative play enhanced patient satisfaction scores and recommended the use in routine care for children. Al-Yazeem et al. (2016) explored the efficacy of storytelling, pictures, and coloring

activities as an anxiolytic intervention in comparison to the traditional pharmacological premedication techniques for surgery and found that the distraction techniques are a cost-effective safe alternative that can be used and should be embraced.

Limited Adoption of Atraumatic Care

Several studies also investigated the gap in the utilization of atraumatic care provided to the patients of the pediatric population (Li et al., 2018), (Pilkey et al., 2019), (Kaiser et al., 2022). This gap includes atraumatic care provided at Children's hospitals versus atraumatic care provided in non-Children's hospitals. Petronio-Coia & Schwartz-Barcott, (2020) noted that there is a lack of atraumatic care strategies being utilized in outlying rural hospitals. According to the American Academy of Pediatrics a significant portion of annual Emergency Department (ED) visits are by children younger than 18 years. Recent national data reveals that children account for approximately 20% of all ED visits, which represents more than 27 million total ED visits in the United States. Many of these visits take place outside of pediatric medical centers and Children's hospitals (American Academy of Pediatrics, 2021). The majority of pediatric ED visits occur in community hospitals where fewer than 15 pediatric patients are seen a day (Pilkey et al., 2019). A study conducted by Li et al. (2018), noted that 88% of ED visits by pediatric patients from 1999-2010 occurred in nonacademic setting. Most pediatric hospitalizations take place outside of freestanding children's hospitals (Kaiser et al., 2022). For most rural and remote communities, the closest ED is part of a Critical Access Hospital (CAH) that treats a low volume of pediatric patients and as a result may be challenged to have all of the resources needed to care for children (Pilkey et al., 2019). Specific atraumatic care tactics for pediatric patients are less likely to be routinely utilized in facilities where low numbers of pediatric patients are being seen.

A study conducted by Tomey et al. (2017) noted that aspects of pediatric patients' experiences differed by hospital characteristics. Average hospital top-box scores for global rating measures were notably higher for freestanding Children's hospitals and Children's hospitals within a hospital than for pediatric wards. The study included 69 hospitals in 35 states, the top-box score is the percentage of respondents selecting the most positive response option. The 2017 National Survey of Children's Health, conducted in the USA, found a considerable portion of the parents reported that their child needed better coordination of care than what they had received at non-Children's Hospitals (Tripodi et al., 2017). Freestanding Children's hospitals outperform pediatric wards on several measures of interpersonal communication, such as "Communication between you and your child's doctors," "Preparing you and your child to leave the hospital," and "Involving teens in their care." These findings could reflect those freestanding hospitals focus on pediatric care and use pediatric-specific services such as child life specialists (Tomey et al., 2017).

Barriers to Providing Atraumatic Care

Contributing factors associated with the gap of providing atraumatic care strategies include lack of resources, support, and education for providers in these facilities (Paula, et al., 2019). Barriers to the lack of atraumatic care strategies such as knowledge deficits and resources must be identified and addressed. While these barriers have been identified in the literature they are not widely studied. These barriers lead to further anxiety and undue stress for the child and the family. Paula, et al. (2019) noted that limitations to the utilization of play strategies in nursing care for the hospitalized child include scarce resources/materials/investments, lack of time, fear of the children, and presence of family members and recommended that these limiting factors to the use of play need to be overcome. Children's hospitals focus care completely

around the needs of the child whereas general health care facilities provide care across a wide spectrum of ages and diagnoses (Petronio-Coia & Schwartz-Barcott, 2020).

Lack of Education for Nurses in Outlying Facilities Regarding Atraumatic

While there is literature supporting the utilization of these care strategies and barriers to the implementation of these care strategies there is a lack in the literature regarding training programs for nurses in general and specifically in outlying rural facilities. This in an area of need that must be addressed. Implementation of this evidence-based practice needs to occur across all hospital settings. Education for nurses and assistive personnel must be developed, conducted, and supported to address this lack of knowledge to ensure that these care strategies are being utilized in all facilities that provide care to the pediatric population. All facilities that serve the pediatric population must ensure that nursing staff are educated and have the proper skillset to provide atraumatic care for the very vulnerable pediatric population.

Summary of Literature Findings

Atraumatic care strategies within the framework of FCC are noted in the literature to reduce stress and anxiety experienced by the pediatric population in the hospital setting. Operationalization of atraumatic care strategies can be done in a very cost-effective way to ensure that the child and family get the highest quality of care. Barriers noted to the utilization of atraumatic care strategies include fear of children, lack of time, and lack of education/support for nurses providing care for pediatric patients in rural community hospitals. Many atraumatic care interventions and strategies have been identified with evidence supporting their use, there is little literature on the most effective strategies for specific pediatric populations and more, larger scale studies are needed. Toomey et al., (2017) noted that there is little known about the performance of hospitals that serve pediatric patients. There is a lack of literature regarding

education and support for nurses to practice atraumatic care strategies in non-Children's hospitals.

Problem Statement

While these effective atraumatic care strategies are being practiced consistently at Children's hospitals, there is a lack of this developmental specific atraumatic care being practiced at more rural outlying care facilities (Petronio-Coia & Schwartz-Barcott, 2020). Atraumatic care strategies being practiced at Children's hospitals include interventions based in the Family-Centered Care framework such as ensuring that parents are at the bedside, distraction during painful procedures, the utilization of a Child Life Specialist, playrooms, treatment rooms, and therapeutic play (Tomey et al., 2017). Children attending healthcare settings are entitled to receive quality treatment in healthcare institutions that encompasses all dimensions of health, incorporates the physical, psychosocial, cultural, and mental well-being and support's children's developmental needs. There is limited literature related to educational programs, support, and professional development for nurses that provide care for pediatric patients in non-Children's Hospitals. Nurses require the tools and educational opportunities and support to effectively provide atraumatic are strategies in all facilities that provide care for pediatric patients.

Clinical Questions

The knowledge base and needs of nurses and assistive staff must be assessed regarding the utilization of atraumatic care strategies so that appropriate professional developmental instructional sessions can be developed to address any lack of knowledge.

1. What are the needs and what is the knowledge base and awareness of nursing staff at Baptist Health Corbin of the fundamental care practices of atraumatic care for the pediatric patient and what education is currently being provided to nurses regarding

atraumatic care?

2. What are critical elements (based on nursing staff, organizational needs, and resources evidence in the literature, and modality of instruction during orientation and annual staff professional development) to include in developing and implementing an atraumatic care educational intervention?
3. What is the effectiveness of and what are the implications of an educational intervention provided during orientation and annual training with nursing staff regarding atraumatic care for the pediatric population?

Purpose

Current education for staff caring for pediatric patients at Baptist Health Corbin includes an online educational intervention during orientation and annually that addresses the developmental levels of the pediatric patient (ages birth through 18 years). The online educational intervention includes Ericksons developmental levels as well as developmental milestones for each age group. The facility does not currently have any educational interventions or resources that address specific care with practical strategies to be utilized to provide atraumatic care for this very vulnerable population. The purpose of this quality improvement project is to support the awareness, knowledge level, and utilization of atraumatic care for pediatric patients at Baptist Health Corbin through educational sessions conducted via online modules for professional development during orientation and annually. The project encompasses basic atraumatic care strategies and tools to utilize when providing care for various aged pediatric patients. These strategies include communication techniques based on the age/developmental level of the child, cost effective distraction techniques such as utilizing singing, electronic devices, and how to include parents for support during painful/uncomfortable

procedures. Additionally, because parents are the primary source of comfort and support for pediatric patients, strategies for developing a trusting relationship with the parents as well as the child, are discussed.

Significance

Children are treated in hospitals that specialize in pediatric care as well as outlying rural facilities. Hospitalization is a crisis condition for every child regardless of the location of the facility. While undergoing hospitalization children are not only required to adapt to their illnesses but also to the environment different from their homes (Handayani & Daulima, 2020). During hospitalization stress factors can cause the child to experience short- and long-term negative outcomes related to the number and extent of hospitalizations, multiple invasive procedures, and parental anxiety (Paula et al., 2019). One of the most dramatic advances in pediatric nursing is atraumatic care (Dabas, 2019). Children's limited skills to adapt to hospitalization conditions have often made it impossible for them to cope with the anxiety they feel, triggering the trauma of hospitalization, both in short and long terms (Handayani et al., 2020). Evidence supports the use of atraumatic care strategies to decrease hospital related stress for the child and family (Al-Yateem et al., 2016). Hospitalization trauma can lead to various reactions in children, such as crying, panic attacks, refusal to eat, hyperactivity, and self-alienation (Handayani & Daulima, 2020).

Education for healthcare providers caring for pediatric patients can equip these professionals to provide developmentally specific care strategies. Children are entitled to the same level of care as the adult patient. Implementing these care strategies can greatly reduce stress and fear experienced by children during hospitalization. The utilization of atraumatic care strategies within the framework of Family-Centered Care during hospitalization can provide

many benefits, such as increasing the satisfaction of family and patients, improving effective communication between health care workers and families, a better understanding of disease, better coordination in care and the planning of follow-up visits, improving patient safety, and increasing work satisfaction among healthcare workers (Handayani & Daulima, 2020). Although the provision of directed medical play is an intervention unique to the expertise and training of child life specialists, nurses can use play as a tool to build rapport and promote a therapeutic environment. Pediatric nurses have been using play (even directed medical play) in their practices to provide therapeutic care and emotional support to children and their families for a very long time (Moore et al., 2015). Nurses and nursing assistive staff provide the majority of care for patients at the bedside. It is important for healthcare providers to embrace the concept of playing and to use it to improve the experience of children under their care (Al-Yateem et al., 2016). Many of the atraumatic care strategies can be performed in a very cost effective manner. Education is the most cost-effective intervention to better equip nurses and assistive staff to be informed with the care strategies to effectively provide atraumatic are strategies with the framework of Family-Centered Care.

Theoretical Framework

Family Centered Care (FCC), as the basis of atraumatic care strategies, is the guiding theory that informs and provides the framework for the development and implementation of the educational intervention associated with this DNP project. Family-Centered Care (FCC), as a professional support system for children and their families, is a widely accepted philosophy of caring for children in hospital and community settings. This framework emphasizes the family as the foundation for helping children cope with the stress related to illness and the often painful and uncomfortable treatments associated with illnesses experienced by children. FCC enables

nurses to carry out care plans more easily by collaborating with parents (Done et al., 2020). This framework puts the family at the center of the care that is being provided for the pediatric patient. Utilizing FCC lays the groundwork for the atraumatic care strategies. The relationship of the parents with the nurse is fundamental to atraumatic care as involvement of the parents at the bedside reduces stress and anxiety of the child receiving care. Family and child are inseparable. It is important to consider families with children in medical and nursing approaches (Nurgul, et al., 2018).

The Family-Centered Care framework provides a structure and guide for the practice of atraumatic care. It is recommended that nurses working with pediatric patients plan initiatives to increase active participation of families in the child's care. It is also recommended that facilities have in-service training programs on therapeutic communication techniques, information about child and parent rights, and make hospital policies for the issue of meeting the requirements of the patients (Nurgul, et al., 2018). The family is the foundation of atraumatic care which includes addressing the child's emotional and psychosocial needs as well as the physical needs.

Figure 3 The aim of Family-Centered Care

(Kurtulus et al., 2018)

Figure 4 The elements of FCC as proposed by the Institute for Family-Centered Care (2007)

The foundation of atraumatic care lies in minimizing separation of child from family, identifying child/family stressors, minimizing/preventing pain, and promoting parent-professional partnerships (Furdon et al., 1998). Involvement of the family in care of the child and atraumatic care tactics for the child have been proven to decrease anxiety and improve overall comfort of the child in the hospital setting. Family-Centered Care seeks to establish a relationship with the entire family to ensure that the needs of that child are being met with the least amount of anxiety, disruption, and discomfort for the child. Family-centered care aims to prevent, reduce, or decrease the impact of the separation of children from parents by involving parents in every childcare action and allowing parents to accompany the child for 24 hours during hospitalization (Handayani & Daulima, 2020). The concept of family-centered care along with the partnership of a professional team increases the well-being of the child and brings quality standardization of care given to children. It is the best approach for fulfilling the needs and expectations of parents as well as children in the hospital environment (Cimke & Mucuk, 2017).

Project Design and Methods

The project is a program development and quality improvement project. The purpose of the project is to assess the current knowledge level of nursing staff at Baptist Health Corbin and to develop a teaching intervention based on current knowledge level, research, and evidenced-based practice, The goal of the project is to increase the knowledge level of nurses providing care for the pediatric population at a rural facility regarding atraumatic care strategies.

Project Setting

Baptist Health Corbin is a two hundred and seventy-three bed acute care facility located in Corbin, Kentucky. The hospital is part of Louisville, Kentucky-based Baptist Health. The

facility provides care to patients and families in a rural area of Kentucky. The breakdown of insurance rates in Kentucky for 2021 include: employer 44%, non-group 4.3%, Medicaid 28.9%, Medicare 15.4%, military 1.2% and uninsured 5.6% (Health Coverage of the Total Population, 2021) The hospital serves residents of Whitley, Knox, Laurel, Bell, Clay, McCreary, and Harlan Counties in Kentucky. The average household income for the counties served by this facility ranges from $18,972 to $36,139 (Map of Household Income by County in Kentucky, 2022). The unemployment rate in November 2022 for the counties served by this facility ranges from 4.0% to 6.5% (Civilian Labor Force Report, 2023). The hospital offers 24 points of care in a full continuum from inpatient care to rehab services to behavioral health. The facility does not have a pediatric specific unit, pediatric patients are seen routinely in the areas of the emergency department, OR, and outpatient surgery.

Education Program

The education intervention program addressed the specific needs of Baptist Health Corbin to support the use of atraumatic care strategies when caring for pediatric patients. The program consisted of knowledge level and needs assessment of the nursing staff at Baptist Health Corbin, development and implementation of the educational program, and evaluation of the educational program via post test and evaluation.

Pre-Intervention Assessment

The organizational and staff needs were assessed via pre-education program survey, consent was incorporated in the survey link, see Appendix B. The survey was sent via email to all nurses and nursing assistants that are currently employed at Baptist Health Corbin and work with pediatric patients (emergency department, operating room, and outpatient surgery). Researcher visits were included to promote participation in the pre-education survey. Visits by

the researcher with an iPad for easy access to survey occurred on various days of the week and included both day and night shifts to ensure representation of all nursing staff. Snacks were provided to staff during the visits to promote participation. The survey had a positive response rate to guide the development of the educational intervention. The survey included twenty-seven responses (n=27) by current staff that routinely care for pediatric patients at Baptist Health Corbin. Data analyzed from the survey supported the need for education and resources regarding atraumatic care strategies by the nursing staff. Less than half of the participants (40.74%) disagreed with being familiar with atraumatic care strategies and only 37.04% of participants agreeing to having appropriate resources to provide atraumatic care for pediatric patients. A lack of training in pediatric care strategies was reported by 40.75% of participants. Nurses in any facility that care for pediatric patients deserve education and resources to provide appropriate developmental atraumatic care. The data informed the development of the educational intervention by providing information regarding the lack of knowledge of atraumatic care strategies. The educational intervention includes defining atraumatic with the framework of Family-Centered Care as well as care strategies to utilize when practicing atraumatic care.

Figure 5 Survey Monkey Data results supporting education program.

Do you feel that current education at Baptist Health Corbin is adequate to provide care for pediatric patients?	29.63% = disagree 0.0% = strongly disagree 18.52% = undecided 40.74% = agree 11.11% = strongly agree

Are you familiar with Atraumatic Care strategies for pediatric patients?	40.74% = disagree 3.7% = strongly disagree 14.81% = undecided 33.33% = agree 7.41% = strongly agree
Have you had any training regarding pediatric care strategies such as atraumatic care?	44.44% = disagree 7.41% = strongly disagree 14.81% = undecided 22.22% = agree 11.11% = strongly agree
Are you familiar with Family-Centered Care?	22.22% = disagree 0.0% = strongly disagree 3.70% = undecided 59.26% = agree 14.81% = strongly agree
Do you feel Family-Centered Care is being practiced at Baptist Health Center?	37.04% = agree 11.11% = strongly agree 25.93% = undecided 25.93% = disagree 0.0% = strongly disagree

Do you feel that you currently provide atraumatic care strategies when caring for pediatric patients?	37.04% = disagree 30.0% = strongly disagree 14.81% = undecided 29.63% = agree 18.52% = strongly agree
Do you feel that you have support from Baptist Health Corbin to provide atraumatic care for pediatric patients?	40.74% = agree 11.11% = strongly agree 18.52% = undecided 29.63% = disagree 0.0% = strongly disagree
Do you feel that you have appropriate resources at Baptist Health Corbin to provide atraumatic care for pediatric patients?	37.04% = agree 7.41% = strongly agree 22.22% = undecided 33.33% = disagree 0.0% = strongly disagree
What are some care strategies that you use when caring for pediatric patients?	Including parents in care, wrapping child in sheet tucked tightly with parents at bedside, distraction, explain what I am doing, comforting the patient
What resources do you feel would be beneficial when providing care for pediatric patients?	Additional peds supplies, a review of pediatric care versus adult care, more pediatric patient education, it would be good

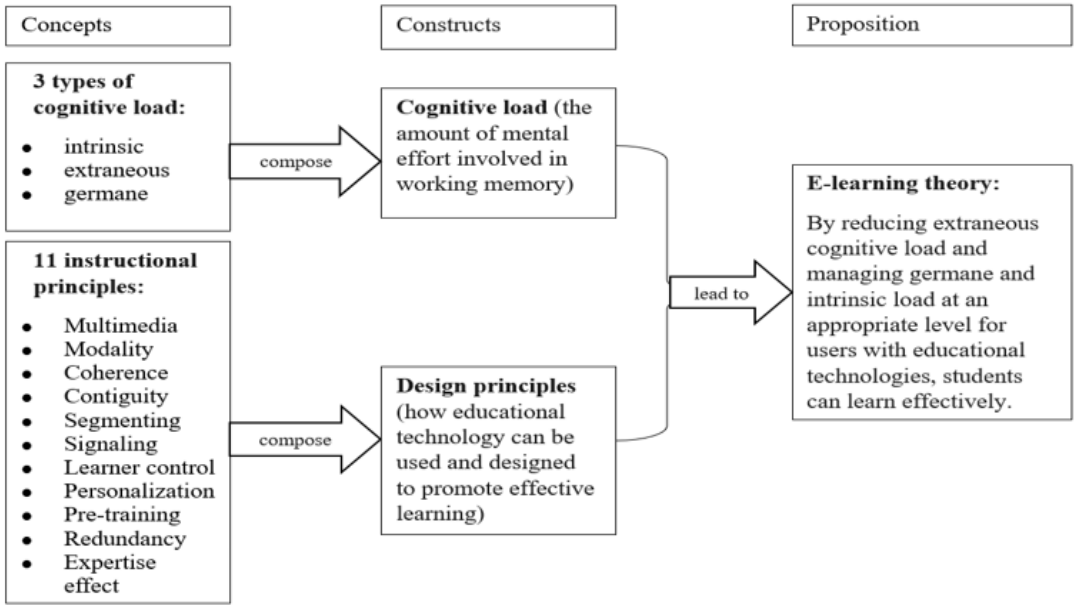
Additional comments?	to get more training on the care models you have talked about here

Framework for Educational Intervention

While Family Centered Care (FCC) is the overall guiding theory for this project, because the developed educational intervention used online technology with the incorporation of voice over PowerPoint the online education program incorporated elements of E-learning theory as a sound basis for learning from the educational intervention. E-learning theory is built on cognitive science principles that demonstrate how the use and design of educational technology can enhance effective learning (David, 2015; Wang 2012). The theory was developed from a set of principles created based on Cognitive Load Theory (Sweller, Van Merriënboer & Paas, 2019). The education program is based on staff, organizational needs, and resources of the facility and will encompass the fundamental elements of atraumatic care, current literature/evidence on atraumatic care and the utilization of developmentally appropriate atraumatic care for the pediatric population. There is a lack of familiarity and resources with atraumatic care strategies amongst the current staff members at Baptist Health Corbin.

Figure 6

A model of e-learning theory based on Mayer et al (2015)



E-learning theory is also composed of principles that can be integrated into instructional design.

The eleven principles of the model that can promote effective learning are:

1. Multimedia principle: Using two formats of audio, visual, and text instead of using one or three.
2. Modality principle: Explaining visual content with audio narration instead of on-screen text.
3. Coherence principle: Avoiding irrelevant videos and audio.
4. Contiguity principle: Aligning relevant information to corresponding pictures concurrently.
5. Segmenting principle: Managing complicated content by breaking a lesson into small parts.

6. Signaling principle: Offering signals for the narration, such as arrows, circles, and highlights.
7. Learner control principle: Allowing the learner to control their learning pace.
8. Personalization principle: Presenting words in a conversational and informal style.
9. Pre-training principle: Providing descriptions or explanations for key concepts in a lesson before the main procedure of that lesson.
10. Redundancy principle: Presenting visuals with audio or on-screen text but not both.
11. Expertise effect: Considering that design principles may have a different effect on learners with various amounts of prior knowledge. (Clark & Mayer, 2016; Mayer, 2003; Mayer & Moreno, 2003; Mayer et al., 2015)

Table 1 Incorporation of E-Learning in Educational Intervention

Element 1	Utilized audio, video, and text in PowerPoint presentation for educational intervention
Element 2	Audio included to explain key principles of educational intervention content
Element 3	Only content relevant to the utilization of atraumatic care strategies within the framework of Family-Centered Care included in educational intervention content
Element 4	Pictures and graphs utilized to illustrate key points of atraumatic care strategies

Element 5	Principles broken down into communication, distraction, play, and relationship of nurse with child/family to ensure content is logical and easy to understand
Element 6	Content included in a logical format with arrows/graphs utilized to present key elements
Element 7	PowerPoint presentation is designed to be worked through at the learners own pace
Element 8	Utilized terms in format that are easy for nurses to understand and provided definitions for key terms
Element 9	Objectives clearly stated at the beginning on the educational intervention
Element 10	Visuals included with text or audio to present content
Element 11	Utilized auditory and visual teaching techniques to address various learning needs

Educational Intervention

The developed educational intervention consisted of a PowerPoint presentation. The voiceover PowerPoint presentation lasted 20 minutes. The education program was utilized in

addition to the current pediatric developmental education for all Registered Nurses, Licensed Practical Nurses, and Nursing Assistants during orientation and accessed during the instructional portion of orientation at the facility. Orientation at Baptist Health Corbin occurs twice monthly. The education program will also be included in the annual continuing education for nursing staff that care routinely for pediatric patients (emergency department, OR, and outpatient surgery) and will be accessed at the facility during the time of the annual continuing education period beginning in March 2023. The annual continuing education requirements are met via online learning modules related to patient care provided in specific areas of the hospital. The annual continuing education requirements fall in the month that the nurse was hired. The educational intervention included definitions and examples of atraumatic care strategies and review of Family-Centered Care theory. Atraumatic care strategies included incorporated into the educational intervention include practical and therapeutic interventions such as basic communication techniques with various ages of the pediatric population, cost effective distraction techniques, and strategies to establish a trusting relationship with the child and family.

Inclusion Criteria for Educational Intervention

The pre-education program survey was emailed to nurses and assistive personnel that work in departments that provide care for pediatric patients (emergency department, OR, outpatient surgery). The educational program included all newly hired nursing staff including registered nurses, licensed practical nurses, and nursing assistants during orientation. Employee orientation occurs twice monthly. The education program will also be required annually for all nursing staff working in areas that routinely care for pediatric patients (emergency department, OR, and outpatient surgery).

Time Frame for Educational Intervention

The pre-education program survey was completed in August 2022. The education program was developed in September 2022. The education program was implemented at Baptist Health Corbin from October 2022 to December 2022 during nursing staff orientation twice a month and will be included in education for annual continuing education for nursing staff that care routinely for pediatric patients (emergency department, OR, and outpatient surgery) beginning in March 2023. Evaluation/analyses of the education program occurred in January 2023. The education program will continue to be utilized in orientation twice monthly for new employees and annually for nursing staff in the emergency department, OR, and outpatient surgery department beginning in March 2023.

Ethical Considerations

Ethical considerations for this project include maintaining confidentiality and anonymity, online consent for the pre-education intervention, and IRB approval. The education program was developed and utilized in general hospital orientation for all nursing staff as well as annually for nursing staff that provide care to pediatric patients. The pre-educational intervention survey was completed via survey monkey and sent to nursing staff in the emergency department, OR, and outpatient surgery departments via email. The survey results were submitted anonymously and are not traceable back to any email account. The education program exam results and post evaluations were built into the learning module, completed during the orientation program, include no identifying information of the staff, and were submitted anonymously. The results were collected by the education director and emailed to the researcher with no staff identifying information. The results are stored on a USB drive that is kept in a locked drawer accessible only by the researcher. The pre-educational survey, exam results, and evaluation results are

being utilized solely for the purpose of informing the development of the educational intervention for this DNP project and will be kept for 3 years. IRB approval at Baptist Health Corbin is not required for this project. The project was determined to be exempt by Lincoln Memorial University's IRB committee. A letter of support for the project from Baptist Health Corbin was obtained. is included, see Appendix C. Staff consent for the project is not required because the project is part of orientation training for all staff and evaluation results are not traceable, see Appendix D.

Results

The results of the pre-education program survey completed by staff providing care for the pediatric population at Baptist Health Corbin were analyzed to determine the knowledge level, current practices utilized and to inform the development of my intervention. The results of the pre-education survey supported the development of the education program. The nurses reported in the survey being unfamiliar with atraumatic care strategies as well as a lacking of resources to provide atraumatic care for pediatric patients seeking care at the facility. The orientation that occurred at Baptist Health Corbin October 2022 – December 2022 included eighteen new nursing staff members (n=18). Descriptive statistics of the post-education exams and evaluations were used to analyze the effectiveness of the educational program and inform any revisions to the educational program. All eighteen participants met the benchmark post exam score of 90% or greater. The Atraumatic Care Educational Intervention Evaluation produced positive results with eighteen participants selecting "Agree" or "Strongly Agree" to the ten evaluation areas. Teaching sessions strengths included: "very informative", "presentation easy to follow", "very informative on atraumatic care", and weaknesses included "no hands-on".

Table 2 Post Exam Results for Educational Intervention (n=18)

Score of 90% on Post Exam	12 Participants
Score of 100% on Post Exam	6 participants

Table 3 Post Education Evaluation Results (n=18)

Please evaluate the Teaching Session in the following areas:	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
Did the content of materials give you in-depth information?				6	12
Were visual elements of presentation clearly presented?				6	12
Do you feel more prepared to provide atraumatic care?				6	12
Did you learn new information during the teaching session?				7	11
Would you take this teaching session again?				7	11
Was the delivery method for the content effective?				7	11
Do you feel more comfortable with the concepts of atraumatic care?				7	11
Were the objectives of the teaching session clearly stated?				6	12
Were the objectives of the teaching session met?				6	12
Would you recommend this course to staff providing care for pediatric patients?				6	12

Teaching Session strengths: examples provided, she's awesome, very informative, communication, techniques, having the PowerPoint to reference, gave PowerPoint, discussed ways to communicate with different ages of children, presentation easy to follow, clear and concise, thorough information on children and adolescent care, very informative on atraumatic care, great teaching points, very

informative, presented very well, visual aids, detailed and well written, simple and to the point, very informative

Teaching Session weaknesses: no hands-on, nothing

Other comments: needs to provide examples, great atraumatic care PowerPoint, Thanks! Haven't had any peds/child education in a while.

Evaluation of Educational Intervention

Evaluation of the effectiveness of the education program included a 10-question exam based on the fundamental elements of atraumatic care, current literature/evidence on atraumatic care and the utilization of developmentally appropriate atraumatic care for the pediatric population and post education evaluation completed by the nursing staff utilizing the education session, see Appendix A. The 10-question exam required a 90% score, see Appendix C. The 10-question exam relates directly to the evidence-based content covered in the educational intervention. The questions address key elements of atraumatic care in the educational intervention including communication strategies, appropriate care techniques based on developmental level/age of the child, and distraction techniques based on developmental level/age of the child.

Evaluation also included feedback from the DNP project facilitator, CNO, and feedback from education director. Feedback from both facilitator and education director produced positive results. Feedback included nurses reporting being equipped to incorporate basic atraumatic care strategies in routine care for pediatric patients cared for at the facility. Based upon analysis of post exam results, evaluations by staff, and feedback from facility, no revisions to educational intervention are necessary and will continue to be utilized at the facility during orientation and will also be adopted for use during annual continuing education for nursing staff.

Discussion

Current knowledge level of atraumatic care strategies for nursing staff at Baptist Health Corbin was evaluated via pre-education survey. The results supported the need for educational intervention at the facility. The results are consistent with the literature on rural nurses needing resources and support to provide atraumatic care strategies for pediatric patients. The education program was developed and implemented during orientation for nursing staff. The education program had positive feedback from nursing staff as well as staff from education department at Baptist Health Corbin. With education on specific care tactics nursing staff are more equipped to care for pediatric patients. Basic atraumatic care strategies are supported throughout the literature to reduce stress and fear experienced by the hospitalized child. Strengths of the project include the presentation of information in a simple and concise format to provide the nursing staff with resources to provide atraumatic care for the pediatric population. All participants of the education intervention achieved the benchmark post test score of 90%. Utilizing orientation and annual professional development could be an effective strategy for other rural hospitals to incorporate education on atraumatic care for pediatric patients. This strategy should target all nursing staff entering the facility and nursing staff that routinely care for pediatric patients.

Weaknesses of the project include a lack of hand-on training included in the educational intervention. Evaluation of the project by facilitator and education department at Baptist Health Corbin produced positive results. The facilitator and education director stated that they feel the educational intervention provided the nurses with an appropriate knowledge base for providing atraumatic care strategies for pediatric patients and that the facility supports the utilization of these care tactics. They feel that nurses at the facility are better equipped to care for pediatric patients. This project reinforces current data in the literature that nurses are at the forefront to

provide atraumatic care for pediatric patients. Through education nurses are equipped to provide care tactics that reduce stress, fear, and pain experienced by this very vulnerable population in the hospital setting.

Conclusion

Atraumatic techniques should be utilized in all settings that serve the pediatric population. Further research needs to be conducted on the lack of atraumatic care and its implementation in all facilities, but especially in those that are not specialized Children's hospitals. Barriers to this developmental specific care must be addressed and overcome to ensure that this population is receiving the best care possible regardless of the facility. Working with education departments on building education on atraumatic care strategies is a positive way for rural facilities to better prepare and equip nurses to provide appropriate care for pediatric patients. The goal of this project was to determine the knowledge level and care strategies currently being utilized at an outlying facility, and to conduct a teaching session to address and support the utilization of this developmental specific care. The pediatric population is entitled to the same level of care regardless of the facility that they seek care. The teaching session supported the education of nurses and nursing assistive staff to increase knowledge of atraumatic care strategies to utilize with the care of pediatric patients.

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Appendix A

Atraumatic Care Educational Intervention Evaluation

Please evaluate the Teaching Session in the following areas:	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
Did the content of materials give you in-depth information?					
Were visual elements of presentation clearly presented?					
Do you feel more prepared to provide atraumatic care?					
Did you learn new information during the teaching session?					
Would you take this teaching session again?					
Was the delivery method for the content effective?					
Do you feel more comfortable with the concepts of atraumatic care?					
Were the objectives of the teaching session clearly stated?					
Were the objectives of the teaching session met?					
Would you recommend this course to staff providing care for pediatric patients?					

Teaching Session strengths_____
_____
Teaching Session weaknesses_____
_____
Other comments?
_____
_____

Appendix B

Pre-Educational Program Survey

Please answer the following questions:	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
Do you feel that current education at Baptist Health Corbin is adequate to provide care for pediatric patients?					
Are you familiar with atraumatic care strategies for pediatric patients?					
Have you had any training regarding pediatric specific care strategies such as atraumatic care?					
Are you familiar with Family-Centered Care?					
Do you feel that Family-Centered Care at Baptist Health Corbin?					
Do you feel that you currently provide atraumatic care strategies when caring for pediatric patients?					
Do you feel that you have support from Baptist Health Corbin to provide atraumatic care for pediatric patients?					
Do you feel that you have appropriate resources at Baptist Health Corbin to provide atraumatic care for pediatric patients?					

What are some care strategies that you use when caring for pediatric patients?

_____

_____

What resources do you feel would be beneficial when providing care for pediatric patients?

_____

_____

Other comments=?

_____

_____

Appendix C

Post-Educational Program Exam

1. When providing atraumatic care to a child, which action would be the most appropriate?
    a. Using restraints for any procedure that would be stressful
    b. Keeping the lights on in the child's room all day and night
    c. Limiting the use of topical anesthetics for painful injections
    d. Including the child and family in the plan of care
2. When caring for children, how does the nurse best incorporate the concept of family-centered-care?
    a. Encourage the family to allow the physician to make health care decisions for the child
    b. Use the concepts of respect, family strengths, diversity, and collaboration with the family
    c. Advise the family to choose a pediatrician that the nurse is familiar with
    d. Understand that families undergoing stress related to the child's illness cannot make appropriate decisions
3. When therapeutically communicating with children and families, which strategy is critical?
    a. Detailed explanations
    b. Attentive listening
    c. Comforting voice
    d. Closed-ended questions
4. The nurse is caring for a 4-year-old in the hospital, and the mother expresses concern that the child will be scared. Which response by the nurse would be most appropriate?
    a. "Don't worry, we practice family-centered and atraumatic care here."
    b. "We will do our best to minimize the stress that your child experiences"
    c. "It will probably be upsetting for you as well, so you need to stay home."
    d. "Our practice of atraumatic care will eliminate all pain so there's nothing to be afraid of."
5. When planning education for a child and parents, what is the first step the nurse should take?
    a. Decide which procedures and medications the child will be discharged on
    b. Determine the child's and family's learning needs and styles
    c. Ask the family if they have ever performed the procedure
    d. Tell the child and family what the goals of the teaching sessions are
6. What approach by the nurse would most likely encourage a child to cooperate with a physical assessment?
    a. Explain the assessment when the child asks a question
    b. Explain what is going to happen in words the child can understand
    c. Have the parent hold the child down for the assessment

   d. Give the child a prize before the assessment
7. The nurse is preparing a 6-year-old girl for surgery on his right ankle. When changing into the hospital gown she refuses to remove her underwear. What is the most appropriate nursing action?
   a. Have the mother remove the child's underwear
   b. Tell the child that she is acting like a baby
   c. Cancel the surgery
   d. Allow the child to keep her underwear on
8. The nurse is conducting a teaching session on various methods of distraction techniques to utilize during procedures. Which response indicates a need for further instruction?
   a. "Have the child count his fingers quickly"
   b. "Read to the child during the procedure"
   c. "Have the child imagine that he is at the beach"
   d. "Have a video game available for the child to play"
9. Which strategies are important for the nurse to consider when promoting family-centered-care? **Select all that apply.**
   a. Strive to impower the family
   b. Purchase toys and clothes for the children admitted to the unit
   c. Explore the family's strengths that will support the child
   d. Call the child frequently after discharge to offer support
   e. Assess the family's concerns and anxiety
   f. Restrict visitor access to the child
   g. Establish a trusting relationship with the child and family
10. The nurse is admitting a child to the unit. What are important aspects of the admission process that the nurse needs to incorporate during the first encounter with the child and family? **Select all that apply.**
   a. Introduce yourself
   b. Orient the child and family to the unit
   c. Apply identification band on the child's arm
   d. Assess vital signs, height, and weight
   e. Draw extra blood in case labs will be ordered at a later time
   f. Discuss hospital routine
   g. Explain the call light, bed controls and television
   h. Take the child to the cafeteria so the family will know where it is

Appendix D

Letter of Support from Baptist Health Corbin

BAPTIST HEALTH

Dear LMU IRB Board,

On behalf of Baptist Health Corbin, I am writing this letter of support and to grant permission for Angie Sowers RN, MSN a student at Lincoln Memorial University to conduct her DNP Project title. "Supporting Adoption of Atraumatic Care by Nursing Staff through Education" at this facility. Angie Sowers will work with nursing staff to conduct an anonymous survey of nurses, CNAs, and techs that currently work in areas that interact with pediatric patients, Emergency Department, Surgical Services, Outpatient surgery center. The program will be utilized during orientation for all nurses and nursing assistant personnel and for annual continuing education for all nursing staff that work in departments that interact with pediatric patients. Evaluation of the effectiveness of the educational program will include a 10-question exam based on the fundamental elements of atraumatic care, current literature/evidence on atraumatic care and the utilization of developmentally appropriate atraumatic care for the pediatric population and post education evaluation completed by the nursing staff utilizing the educational session. IRB approval at Baptist Health Corbin is not required for this project.

Sincerely,

Sherry Hopper, MSN, RN

Appendix E

Letter Stating that Consent is not needed for the Educational Program

BAPTIST HEALTH
CORBIN

Dear LMU IRB Board,

On behalf of Baptist Health Corbin. I am writing regarding Angie Sowers RN, MSN a Student at Lincoln Memorial University DNP project title, "Supporting Adoption of Atraumatic Care by Nursing Staff through Education". Consent is not required for the education because it is a mandatory component of orientation and annual continuing education.

Sincerely,

Sherry Hopper MSN, RN, APRN
Education and Staff Development Director