

POLICY FORUM

What Do Clinicians Caring for Children Need to Know about Pediatric Medical Traumatic Stress and the Ethics of Trauma-Informed Approaches?

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Abstract

Medical experiences can be frightening and traumatic for children. Ill and injured children can experience pediatric medical traumatic stress—psychological and physiological distress responses related to their medical event and subsequent medical treatment experiences—which can lead to symptoms of posttraumatic stress disorder (PTSD) and suboptimal health outcomes. Trauma-informed care provides a framework for acknowledging, addressing, and mitigating the risks of psychological trauma associated with medical treatment experiences and is congruent with the ethical principles of respect for autonomy, beneficence, nonmaleficence, and justice. Health care systems and professionals are encouraged to apply the principles of trauma-informed care to address the effects of pediatric medical traumatic stress.

Introduction

For the sick or injured child, being treated in the emergency department (ED) or admitted to the hospital can be a frightening and confusing experience that leads to subsequent psychological distress [1]. Experiencing pain, feeling helpless and out of control, and being separated from one's parents are all factors that contribute to the potentially traumatic nature of medical events. How does a physician's ethical obligation to "first, do no harm" square with the prospect of providing a therapeutically necessary procedure for a frightened child who does not understand what is being done and why? How do we understand the ethical issues involved when a medically beneficial course of treatment for a pediatric patient also has the potential to engender stress, fear, anxiety, pain, or discomfort for this child? In this brief review, we first describe two concepts that are key to understanding and addressing the psychological distress that can affect ill and injured children: *pediatric medical traumatic stress* and *trauma-informed pediatric care*. We then discuss four core principles of medical ethics (respect for autonomy, beneficence, nonmaleficence, and justice [2]) and explain how the application of these principles underscores the need for trauma-informed care.

Pediatric Medical Traumatic Stress and the Need for Trauma-Informed Care

Pediatric medical traumatic stress is a set of psychological and physiological responses of children to potentially traumatic events such as pain, injury, serious illness, medical procedures, and invasive or frightening treatment experiences [3]. During and immediately after acute treatment, it is common for ill and injured children to experience distressing traumatic stress reactions such as unwanted and intrusive thoughts, bad dreams, hypervigilance, exaggerated startle response, and avoidance of reminders of the medical event [1], which are symptoms of posttraumatic stress disorder (PTSD). Pediatric medical traumatic stress is not a diagnostic entity; rather, it is a conceptual framework for understanding children's negative responses to medical experiences. These responses include, but are not limited to, symptoms of PTSD. On average, a substantial minority (12 to 20 percent) of ill and injured children will develop symptoms of PTSD that persist for months and interfere with quality of life [4]. In children, PTSD symptoms related to medical events are associated with poorer health and functional outcomes [1], including decreased adherence to treatment or poorer health-related quality of life for up to two years posttreatment [5-8]. A burgeoning empirical literature regarding pediatric medical traumatic stress is beginning to identify potentially modifiable elements of medical care related to the risk of developing traumatic stress in pediatric patients. Pertinent factors that can be targets for intervention in the acute care setting include the child's fear and subjective sense of life threat, pain, acute physiological arousal (e.g., elevated heart rate), severe anxiety or traumatic stress during acute care, and the availability of interpersonal social support [4, 9-12]. The principles of trauma-informed care illuminate ways in which health care professionals can intervene to address these risk factors.

Trauma-informed care for vulnerable children has been defined across a variety of service systems, from schools to law enforcement to health care [13]. A trauma-informed system is one that recognizes the impact of trauma exposure for children in that system and applies knowledge about trauma to policy and practice in order to prevent retraumatization (i.e., iatrogenic harm) and reduce negative sequelae [14]. (Note that in this context, the term "trauma" refers to psychological or emotional trauma rather than physical injury.) Following this definition, a health system providing trauma-informed pediatric care (a) recognizes the potentially traumatic nature of medical events and medical care for children and (b) incorporates this understanding into organizational culture, policies, procedures, and each encounter that pediatric patients and their families have with the physician and health care team. Trauma-informed health care also incorporates an understanding of the impact that children's prior traumatic exposure (e.g., to violence, abuse, or other frightening experiences) could have on their current health status and on the clinician-patient encounter.

Practice Standards and the Ethical Case for Trauma-Informed Care

There is little empirical data about the extent to which current practice in pediatric care is trauma informed, although several indicators suggest that there is room for improvement. For example, among level I trauma centers that see children, only 20 percent systematically address posttraumatic stress in pediatric patients [15], and surveys of health care professionals indicate wide variation in knowledge and practice of trauma-informed pediatric care [16-18]. Nevertheless, practice standards are beginning to enumerate elements of trauma-informed care as key components of pediatric health care in such diverse areas as pediatric oncology [19] and pediatric trauma care [20].

Building on an understanding of the potentially traumatic nature of medical experiences for children and the risk for ongoing pediatric medical traumatic stress, we can now apply core principles of medical ethics (respect for autonomy, beneficence, nonmaleficence, and justice [2]) to delineate an ethical case for provision of trauma-informed pediatric care.

Respect for autonomy. The principle of respect for autonomy asserts that physicians must respect their patients' decision-making capacities and involve patients in their own care by providing information, choices, and control [2]. Children in the acute care setting commonly report feeling lack of control over what is happening to them [21, 22], which increases the potential for a challenging medical event to be experienced as traumatic. The legal capacity to consent to treatment generally falls to a child's parents or guardians, who are the primary decision makers throughout the course of pediatric medical care [23]. Nevertheless, physicians can ensure that children are provided with developmentally appropriate information and involved (even informally) in [assenting to care](#) [23]. Presenting opportunities for children to exercise some degree of control and providing choices (e.g., as to their position or their selection of a distracting activity) in the midst of painful or distressing symptoms or procedures can mitigate the traumatic nature of these experiences [24, 25].

Beneficence and nonmaleficence. With regard to pediatric medical traumatic stress, the principles of beneficence and nonmaleficence suggest that physicians and health care systems must strive to provide care that does not cause iatrogenic emotional distress during treatment and that maximally protects against the development of ongoing traumatic stress reactions. The challenges in achieving this care are clear. Providing effective medical care often involves the risk, or even the certainty, of pain or discomfort that is not easily remedied. Despite the use of pain management strategies, during their hospital admission many children experience pain that is not well controlled [26]. Many medically necessary procedures can be perceived as frightening by young patients, and children in acute care settings are often exposed to sights and sounds that can frighten them (e.g., machines, alarms, and other patients' pain or distress) [21, 22].

Fortunately, there is a growing empirical evidence base to guide practices that reduce a child's risk for immediate and long-term traumatic stress. Promising practices grounded in this evidence base include managing pain through pharmacological and nonpharmacological interventions, supporting parental presence and involvement, and providing effective support for children during procedures [24, 27]. As one example, when a child shows distress during a procedure, many clinicians (and parents) naturally want to provide emotional reassurance, saying things like "You're OK" or "Don't worry." Counterintuitively, a large body of research has found that this kind of verbal reassurance from parents or clinicians during procedures can exacerbate a child's pain and distress [24, 28]. The evidence also suggests that active [distraction strategies](#), such as engaging the child in interactive play or in nonprocedural talk, are most effective in reducing distress [29]. By optimizing pain management, promoting parental presence, and helping parents use distraction techniques effectively during a potentially painful or frightening procedure, trauma-informed physicians and health care teams are acting consistently on the principles of beneficence and nonmaleficence.

Justice. The principle of justice requires that physicians work to uphold a fair and just distribution of benefits and risks. Physicians should be aware of, and strive to prevent, health disparities that increase their patients' risk of experiencing pediatric medical traumatic stress. Relevant disparities can be seen across settings. Surveys of pediatric readiness suggest that EDs at community hospitals are less likely than pediatric EDs to have clear policies supporting family presence for their pediatric patients [30]. And research has documented racial and ethnic disparities in care that could impact children's risk for medical traumatic stress. For example, one study showed that black children in the ED were less likely than white children with similar levels of abdominal pain to receive analgesic medication [31]. In another study, children whose parents had limited English language proficiency had their pain assessed less frequently during postsurgery care and experienced greater pain levels before receiving analgesic medication [32]. And a growing body of research demonstrates that physicians and other health care professionals exhibit implicit (i.e., unconscious) biases based on race [33, 34]. To actively combat [unconscious bias](#) in pain management and other aspects of trauma-informed pediatric care, professionals can take concrete steps such as acknowledging their own susceptibility to implicit bias and practicing taking the perspective of stigmatized groups; there is empirical support for at least short-term reductions in implicit bias based on these steps [35]. However, persistent reductions in implicit bias may require more sustained and strategic interventions [36].

Conclusion

In summary, the concepts of pediatric medical traumatic stress and trauma-informed pediatric care are essential for understanding the potential iatrogenic psychological effects that medical care can have on children and how to mitigate those effects. The process of providing medical care has the potential to be protective and to ameliorate

risk for traumatic stress in ill or injured children or to inadvertently engender traumatic stress reactions in these children. Improving health care practice for the good of our pediatric patients (beneficence) and avoiding iatrogenic harm (nonmaleficence) will require continuing research and systematic quality improvement efforts. The research and quality improvement agenda begins with identifying promising trauma-informed policies and practices, such as those delineated in this brief review, and then systematically evaluating the effectiveness of those practices in reducing immediate and longer-term pediatric medical traumatic stress. Although there is a strong empirical basis for specific trauma-informed practices [1, 37], we know of no study to date that has addressed the impact of systemic implementation of trauma-informed pediatric medical care.

Effective implementation of trauma-informed care will require changes not only in the knowledge and practice of individual professionals but also in institutional protocols and policies [37], such as protocols for supporting family presence during procedures or for optimizing pain management. It is also likely to require a commitment from institutional leadership to train all staff who interact with pediatric patients in specific new skills and sensitivities (e.g., recognizing the psychological impact of medical events and treatment on children, providing effective support for children during challenging treatment experiences, and helping parents provide effective assistance to children throughout a child's ED or hospital stay) [37]. Even brief training can increase professionals' knowledge and confidence in implementing trauma-informed practices in their daily interactions with pediatric patients, an important first step [38]. Physicians can play a key role in training medical staff and in providing leadership in trauma-informed care in collaboration with nursing leaders and psychosocial staff. Tools—including brief, focused, online training resources—are available to help physicians and health care teams learn and implement specific skills necessary for trauma-informed pediatric health care [25, 39-41].

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