Best Evidence Statement (BESt)

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Title

In children with a history of child abuse or neglect does preparation for medical procedures using medical play vs. no preparation reduce anxiety?

Clinical Question

P (population/problem)	Children with a history of abuse or neglect
I (intervention)	does preparation for medical procedure using medical play
C (comparison)	compared to no preparation
O (outcome)	reduce anxiety?

Target Population

Children with a history of abuse and neglect undergoing medical procedures

Recommendations (See Table of Recommendation Strength following references)

1. It is recommended that children with a history of abuse or neglect be identified as a high priority patient population by Child Life Specialists and receive developmentally appropriate preparation and support for medical procedures [Grade of Body of Evidence: Moderate] (Hebert, Parent, Daignault, & Tourigny, 2006 [4a]; Levitan, Rector, Sheldon, and Goering, 2003 [4a]; Spertus, Yehuda, Wong, Halligan, and Seremetis, 2003 [4a]; Swanston, Tebbutt, O'Toole and Oates, 1997 [4a]).

    - Note: "high priority patient population" is defined as having a decreased ability to cope with medical experiences.

2. It is strongly recommended that all children, including those with a history of abuse or neglect, be assessed for anxiety and prepared through appropriate Child Life interventions before medical procedures [Grade of Body of Evidence: High] (Fosson, Martin, & Haley, 1990 [2b]; Kain, et al., 1998 [2a]; LI, Lopez, and Lee, 2007 [2a]; Mahajan, et al., 1998 [2a]; Visintainer and Wolfer, 1975 [2a]).

    - Note: "Child Life interventions" may include: medical play, preparation books, coping skills, relaxation, and photographs.

Research about the effectiveness of medical play preparation in children with a history of abuse and neglect is indicated to answer the clinical question. [Grade of Body of Evidence: Moderate] (Waibel-Duncan & Sanger, 1999 [4b]; Waibel-Duncan, 2001 [4b]).

Discussion/summary of evidence

A literature search identified a total of 75 studies, 30 of which were relevant to the topic, and appraised for this EBP project. No single study directly answered the aforementioned PICO question. The studies fell into three groups, 1) those studies that address the long term effects of abuse and neglect, and 2) studies that describe girls undergoing an anogenital exam to confirm sexual abuse, and 3) studies that discuss preparation of children for medical procedures.

Research was reviewed that examined the long term effects of abuse and neglect. In a descriptive study by Swanston, Tebbutt, O'Toole and Oates (1997) [4a], 68 children with an abuse history and a comparison group of 75 children who had no abuse history were compared utilizing a structured interview and questionnaire which included the Revised Children's Manifest Anxiety Scale. The researchers found that those children who had been abused in the past were significantly more anxious than other children. In 2003, Spertus, Yehuda, Wong, Halligan, and Seremetis [4a], used a descriptive method of study to examine if emotional abuse and neglect were significant predictors of psychological and somatic symptoms, and lifetime trauma exposure. This study surveyed adult women about their exposure to childhood trauma, post traumatic stress disorder, and trauma history symptoms. The researchers found that childhood emotional abuse, neglect, sexual abuse, and lifetime trauma were significantly correlated with post traumatic stress symptoms, somatic symptoms, depression symptoms, and anxiety symptoms. In another descriptive study by Levitan, Rector, Sheldon, and Goering (2003) [4a], associations were also found linking children who experienced early adversity such as physical abuse, sexual abuse, or strained parental relationships to depression and/or anxiety disorders later in life, especially those children who had experienced sexual abuse. This study employed a survey and interview technique with 6,597 adolescents and adults living in Ontario, Canada and utilized the Composite International Diagnostic Interview (CIDI) to diagnose for DSM diagnosis. Children who have higher levels of anxiety also exhibit increased sexualized behaviors, aggressive behaviors, withdrawal, social problems, and attention problems according to a 2006 study by Hebert, Parent, Daignault, & Tourigny [4a]. This research study was conducted in Montreal, Canada through a self-report questionnaire given to 123 children, 7-13 yrs of age, which examined their coping, behavior, and history of victimization.

Studies were also reviewed that investigated the concerns of girls before an anogenital exam to confirm sexual abuse. In a descriptive study, guardians and 30 children ages 6-16 were interviewed before and after an anogenital exam (Waibel-Duncan & Sanger, 1999) [4b]. They found eighty- three percent of girls who require an anogenital exam to confirm sexual abuse reported

not having enough exam information and eighty-seven percent wanting more information. In another descriptive study by Waibel-Duncan (2001) [4b], a nine question survey was given to a convenience sample of 47 girls, ages 8-14, who were required to undergo an anogenital exam, along with their guardians and focused on situational, interpersonal, and intrapersonal concerns. Of these girls, one third reported a high level of worry about the lack of exam information including who would be performing the exam and their current health status.

Finally, studies were analyzed that addressed medical play and preparation prior to medical procedures in children. Medical play is a commonly used intervention in the Child Life practice for pediatric patients prior to health care encounters including surgeries. A randomized controlled trial by Zahr (1998) [2a] found that children who receive medical play preparation prior to medical procedures in same-day surgery present calmer and have a decreased level of general anxiety, developmental regression, and aggression toward authority. This study took place on a pediatric unit in Beirut, Lebanon with children 3-6 yrs of age. The intervention group of 50 children received a puppet show preparation demonstrating many of the stressful aspects of their upcoming procedure and the control group of 50 children received routine care, but no play preparation. In Visintainer and Wolfer's 1975 [2a] study, 84 children, ages 3-12 yrs, were admitted for tonsillectomies and hospitalized for three days. Children and their guardians were randomly assigned to four groups: Stress Point Preparation, Single - Session Preparation, Consistent Supportive Care, and a control group that did not receive preparation. Children who received preparation designed for stressful aspects of procedures had significantly lower levels of upset and higher levels of cooperation than children who received other types of preparation. Parents of the children in the Stress Point Preparation group felt more adequately informed and were more satisfied with the care they received.

In Mahajan, et al. (1998) [2a] a randomized control trial of 60 children, ages 6-19, who underwent a gastrointestinal endoscopy were assigned to one of two groups. The intervention group received a psychological preparation session with a doll and model book with photographs whereas the control group received routine preparation before the procedure without a doll and photograph book. Children who underwent a gastrointestinal endoscopy and received psychological preparation reported that they would be less anxious if they had the same procedure again. In Hong Kong, LI, Lopez, and Lee (2007) [2a] randomly assigned children 7-12 yrs of age undergoing elective surgery to either a control group, who received routine information preparation, or an intervention group which included an interactive tour of the OR, doll demonstration, and children's misconceptions were clarified. Children were evaluated using the State Anxiety Scale for Children in Chinese, Children's Emotional Manifest Scale and the Visual Analogue Scale. It was found that children in the experimental group reported lower anxiety scores than children in the control group in both the post intervention and post operation periods.

Through the review of medical play preparation studies, parental anxiety has been found to contribute to the anxiety that a child experiences. Kain, et al. (1998) [2a] randomly assigned children between the ages of 2 to 12 yrs of age to one of three experimental groups. These groups were dictated by the type of preparation that each group received prior to undergoing general anesthesia and elective outpatient surgery. Parents of the children who received a tour, commercially available video, and child life preparation reported that they were less anxious on the day prior to surgery when compared to the two other groups. Parental anxiety was found to be a contributor to a significant proportion of a child's anxiety in a 1990 study by Fosson, Martin, & Haley [2b]. This randomized control trial included 100 children ages 5-11 yrs. Half of the children received an intervention of a 30 minute medical play preparation whereas the other 50 children received a 20 minute session of watching television with the Recreation Therapist. Anxiety was assessed with tools including the State-Trait Anxiety Inventory for Children, and Self-Reported Anxiety Scale.

Health Benefits, Side Effects and Risks

Health benefits related to children receiving appropriate Child Life interventions for preparation include a decrease in their anxiety and an increase in medical procedure knowledge. Children who receive this type of preparation also have increased cooperation during their health care encounter. Child Life interventions offer safe and effective ways to decrease anxiety and assist in the development of appropriate coping skills to improve mental health outcomes for children. This is especially important in children with a history of abuse or neglect for they have a decreased ability to cope with medical encounters. There are no known adverse effects or risks related to medical play preparation.

References/citations (evidence grade in [ ]; see Table of Evidence Levels following references)

Fosson, A., Martin, J., & Haley, J. (1990). Anxiety among hospitalized latency-age children. *Developmental and Behavioral Pediatrics, 11*(6), 324-4. [2b].

Hebert, M., Parent, N., Daignault, I. V., & Tourigny, M. (2006). A topological analysis of behavioral profiles of sexually abused children. *Child Maltreatment, 11*(3), 203. [4a].

Kain, Z. N., Caramico, L. A., Mayes, L. C., Genevro, J. L., Bornstein, M. H., & Hofstadter, M. B. (1998). Preoperative preparation programs in children: A comparative examination. *Anesthesia & Analgesia, 87*(6), 1249-1255. [2a].

Levitan, R. D., Rector, N. A., Sheldon, T., & Goering, P. (2003). Childhood adversities associated with major depression and/or anxiety disorders in a community sample of Ontario: Issues of co-morbidity and specificity. *Depression & Anxiety, 17*(1), 34-42. [4a].

LI, H. C. W., Lopez, V., & Lee, T. L. I. (2007). Effects of preoperative therapeutic play on outcomes of school-age children undergoing day surgery. *Research in Nursing & Health, 30*(3), 320-332. [2a].

Mahajan, L., Wyllie, R., Steffen, R., Kay, M., Kitaoka, G., Dettorre, J., Sarigol, S., & McCue, K. (1998). The effects of a psychological preparation program on anxiety in children and adolescents undergoing gastrointestinal endoscopy. *Journal of Pediatric Gastroenterology & Nutrition, 27*(2), 161-165. [2a].

Sedlak, A.J., Mettenburg, J., Basena, M., Petta, I., McPherson, K., Greene, A., and Li, S. (2010). *Fourth national incidence study of child abuse and neglect (NIS–4): Report to congress, executive summary*. Washington, DC: U.S. Department of Health and Human Services, Administration for Children and Families. [4a].

Spertus, I. L., Yehuda, R., Wong, C. M., Halligan, S., & Seremetis, S. V. (2003). Childhood emotional abuse and neglect as predictors of psychological and physical symptoms in women presenting to a primary care practice. *Child Abuse & Neglect, 27*(11), 1247-1258. [4a].

Swanston, Tebbutt, O'Toole, and Oates. (1997). Sexually abused children 5 years after presentation: A case-control study. *Pediatrics, 100*(4), 600. [4a].

Visintainer, M.A. and Wolfer, J.A. (1975). Psychological preparation for surgery pediatric patients: The effects on children's and parents' stress responses and adjustment. *Pediatrics, 56*, 187-202. [2a].

Waibel-Duncan, M., & Sanger, M. (1999). Understanding and reacting to the anogenital exam: Implications for patient preparation. *Child Abuse & Neglect, 23*(3), 281-286. [4b].

Waibel-Duncan, M. (2001). Medical fears following alleged child abuse. *Journal of Child & Adolescent Psychiatric Nursing, 14*(4), 179-185. [4b].

Zahr, L. (1998). Therapeutic play for hospitalized preschoolers in Lebanon. *Pediatric Nursing, 23*(5), 449-6. [2a].

Note: Full tables of evidence grading system available in separate document:

- Table of Evidence Levels of Individual Studies by Domain, Study Design, & Quality (abbreviated table below)
- Grading a Body of Evidence to Answer a Clinical Question
- Judging the Strength of a Recommendation (abbreviated table below)

Table of Evidence Levels (see note above)

Quality level	***Definition***
1a† or 1b†	Systematic review, meta-analysis, or meta-synthesis of multiple studies
2a or 2b	Best study design for domain
3a or 3b	Fair study design for domain
4a or 4b	Weak study design for domain
5	Other: General review, expert opinion, case report, consensus report, or guideline

†a = good quality study; b = lesser quality study

Table of Recommendation Strength (see note above)

Strength	***Definition***
"Strongly recommended"	There is consensus that benefits clearly outweigh risks and burdens (or visa-versa for negative recommendations).
"Recommended"	There is consensus that benefits are closely balanced with risks and burdens.
No recommendation made	There is lack of consensus to direct development of a recommendation.

Dimensions: In determining the strength of a recommendation, the development group makes a considered judgment in a consensus process that incorporates critically appraised evidence, clinical experience, and other dimensions as listed below.

1. Grade of the Body of Evidence (see note above)
2. Safety / Harm
3. Health benefit to patient *(direct benefit)*
4. Burden to patient of adherence to recommendation *(cost, hassle, discomfort, pain, motivation, ability to adhere, time)*
5. Cost-effectiveness to healthcare system *(balance of cost / savings of resources, staff time, and supplies based on published studies or onsite analysis)*
6. Directness *(the extent to which the body of evidence directly answers the clinical question [population/problem, intervention, comparison, outcome])*
7. Impact on morbidity/mortality or quality of life

Supporting information

Introductory/background information

Based on a recent I^2 S^2 project completed in the Division of Child Psychiatry, it was found that from May, 2008 to January, 2009, approximately 61% of the children being admitted to psychiatry inpatient units at CCHMC had experienced prior trauma (emotional, sexual, physical abuse and neglect) as conveyed by their guardians upon admittance. The 4th National Incidence Study on Child Abuse and Neglect found that between the years of 2005 and 2006 one in fifty-eight children or more than 1.25 million children nationally experienced harm due to abuse or neglect (Sedlak,et al., 2010) [4a]. Decreasing trauma during a child's hospital experience is one of the primary goals of the Child Life profession and is an essential component in psychiatric care. It is through this principle, that Child Life Specialists perform preparation and support activities for medical procedures that children endure during their hospital experience.

Group/team members

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Search strategy

Search terms included: child abuse, medical play, anxiety, anticipatory anxiety, psychological preparation, preparation, child life and child. The databases searched include: Ovid MEDLINE, Ovid CINAHL, Education Full Text, PsycINFO, and ERIC. The search was limited to articles that were printed in English and between the years of 1970 through July, 2010.

Applicability issues

There are barriers that must be considered when making changes to health care systems. It would require a knowledgeable team to develop a policy and procedure that would ensure each child and adolescent has the opportunity to receive medical play preparation prior to medical procedures. Secondly, time would be spent with a representative from IS to begin implementing a flagging notification system in an electronic medical chart for children a history of abuse and neglect. In Child Life, utilizing a formalized assessment tool to measure anxiety would be a new concept within the profession. This anxiety assessment tool would be documented in the electronic medical record and would be used to validate the effectiveness of medical play preparation of Child Life staff. A short educational module would be created and would pose minimal imposition to the schedules of College Hill workers and Child Life staff. This module would educate staff about the flagging process for children with abuse and neglect, an anxiety assessment tool, as well as the long term effects of abuse and neglect. Finally, a team of individuals would need to be assembled to implement a research project to fill the void in the current literature and detail the effectiveness of medical play preparation for children with a history of abuse or neglect.

Note

This Best Evidence Statement addresses only key points of care for the target population; it is not intended to be a comprehensive practice guideline. These recommendations result from review of literature and practices current at the time of their formulation. This Best Evidence Statement does not preclude using care modalities proven efficacious in studies published subsequent to the current revision of this document. This document is not intended to impose standards of care preventing selective variances from the recommendations to meet the specific and unique requirements of individual patients. Adherence to this Statement is voluntary. The

clinician in light of the individual circumstances presented by the patient must make the ultimate judgment regarding the priority of any specific procedure.

Reviewed against quality criteria by 2 independent reviewers.

