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SPECIAL SECTION

CHILD MALTREATMENT

GUEST EDITORS: CHRISTINE E. BARRON, MD; AMY P. GOLDBERG, MD

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Christine E. Barron, MD



Amy P. Goldberg, MD

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Introduction: A Multidisciplinary Approach to Address Child Maltreatment

CHRISTINE E. BARRON, MD; AMY P. GOLDBERG, MD
GUEST EDITORS

To thrive, children need support, nurturance and love from their parents and caregivers. Conversely, adversity in childhood can lead to lifelong impacts on both physical and mental health. Seminal work by Drs. Vincent Felitti and Robert Anda conducted in 1995–1997 through the Center for Disease Control Kaiser Permanente study identified that different forms of abuse and neglect experienced in childhood had lasting effects into adulthood. The study revealed that two-thirds of over 17,000 participants had at least one adverse childhood experience, now commonly referred to as “ACEs”, and that a growing number of ACEs participants experienced increased negative physical and mental health outcomes.¹ In 2021, over 600,000 children experienced some form of child abuse and/or neglect, underscoring the magnitude of this problem and need for further study to inform interventions.² More recent studies focused on children have examined how the hypothalamic pituitary axis response to toxic stress may impact a child’s trauma experience, the role of epigenetics on neurobiology, and the subsequent effects on psychological and physical health.³ With an expanded understanding of the severe impact of toxic stress has come the imperative to identify and intervene when there is concern that a child is being harmed.

In this special issue of the *Rhode Island Medical Journal* (RIMJ), we present articles that explore current and multiple facets of this complicated problem. Authors from six states across the country and diverse professional backgrounds, including pediatrics, law enforcement, child welfare, advocacy, medical anthropology, child life, and research methodology, have contributed and reflect the importance of a multidisciplinary approach when confronted with child maltreatment.

Prior to 1967 when mandatory reporting laws were established in all states, professionals who identified child abuse and neglect had no community infrastructure to rely on for investigation, support, or protection. **SARAH KLEINLE** et al provide an historical overview of the recognition of different forms of child maltreatment, mandated reporting laws, and describe the creation of a child abuse pediatric subspecialty. In the spring of 2020 during the COVID-19 pandemic the community safety net, which typically provides a mechanism for abuse and neglect to be identified, reported, and responded to, disintegrated. **BRETT SLINGSBY** et al conducted a retrospective chart review comparing

patient numbers and types of cases in the first seven months of the pandemic to the previous three years. The analysis offers insight into the critical role that in-person support networks, including medical providers, school personnel, social service and mental health providers, play to promote children’s well-being and safety.

Approximately 400 board-certified child abuse pediatricians currently practice in the United States. This dedicated focus and expertise from the pediatric medical community for complex diagnoses like abusive head trauma (AHT) has expanded research for an evidence-based and multidisciplinary approach to diagnosis and intervention. The severity of child physical abuse exists on a continuum and includes cutaneous, skeletal, and visceral trauma and, while not the most common form of physical abuse, abusive head trauma is the most severe and the most studied. **AMY GOLDBERG** et al review the common findings of AHT, its history and scientific basis. **STEPHANIE RUEST** et al contribute a case report of traumatic chylothorax, a rare form of child physical abuse.

The rates of child sexual abuse have significantly declined since peak rates in the early 1990s. Although the reason for this decline is debated, there remains the possibility that prevention strategies have been effective and may be models for other types of child maltreatment. Domestic minor sex trafficking (DMST), a form of child sexual abuse, has been more recently defined, identified, and studied and unfortunately increasing rates have been seen in the past decade. **JESSICA MOORE** et al discuss the unique opportunities for medical providers to identify, interact with and intervene, utilizing trauma-informed practices for this specific adolescent population. The ACE study’s identification that trauma is a common experience for all patients paved the way for the acceptance that trauma-informed care must be part of standard medical practice. In a prospective survey study that compares female caregivers with and without a history of child sexual abuse, **ADEBIMPE ADEWUSI** et al recognize the importance of parental perception for children with sexualized behaviors and that parents were open to this type of research when asked about their own trauma histories.

Neglect is the most common type of child maltreatment and the most understudied. It is also most intertwined with societal maladies. The legalization of medical and recreational cannabis use has resulted in increased ingestions for

young children. **HINA RAZA** et al highlight this trend and its effect on children's safety. They thoughtfully consider whether these unintentional ingestions are due to supervisory neglect and importantly recognize the significance of mitigating this notable risk for children.

While child maltreatment remains a significant public health concern, innovative approaches to all aspects of child maltreatment through education, advocacy and prevention have been made through the introduction and promulgation of innovative trauma-informed care and interventions. One example provided by **CHRISTINE BARRON** et al describe a novel collaborative approach to provide support for child victims and their family members through all aspects of a child maltreatment investigation, medical evaluation, and prosecution by the creation of a unique canine comfort therapy program.

We hope the articles in this special issue promote an enhanced understanding of the intricate and complex components of child maltreatment as we all strive to improve the health and well-being of all children.

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Guest Editors

Christine E. Barron, MD, Professor, Pediatrics, Warren Alpert Medical School of Brown University; Division Director, Aubin Child Protection Center, Rhode Island Hospital/Hasbro Children's Hospital, Providence, RI.

Amy P. Goldberg, MD, Professor, Pediatrics, Warren Alpert Medical School of Brown University; Clinical Director, Pediatric Abuse and Neglect Diagnostic Assessment Clinic, Aubin Child Protection Center, Rhode Island Hospital/Hasbro Children's Hospital, Providence, RI.

Correspondence

Christine E. Barron, MD
Aubin Center
Hasbro Children's Hospital
593 Eddy Street
Potter Building, Suite 005
Providence, RI 02903
Christine_Barron@brown.edu

A History of Child Abuse Pediatrics: Training, Research, and Clinical Diagnosis

SARAH KLEINLE, DO, FAAP; HANNAH NGO, OMS-III; AMY P. GOLDBERG, MD, FAAP; RACHEL SILLIMAN COHEN, MD, FAAP

ABSTRACT

This article provides an historical review of child maltreatment, focusing on the three most common subtypes: physical abuse, sexual abuse, and neglect. The evolution of recognizing, evaluating, and accurately diagnosing child maltreatment is described. Over time, the establishment of multidisciplinary teams, mandatory reporting, and Child Abuse Pediatrics as a subspecialty of pediatrics has improved the training, research, and clinical diagnosis for all forms of child maltreatment. These advancements have set clinical standards to ensure accurate diagnosis, prevent the misdiagnosis of child abuse and neglect, and continually improve the systems meant to protect children. The expansion of knowledge of child maltreatment continues with attention on early detection of children at risk of developing lifelong physical, psychological, and behavioral consequences from trauma associated with all forms of child maltreatment.

KEYWORDS: abuse, neglect, child maltreatment, diagnosis, history

INTRODUCTION

The World Health Organization (WHO) defines child maltreatment as neglect or abuse by a caregiver toward a child under 18 years of age. The most common types of child maltreatment recognized include neglect, physical abuse, emotional abuse, and sexual abuse.¹ The understanding of child maltreatment has evolved over time, as has the identification of child abuse and neglect as medical diagnoses. Auguste Ambroise Tardieu published a series of over 500 cases of physical abuse as early as 1860 for forensic study.² In 1962, the publication of “The Battered-Child Syndrome” in the *Journal of the American Medical Association* by Kempe et al began to lay the foundation for how physicians evaluate possible child abuse.³ Recognition by this publication was important because it established child abuse as a relatively common and recurring aspect in family life, not a rare anomaly. Additionally, this seminal paper began to establish child physical abuse as a medical diagnosis and therefore the importance for recognition within the medical setting by medical providers. In 1958, just prior to this

paper’s publication, Dr. Kempe recognized that in order to effectively develop interventions, treatment plans and follow-up for children affected by child abuse and neglect, professionals from multiple disciplines, within the hospital and community had to work together. He helped establish one of the country’s first multidisciplinary teams, now the standard for practice within all related child welfare fields. Subsequently, between 1963 and 1967 every state passed some form of reporting legislation enabling individuals to refer suspected cases of child abuse or neglect to an identified state agency. Recognizing the need for a single federal focus for prevention and response to child abuse and neglect, the Child Abuse Prevention and Treatment Act (CAPTA) was enacted in 1974.⁴ This legislation resulted in the creation of definitions for all forms of child abuse and neglect, and funding for prevention, investigation, prosecution and treatment. Importantly, CAPTA identified the need for research to improve knowledge related to child maltreatment and provided funding to support technical assistance, data collection and the establishment of a national clearinghouse of information.

The understanding of the prevalence, diagnosis, and treatment of all types of child physical abuse has evolved. Medical providers have since developed a robust body of literature that has led to the creation of evidence-based standards of care based on identification of injury patterns in children, comparison to normative datasets and judicious implementation of skeletal surveys, lab studies, and neuroimaging.⁵⁻⁸ With an expanded knowledge base, clinical practice has evolved to inform earlier identification of children at risk. For example, a study published by Sheets et al in 2013 defined sentinel injuries as “relatively minor abusive injuries (that) can precede severe physical abuse in infants.” They found that infants diagnosed with severe physical abuse commonly had sentinel injuries compared to infants evaluated for abuse and found to not be abused, in whom sentinel injuries were rarely seen. The most common sentinel injuries missed by medical providers were bruises and intraoral trauma. A sentinel injury is only recognized retrospectively and therefore the study’s authors concluded that early recognition of injuries in children offers an opportunity to intervene and protect infants from further harm.⁹

A specific, serious form of physical abuse – abusive head trauma (AHT) – has garnered a prominent role in the field

of child abuse pediatrics. Initially called “Whiplash Shaken Infant Syndrome,” “Shaken Baby Syndrome,” and “Shaken Impact Syndrome,” this diagnosis first appeared in the literature in 1971.¹⁰ Since its early recognition, AHT has developed an established scientific basis for understanding mechanisms of injury, diagnosis, prognosis and interventions. The term abusive head trauma, recommended in 2009 by the American Academy of Pediatrics, avoids reference to mechanistic causes of injury and remains the current accepted term to describe this medical etiology.¹¹ Controversy related to diagnosis has been elevated by the media and debated in the courtroom despite a robust scientific basis accepted by multiple national and international professional societies.¹² (For additional information on this topic, please see the article “Abusive Head Trauma: Historical and Current Perspectives of a Complex Diagnosis,” in this edition of RIMJ).

The awareness of child sexual abuse (CSA) has similarly evolved over the past four decades. There was a marked increase in reported cases of CSA in the 1980s, with an 8-fold increase of reported cases by 1995.¹³ A decline of reported and substantiated cases of CSA was noted in the following decade; this decline was identified as multifactorial, related to mandatory reporting practices, child protective service (CPS) protocols and responses, and other factors.¹⁴ Presently, the incidence of reported and substantiated cases of CSA has stabilized.¹⁵

Cultural phenomena of the past 40 years have influenced an understanding of CSA. The so-called moral panic about daycare and school-based CSA, many of which were ultimately found to be false, reflected the evolving evidence-base of best practices in interviewing children about CSA concerns.¹³ High-profile cases, including sexual abuse perpetrated by clergy-people and sexual abuse involving coaches and doctors, have raised concerns about failures in the systems meant to protect children.¹⁶

Evaluation and intervention practices have advanced over time, as has an understanding of the physical and mental health effects of CSA. A critical component of diagnosis is the medical history obtained by child abuse specialists and is based on the understanding that disclosure of abuse is a process. Work by Dr. Thomas Lyon, whose effort on forensic interviewing skills and methodologies, has influenced the field along with the work of several child abuse pediatricians.^{17,18} In 1994, Dr. Joyce Adams and colleagues published a significant paper entitled “Examination findings in legally confirmed child sexual abuse: it’s normal to be normal”. This paper established the importance of documenting a child’s statements obtained during a forensically informed medical interview, given that most children evaluated for sexual abuse will have a normal ano-genital examination.¹⁹ Research about positioning, visualization, and documentation of genital examinations for all genders has defined current gold-standard practice. Patterns and findings of

genital trauma and healing and the relatively low incidence of genital injury in the context of sexual abuse diagnoses has been well established.²⁰⁻²² Critical for a standardized diagnostic approach for child sexual abuse medical evaluation and to avoid misdiagnosis, in 2007 Adams and colleagues developed guidelines and recommendations for performing and interpreting findings for children referred for medical evaluations.²³ While these guidelines identify medical findings that are consistent with child sexual abuse, they also recognize findings that are nonspecific. These guidelines were updated in 2016 and anticipated to be reupdated and published in 2023.²³

Similarly, early conceptualization of neglect began with behavioral studies of children living in institutions experiencing extreme deprivation.²⁴ These studies demonstrated that early deprivation leads to impairment and concluded that healthy development is not only threatened by traumatic experiences but also by the absence of positive experiences.^{25,26} From these examples of severe neglect, medical and mental health providers began to recognize that the care of a child exists across a continuum from grossly inadequate to optimal. Neglect is by far the most prevalent form of child maltreatment. Within this continuum, the determination for adequacy of care is often arbitrary and explicit criteria for determining the threshold for intervention is within the purview of each state’s child welfare system. As such, the CPS definitions for thresholds vary across jurisdictions.

Despite its prevalence, neglect continues to receive less public attention and dedicated research.²⁷ Different than other types of child maltreatment, child neglect is defined by acts of omission often resulting in no clear injury, leaving physicians to describe potential immediate risk and long-term outcomes. In fact, acts of omission which lead to negative medical and mental health outcomes can often-times be due to resource insecurity, social determinants of health, poverty, systemic and societal biases, and are not acts of neglect, at all.²⁸⁻³⁰ The wide range of causes and consequences related to unmet needs in childhood highlight the need for multidisciplinary support services for children and their families. Approaches, such as the Safe Environment for Every Kid (SEEK) model, have been developed to promote resilience and positive outcomes, in the setting of these complexities.³¹

The expansion of our knowledge of child maltreatment is important for early detection of children at risk of developing lifelong physical, psychological, and behavioral consequences from trauma associated with all forms of child maltreatment.³²⁻³⁴

Increased recognition and research prompted more effective ways to provide care for vulnerable children effected by abuse and neglect. As medical knowledge and clinical skills increased, it became evident that physicians evaluating children for the possibility of child maltreatment required additional training and expertise beyond that acquired during

pediatric residency. In 2006, Block and Palusci published a paper about the necessity for child abuse pediatrics as a recognized subspecialty, stating that hundreds of hours of training and experience are needed to competently identify and treat children effected by abuse and neglect.³⁵ This perspective has been supported by numerous studies. Only 34% of chief pediatric residents thought their graduating residents were prepared to address child abuse.³⁶ Starling et al found that third-year residents in pediatrics, family medicine, and emergency medicine were unable to identify normal female genital anatomy, had minimal training in child abuse and were very uncomfortable evaluating children for sexual abuse.³⁷ Practicing primary care physicians were also found to be uncomfortable identifying and managing child abuse due to their lack of knowledge and experience.^{37,38} In addition to treating children directly, child abuse pediatric subspecialists provide other clinicians a resource and expert opinion when challenged with concerns for abuse or neglect.

Physicians, especially those practicing primary care, often face time constraints. Evaluations for suspected child maltreatment require more time than typically allotted to general practitioners. Additionally, many physicians are uncomfortable with child maltreatment due to concern of involvement in court procedures, for which they have received little to no education.³⁹⁻⁴¹ In addition to developing an intensive and broad knowledge base for standard of care for all forms of child maltreatment, child abuse pediatricians receive training and experience in providing expert witness testimony.

CHILD ABUSE PEDIATRICS (CHAB/CAP) AS A SUBSPECIALTY OF PEDIATRICS

In 2006, the American Board of Pediatrics established child abuse pediatrics (CHAB/CAP) as a subspecialty of pediatrics. The skills, education and training required to provide appropriate care for patients when there is a concern for child abuse and/or neglect was officially recognized. Subsequently, the Accreditation Council for Graduate Medical Education (ACGME) standardized fellowship training for physicians entering this field, establishing uniform standards to ensure quality and expert care for children who have experienced abuse and neglect.⁴² American Board of Pediatrics certification followed in 2009 when the first certification examination was offered. Child abuse pediatrics fellowship graduates are trained to “diagnose and manage acute and chronic manifestations of child abuse, demonstrate competence in teaching, design and conduct research in child abuse, act as a competent physician in a multidisciplinary field, and become familiar with administrative, legislative and policy issues in child abuse.”⁴³ The specialized training received by child abuse pediatricians provides healthcare professionals who interact with children within a hospital and the community, an expert resource to prevent

delayed and misdiagnosis, support mandatory reporting and recommend interventions.

An essential role of the child abuse pediatrician is to ensure accurate diagnosis and to prevent the misdiagnosis of child abuse and neglect. Child abuse pediatricians are trained to provide both inpatient and outpatient consultations resulting in improved evaluations and care for children who have experienced abuse or neglect. Notably, CAPs are less likely to make a diagnosis of child physical abuse or neglect, as compared to referring physicians. Another study describing a hospital-based child abuse consultation service found that the child abuse pediatrician concluded that abuse was likely or definite in less than half of the patients they evaluated.⁴⁴ The pediatric subspecialty of child abuse pediatrics is vitally important for the accurate diagnosis of injury and trauma, for limiting overdiagnosis of child maltreatment, for the training and education of medical students, residents, and fellow pediatricians, and for ongoing research and scholarship regarding maltreatment and traumatic experiences.

CONCLUSION

Over the last century, the recognition of child abuse and neglect as a pediatric problem requiring trauma-informed evaluation, accurate diagnosis, intervention and importantly prevention has transformed. Within the American Board of Pediatrics subspecialties, child abuse pediatricians rely on rigorous training and a robust body of evidence-based literature to provide quality care, and consultative recommendations for patients who have experienced abuse and neglect. Scholarship in child abuse pediatrics is working toward a greater understanding about childhood and adolescent resilience, the perspicacious assessment of child protection policies, and consideration of the effects of personal and institutional biases on child welfare. Clarity on these issues is important for the welfare of children and adolescents in our country and the field of child abuse pediatrics will continue to evolve accordingly.

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Authors

Sarah Kleinle, DO, FAAP, Cooper Medical School of Rowan University, Cooper University Healthcare, Camden, NJ; Child Abuse Research Education and Service [CARES] Institute, Rowan-Virtua School of Osteopathic Medicine, Stratford, NJ.

Hannah Ngo, OMS-III, Rowan-Virtua School of Osteopathic Medicine, Stratford, NJ.

Amy P. Goldberg, MD, FAAP, The Warren Alpert Medical School of Brown University; Rhode Island Hospital/Hasbro Children's Hospital, Providence, RI.

Rachel Silliman Cohen, MD, FAAP, Child Abuse Research Education and Service (CARES) Institute, Rowan-Virtua School of Osteopathic Medicine, Stratford, NJ; Cooper Medical School of Rowan University, Camden, NJ.

Disclosures

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Correspondence

Rachel Silliman Cohen, MD
sillimancohen@rowan.edu

Medical Evaluations in Rhode Island for Suspected Child Abuse and Neglect Prior to and During the COVID-19 Pandemic

BRETT A. SLINGSBY, MD; CHRISTIAN SCHROEDER, BS; KARA STOCK-GUILD, CPNP; ABIGAIL KEOGH, MD

ABSTRACT

During the COVID-19 pandemic, there was an increase in several risk factors for child maltreatment. There was also a sudden decrease in the systems available to identify and support at risk children and families. This study aims to describe the number of children presenting to specialized medical care for suspected child abuse and neglect during the first seven months of the COVID-19 pandemic compared to the three previous years. This was a retrospective chart review of all cases evaluated by the child abuse team in Rhode Island from March 1st until September 30th of 2017, 2018, 2019 and 2020. During the first seven months of the COVID-19 pandemic, there were 10% fewer children evaluated by the child abuse team with the most significant decrease (35%) in the number of children evaluated for physical abuse. With the known increased risk factors for physical abuse due to COVID-19, the decrease in the number of children evaluated for physical abuse is unlikely due to a decrease in the incidence of physical abuse. This decrease is most likely due to physical abuse not being identified or children not being referred to specialized medical care. Without the ability to see and interact with children in person, professionals' ability to identify child victims of abuse is limited. Professionals working with children and families at risk should develop strategies to be able to continue to provide in-person services in the future if another pandemic or natural disaster occurs.

KEYWORDS: Child Abuse, COVID-19, Maltreatment

INTRODUCTION

Child maltreatment affects thousands of children each year across the United States and the world. Annually, Child Protective Services (CPS) identifies approximately 670,000 US children affected by abuse and/or neglect with approximately 3,000 of those children residing in Rhode Island.¹ Child maltreatment, which includes physical and sexual abuse and all forms of neglect, is an adverse childhood experience associated with negative short- and long-term effects on a child's physical health, psychological health, and overall well-being.² Identifying those affected by maltreatment

and connecting them with appropriate interventions has demonstrated improved outcomes including the prevention of repeat victimization.³⁻⁶

Prior to the COVID -19 pandemic, previous studies demonstrated that both family and community stressors increased the risk of child maltreatment by weakening systems in place to protect children and prevent their victimization.⁷ The COVID-19 pandemic resulted in conditions that threaten the health, stability, and well-being of children. These conditions include: the morbidity and mortality of children's caregivers, caregiver job loss, increased rates and exacerbation of mental health conditions and domestic violence.⁸⁻¹⁰ As a result, there is significant concern that the COVID-19 pandemic placed more children at risk of maltreatment.

Identifying and reporting child maltreatment is essential to connect families with services and have CPS assess the child's safety. School closings and virtual medical appointments were strategies to decrease the spread of the virus. The unintended negative consequences of this approach resulted in fewer opportunities for children to disclose and for professionals to notice signs of maltreatment. In 2019, the year prior to the pandemic, 21% of the reports to CPS nationally were made by education personnel and 11% by medical professionals.¹ With schools closing in March 2020, and the initiation of distance learning in Rhode Island, a large group of professionals to whom children disclose, and who may notice concerning injuries, lost their direct interaction with children. Medical providers also saw fewer patients initially during the pandemic and started to complete visits virtually. While virtual medical visits importantly increase access to healthcare providers, this format for interacting with patients has limitations for identification of children experiencing victimization. During the early part of the pandemic, families avoided all medical settings due to concerns of exposure to COVID-19. A study by Kaiser et al found fewer children presenting to the hospital with any medical concern early during the COVID-19 pandemic. This study also showed fewer children evaluated for physical abuse concerns during that time.¹¹ Furthermore, social distancing prevented children from having access to friends, neighbors, and extended family members. These important social networks are critical for normative social development and provide opportunities for children to disclose

child maltreatment to a trusted individual. In the setting of predicted increased rates of child abuse and neglect, these factors likely created conditions that decreased the detection and reporting of child maltreatment during the pandemic. Per data from CPS, there was a 23% decrease nationwide in the number of identified victims of child maltreatment from April–June of 2020 compared to 2019.¹²

The objective of this study was to compare the number of children receiving a medical evaluation for physical abuse, sexual abuse, and neglect during the first seven months of the COVID-19 pandemic (March 1, 2020–September 30, 2020) with the same months in the three years prior to the pandemic (2017, 2018 and 2019). This data will help inform how the COVID-19 pandemic affected health and safety.

METHODS

Data Source and Study Population

The Rhode Island Hospital Institutional Review Board approved this study. In Rhode Island, there is a single medical program staffed by providers with subspecialty training in child abuse pediatrics, who complete comprehensive evaluations for suspected physical abuse, sexual abuse, neglect, and all other forms of maltreatment. Patients included in this study were between the ages of 0 and 18 years of age medically evaluated by this specialized hospital-based child abuse pediatrics team, for all forms of child maltreatment during the study period as detailed below. Patient information was collected and reviewed using this team's database.

Demographics and Initial Hospital Evaluation

Patients who met criteria for inclusion in the study were placed into a study database in RedCap. Demographic information was collected by reviewing the electronic medical record and reviewing the consultation or clinic note. Data collected included the child's age, the child's gender, the reason for evaluation, the month and year of evaluation, the type of evaluation (inpatient/emergency department consultation or outpatient clinic) and the type of maltreatment concern.

Study Period

The study period starts in March since the first confirmed case of COVID-19 was diagnosed in Rhode Island on March 1st, 2020 and all public schools in Rhode Island were closed by March 16th, 2020. Cases were included from March 1st through September 30th of 2020 to include medical evaluations in the early phase of the pandemic. Cases were also included from March 1st through September 30th of 2017, 2018 and 2019 as a comparison group.

RESULTS

Review of the child abuse pediatrics team's database identified 2395 children who met inclusion criteria. **Table 1** shows basic demographic information of the population. Overall, in 2020, there was a 10% decrease in the average number of children evaluated compared to pre-COVID years (**Figure 1**). Notably the patient's included in the category identified as "other" included patients who were in DCYF custody and being evaluated prior to initial placement, when changing placements, after being absent from care, or for COVID-19 testing (in 2020). Evaluations of this type were 2.6–4 times more frequent during the pandemic as compared to the three years prior (**Figure 2**). The average number of children evaluated during the pre-pandemic years (2017–2019) for sexual abuse, physical abuse and neglect were 281, 189, and 123 respectively. In 2020, the number of patients evaluated were 242, 124, and 114 respectively (**Figures 3,4,5**). There was a 35% decrease in the number of children evaluated for physical abuse in 2020 compared to previous years.

Table 1. Demographic information by year of evaluation

	2017 Pre-COVID	2018 Pre-COVID	2019 Pre-COVID	2020 COVID
Total	603	621	618	553
Sexual Abuse	281	284	274	242
Physical Abuse	176	188	202	124
Neglect	122	122	124	114
Other	24	27	18	73
Gender				
Male	242 (40%)	246 (40%)	239 (40%)	190 (34%)
Female	361 (60%)	274 (44%)	372 (60%)	359 (65%)
Transgender M	0	1	5	4
Transgender F	0	0	2	0
Median Age (years)	6	7	7	9

Figure 1. Total number of children evaluated each month

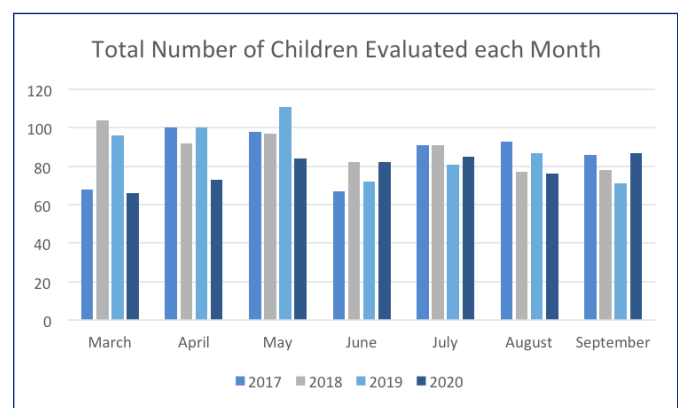
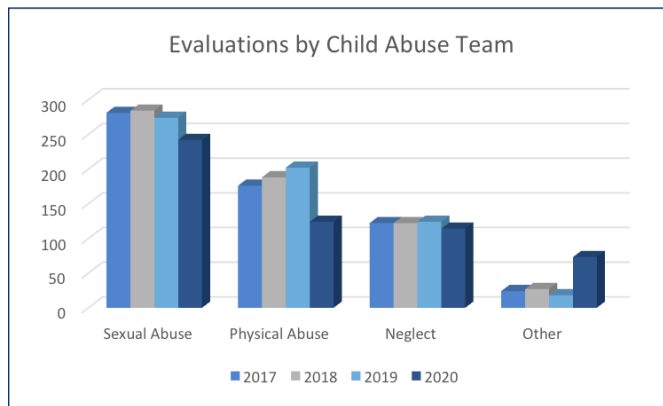
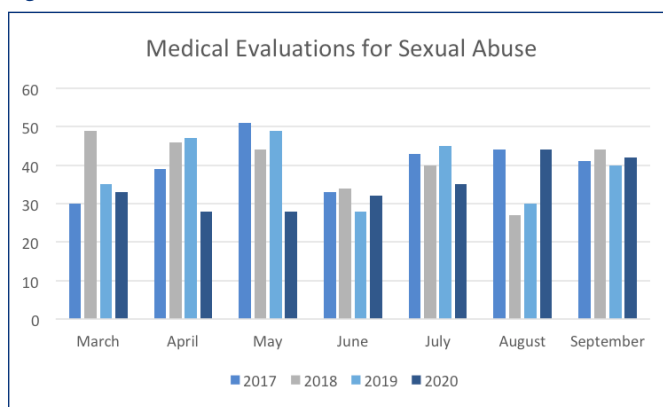
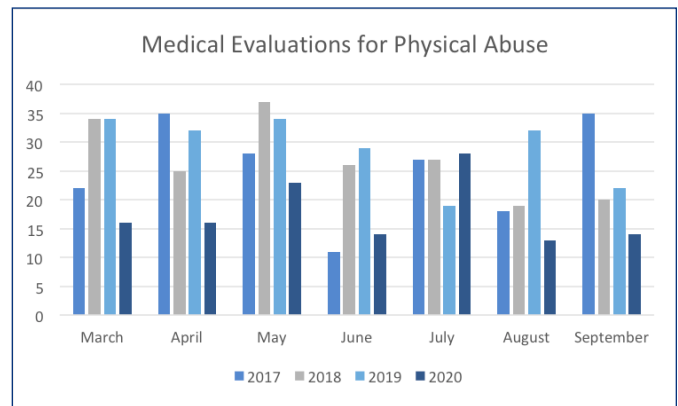
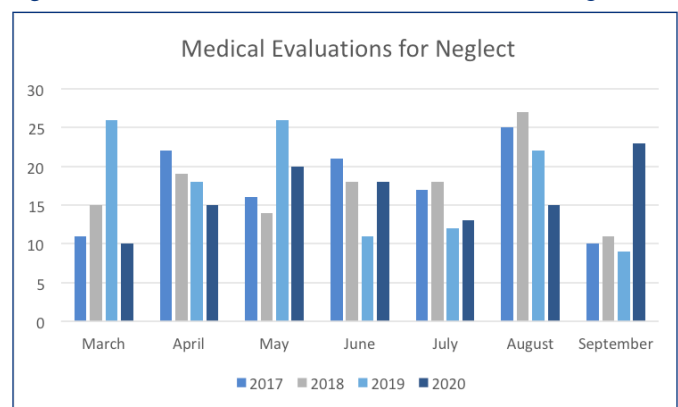


Figure 2. The number of children evaluated each year per area of concern**Figure 3.** The number of children evaluated each month for sexual abuse**Figure 4.** The number of children evaluated each month for physical abuse**Figure 5.** The number of children evaluated each month for neglect

DISCUSSION

In this retrospective study, we found that during the first seven months of the COVID-19 pandemic, the child abuse pediatrics team evaluated 10% fewer patients compared with previous years. There was a 14% decrease in the number of patients evaluated for sexual abuse, a 7% decrease in the number of children evaluated for neglect, and a 35% decrease in the number of children evaluated for physical abuse. Despite a predicted increase in the incidence of child maltreatment during the COVID-19 pandemic, fewer children, especially with physical abuse concerns, received specialized medical care for maltreatment. In contrast, there was a 2.6–4-fold increase in the number of patients evaluated for other concerns. Most children in this group are in DCYF custody and receive medical evaluations related to placement changes or after being absent from care. In 2020, the child abuse pediatric team began offering COVID-19 testing for children in DCYF care, especially in congregate care, which likely affected the increased number of children evaluated in this category.

There are several possible explanations for the decreased number of children evaluated by the child abuse pediatrics team for physical abuse during the pandemic. There could have been a decrease in the number of children physically

abused in Rhode Island during this time; however, this possible explanation is unlikely given the known increases in financial stress, mental health crises, substance abuse, and intimate partner violence that was occurring during the same time period,^{13,14} which are factors associated with child physical abuse. Another possible explanation is that physical abuse was occurring at similar or higher rates, but children were not identified, and subsequent evaluations were not completed due to a weakened safety net available to children, or families avoiding healthcare settings to decrease COVID exposure. School and daycare closures, distance learning, virtual medical visits, and social distancing, makes this a likely explanation for these findings.

During this study period, there was a decrease in the number of sexual abuse evaluations; however, this decrease was not statistically significant. During April and May of 2020, there was a decrease in the number of children evaluated for sexual abuse, which returned to similar numbers in June compared to previous years. This most likely reflects families staying home during the first few months of the COVID-19 pandemic to minimize exposure in all healthcare settings, which resulted in decreased referrals for subspecialty sexual abuse evaluations. Interestingly, while

the rates of sexual abuse medical evaluations returned to normal, by June of 2020, the rates of physical abuse evaluations remained low through September of 2020, with the exception of July of 2020 which appears to be an outlier.

Similar to physical abuse, the number of children experiencing neglect was predicted to increase during the COVID-19 pandemic due to the expected increase of other risk factors and the decrease of programs providing in-person or in-home services and supports for families. Poverty has also been associated with child neglect and COVID-19 resulted in many families losing jobs and income.¹⁵ Some programs including child tax credits, expanded unemployment benefits, and school lunch programs may have mitigated some of the financial strain on families. In this study there was not a significant change in the number of children evaluated for neglect throughout the study period. This finding may not reflect the true number of children experiencing neglect or reported to CPS for neglect concerns, as this number represents the number of children receiving medical care for neglect.

Children who were evaluated in the category “other” include children in DCYF custody for whom a medical evaluation is requested due to placement into foster care, change in foster care placements, or after being absent from care. With many older children in DCYF custody residing in congregate care, concerns were raised about children and staff being exposed to COVID-19 and there was need for children to complete timely COVID testing following possible exposures. The child abuse pediatric clinic began offering testing for this population to facilitate placement decisions by DCYF and prevent outbreaks in congregate care settings. This new service increased the number of children evaluated in 2020, reflected in the other category. Anecdotally, patients, primarily adolescents living in congregate care within this category of evaluations, left these settings during the early months of the pandemic for several reasons: to connect with family members and peers, to have a break from their feelings of confinement, and others left these settings to engage in high-risk behaviors.

Overall, this study demonstrates that initially during the COVID-19 pandemic, fewer children presented to medical care for specialized evaluations by the child abuse pediatrics team. The decline in medical evaluations in March, April, and May of 2020 was likely seen by most pediatric health providers and probably reflects families avoiding non-emergent appointments to avoid COVID-19 exposure. Following this initial response to the pandemic, the number of children evaluated for sexual abuse and neglect returned to previous rates while the number of children evaluated for physical abuse remained low. Given the known increased risk factors for physical abuse during the pandemic and increased difficulty connecting families with services, it is unlikely that this decrease in children evaluated for physical abuse reflects a true decrease in the incidence of physical abuse

and is more reflective of those children not being identified or not being referred to specialized medical care.

This data highlights the role of medical providers, educational personnel, and other supportive adults as integral parts of the safety net that supports children. When supportive adults can directly communicate and interact with children, it provides an opportunity to assess their well-being, identify concerning injuries, and hear disclosures. These social supports and safety nets came to a sudden halt during COVID-19, which impacted the ability to ensure the safety and well-being of children.

Limitations

This study has several limitations. This is a retrospective study at a single site in Rhode Island and therefore the information may not be generalizable to other regions across the country. The number of children evaluated in this study was small, and there was not enough data to show statistical significance. The study period begins on March 1st, as that is when the first case of COVID-19 was diagnosed in Rhode Island; however, the most significant effects of COVID on children occurred later in March when school closings, service closures, and virtual appointments began.

CONCLUSIONS AND FUTURE DIRECTIONS

Support networks for children, including medical providers, service providers, and education personnel, etc., are essential to help identify potential maltreatment and support families who are at risk. When natural disasters or pandemics occur, they cause increased stress in families which results in children being at higher risk of victimization. During these times in-home services are crucial to support children and families, and children benefit from time outside the home at school or daycare to interact in-person with peers and supportive adults. Learning from the COVID-19 pandemic, essential services for at-risk families should identify plans to safely continue providing in-person support and care to children and families during future disasters or pandemics.

Future research could look at the effect of the COVID-19 pandemic on the severity of physical abuse and neglect experienced by children due to delayed medical care or identification of abuse potentially resulting in poorly or undertreated medical conditions and injuries.

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Authors

Brett A. Slingsby, MD, Warren Alpert Medical School of Brown University; Rhode Island Hospital/Hasbro Children's Hospital, Providence, Rhode Island.

Christian Schroeder, BS, Warren Alpert Medical School of Brown University, Providence Rhode Island.

Kara Stock-Guild, CPNP, Rhode Island Hospital/Hasbro Children's Hospital, Providence Rhode Island.

Abigail Keogh, MD, Boston Children's Hospital, Boston, Massachusetts.

Correspondence

Brett A. Slingsby, MD

Lawrence A. Aubin, Sr. Child Protection Center
Potter Building

110 Lockwood St., Basement, Suite 005

Providence, RI 02903

401-444-3996, 401-444-4000

Fax 401-444-3804

Brett_Slingsby@brown.edu

Abusive Head Trauma: Historical and Current Perspectives of a Complex Diagnosis

AMY P. GOLDBERG, MD; CHRISTINE E. BARRON, MD

ABSTRACT

Abusive Head Trauma (AHT) results in more child fatalities than any other form of physical abuse and is associated with significant risk of morbidity for survivors. The diagnosis of AHT is made like any other complex medical condition and is based on a constellation of findings within the context of a reported history provided by the patient's caregiver(s). A standardized process with careful consideration of a differential diagnosis and utilization of a multidisciplinary team is essential. This article explores the history of the diagnosis of AHT, reviews the scientific basis for potential mechanisms, references the recommended medical evaluation, describes common findings, and the importance of early and accurate diagnosis.

KEYWORDS: abusive head trauma, shaken baby syndrome, diagnosis, history, physical abuse

INTRODUCTION

Abusive head trauma (AHT) refers to any inflicted head, spine, and/or brain injury to an infant or young child.¹ The incidence of AHT is about 33–38 cases per 100,000 infant less than one year of age.² AHT results in more child fatalities than any other type of physical abuse and is associated with significant risk of morbidity for survivors.³ When AHT is missed or not diagnosed, children may return to a potentially unsafe environment, placing them at risk of repeated injury or death.⁴ Importantly, AHT is a diagnosis made by a multidisciplinary team based on history, physical examination, imaging, and laboratory studies. The courtroom, however, has inappropriately become the forum for speculative theories that cannot be reconciled with generally accepted medical literature. The purpose of this article is to provide an overview of the history and scientific basis and to describe the common findings for AHT.

Anatomically, infants are vulnerable to the rotational forces associated with AHT. They have a large head-to-body ratio and relatively “soft” brain comprised of mostly water, immature glial cells, and unmyelinated axons. Infant neck muscles are weak and have cervical ligamentous laxity. Perhaps what makes infants most vulnerable is that they express their needs by crying; infant crying has been identified as the most common event that leads to

caregiver frustration, loss of control and subsequent injury.^{5–7}

Terms used to describe this form of head injury have evolved as scientific data have advanced. In 1946, Dr. John Caffey first described six children with chronic subdural hematomas and long bone fractures.⁸ Subsequently in 1962, Dr. Henry Kempe identified “The Battered Child Syndrome” when there was a discrepancy between clinical findings and historical information for hospitalized infants.⁹ In 1971, Dr. Norman Guthkelch made the connection between infants with subdural hematomas and a history of having been shaken by their caregivers. Notably during this time there was not stigma associated with shaking an infant and therefore caregivers readily reported this act to medical providers.¹⁰ The terminology of Shaken Baby Syndrome emerged out of the 1970s and was questioned in 1987 by Dr. Christine Duhaime after studying the biomechanics using model simulation and data based on injury thresholds established in primates.¹¹ Using the term Shaken Baby Syndrome persisted until 2009 when the American Academy of Pediatrics issued a statement recommending the medical use of the term Abusive Head Trauma (AHT) instead. AHT identifies that shaking alone is not inclusive of the range of mechanisms to explain inflicted head injury and, is not a rejection of the dangers of shaking an infant thereby recognizing that this is type of head injury is a form of child abuse. Additionally, a prescribed syndrome approach to diagnosis is not appropriate.¹²

A prospective randomized case-control study can never be ethically completed to understand the biomechanics of AHT. Therefore, our knowledge base relies on extrapolated data from animal studies, comparative studies, simulation modeling as well as admissions and confessions by people who have caused injury to infants.

Biomechanics of head injury

Some of the earliest work to inform the biomechanics of head injury used primate studies that were done by Ayub Ommaya and colleagues in the 1960s. For example, in 1968 researchers secured sedated rhesus monkeys into a fiberglass chair on a sled apparatus with either a collared or uncollared neck. Either a single or multiple propulsion(s) was/were applied to the sled and then researchers evaluated grossly which conditions resulted in concussion and/or subdural hematoma.¹³ Direct, gross examination of the brain occurred

because it wasn't until 1971 that computed tomography (CT) scans were in existence. These data helped to establish what kind of mechanisms resulted in different injuries and injury thresholds. It is critical to recognize that these injuries and thresholds were established in monkeys and *not* in humans nor human infants. While animal data are important, a large limitation to this research is that human infants have different brain compositions, necks, and do not experience the same mechanisms as a monkey on a sled apparatus.

Simulation modeling

Information from simulation modeling has also contributed to our understanding of the biomechanics of AHT. In 1987 Dr. Christine Duhaime and colleagues published a study that utilized clinical, pathology and model simulation data to help elucidate the biomechanics of the entity referred to at that time as Shaken Baby Syndrome. For the simulation component of the study, a primitive model (stuffed head with hinged neck) that had accelerometers placed on its "head" were used to measure the force required to reach certain injury thresholds that resulted in concussion, SDH, and axonal injury. They found that shaking alone did not meet extrapolated injury thresholds – remembering that previously established thresholds were based on the primate data. Despite this, they concluded that "Shaken baby syndrome at least in its most severe acute form is not usually caused by shaking alone. Although shaking may in fact be part of the process, it is more likely that, such infants suffer blunt force impact." This conclusion led to the claim that persists as a serious controversy, that, "It is biomechanically impossible to cause massive brain injuries including subdural hematomas in children through shaking alone."¹¹

More recent simulation modeling has provided additional information about mechanisms. Using a high biofidelic model, that more closely mimicked the head to body proportions of a human infant and importantly had an articulated neck as compared to the hinged neck of the Duhaime model, the researchers demonstrated high levels of angular acceleration on accelerometers placed on the model undergoing vigorous shaking. Additionally, this study offers visual data from high speed videography that identifies the model's "head" experiencing a wide arc of rotation during a 3–4 second episode of being shaken by an adult study volunteer.¹⁴

Comparative studies

Comparative studies have furthermore aided in understanding the biomechanics of AHT. In 2007, Hymel et al published a multicentered prospective study comparing 30 noninjured head-injured infants to 11 injured head-injured infants. They demonstrated significant differences between the two cohorts with the injured head-injured infants having: greater depth of injury on neuroimaging, more frequent presentation with acute cardiorespiratory compromise and lower initial Glasgow Coma scores, more frequent and

prolonged impairments of consciousness, more frequently demonstrated bilateral, hypoxic-brain injury and had worse injury and outcome scores. While the mechanisms differ between infants who suffered injury from motor vehicle crashes, this and other comparative studies contribute to our conceptualization of the harmful effects of AHT.^{15,16}

In addition to the anecdotal experience of medical providers and clinicians having caregivers admit to hurting their infant children, a growing body of literature includes caregivers describing how they injured their infants by shaking both with and without head impact. For example, a study published by Adamsbaum et al in 2013 describes caregiver admissions in France, where plea bargains are not a component of the legal process and thus there is no criminal benefit to admitting to injuring a child, lending some credibility to their validity. The researchers compared the written statements of 29 confession cases with 83 non-confession cases and demonstrated several similarities between the confession statements. The similarities between the confession cases include caregiver frustration particularly with a crying infant, recognition that what they did was dangerous, and that the infant became symptomatic immediately.⁵ Criticism exists that confession data lacks validity; however, several studies now published on this topic have added to the consistency and similarity of information provided to medical providers, and confessions inform our understanding of the biomechanics, and context of AHT.^{6,7} From extrapolated data, we understand to date that AHT is caused by rotational forces applied to the infant brain which can include acceleration, deceleration with or without impact, occurs outside of normal caregiving, including accidental impacts, short falls or playful activities, and the person who causes or witnesses the abusive event recognizes that it is dangerous for the baby.^{5,17,18}

DIAGNOSIS OF AHT

The diagnosis of AHT is based on a constellation of findings within the context of a reported history provided by the patient's caregiver(s). Subdural hematomas (SDHs), with concomitant brain injury, and retinal hemorrhages (RHs) are hallmarks of AHT; however, many infants will have spinal, cutaneous and skeletal injuries, additionally.¹⁹ This diagnosis is made like other complex medical conditions by obtaining a detailed history of present illness, past medical and family history, review of systems; completing a physical examination; and ordering pertinent laboratory studies and radiologic imaging. Based on this standardized process, subsequent consideration of a differential diagnosis is essential.^{20,21} Significantly, the diagnosis of AHT is not made based upon any single component and is specifically never reliant on the patient's social history or a single physical finding. Additionally, the diagnosis is not based upon a predetermined set of findings (e.g., subdural hematoma,

encephalopathy and retinal hemorrhages) often described as “The Triad” by defense claims within a legal setting and inappropriately applied in the clinical setting. Despite “The Triad” being used to discredit the diagnosis of AHT, it is critical to understand the specific relevance of SDH and retinal hemorrhages (RH) in the diagnosis of AHT.

Subdural hematomas (SDH)

Subdural hematomas (SDH) are a common neuroimaging finding in general and are the most common finding in the diagnosis of abusive head trauma.¹⁸ As with any other physical finding, the Identification of a SDH in an infant must be put into context to determine etiology. For example, a small SDH found underlying a skull fracture in the context of a well appearing infant who presents with a history of a fall from caregiver’s arms, likely does not warrant pursuing further work-up. In contrast, mixed density bifrontal SDHs or interhemispheric SDH found in an infant who presents with seizures or respiratory compromise who presents with the same fall history warrants further work-up given that the findings are inconsistent with the history or proposed mechanism of injury. In a 2011 systematic review which described neuroimaging signs that distinguish abusive from accidental head trauma, Kemp and colleagues found that interhemispheric SDHs were 9.5 times more likely in the abused infants. Similarly, for infants presenting with intracranial findings, a systematic review comparing *clinical* signs that distinguish abusive from accidental head trauma found that retina hemorrhages were 3.5 times more likely seen in the abused infants and apnea was 17.1 times more likely.^{22,23}

Retinal hemorrhages

Retinal hemorrhages are found in approximately 80% of patients diagnosed with abusive head trauma. Like SDH, retinal hemorrhages are identified in other medical conditions as well as other traumas and have been described and compared with retinal hemorrhages from abusive head trauma in the scientific literature.²⁴⁻²⁷ The retinal hemorrhages specifically associated with abusive head trauma are extensive, found in multiple layers, and extend from the posterior pole out to the periphery of the retina (the ora serrata). Pediatric ophthalmologists are part of the clinical multidisciplinary team making the diagnosis of AHT. Detailed documentation and assessment of retinal findings is reliant on dilated indirect fundoscopic exam with scleral depression to visualize the entire retina and after consideration of clinical presentation, history, laboratory studies, and physical and neuroimaging findings.²⁸

Assessment recommendations

When there is suspicion for AHT, a thorough undressed physical examination is essential in identifying any cutaneous injuries as approximately 50% of children with abusive

head trauma will have cutaneous injuries.²⁹ Neurologic assessment is particularly important including examination of the anterior fontanel, measuring head circumference, and comparing to previous measurements. Minor injuries in children are common and not usually the result of abuse or neglect. However, when an injury occurs in a non-mobile infant it is important to recognize that even a small bruise should expand the clinician’s differential diagnosis to include inflicted injury and possible physical abuse, and prompt further work-up. Additionally, early recognition of injuries especially in young infants provides an opportunity for intervention and protection for vulnerable children as 28% of infants diagnosed with AHT had a previous minor “sentinel” injury seen by a medical provider before the diagnosis of AHT was made. The most common sentinel injuries seen infants with AHT were bruises and intraoral injury.³⁰ The American Academy of Pediatrics has clearly outlined detailed physical evaluation, laboratory, and radiologic recommendations for children when there is clinical suspicion of child physical abuse and in specifically abusive head trauma.²⁰

CONCLUSIONS

Abusive Head Trauma is a diagnosis made by a multidisciplinary team based on history, physical examination, imaging, and laboratory studies. The number and quality of published peer-reviewed research studies regarding AHT have increased dramatically over the years. However, some non-pediatric medical professionals and others have erroneously opined that AHT is an unproven diagnosis and are directly challenging widely held theories regarding the mechanism of AHT.³¹⁻³³ Professional medical societies use consensus statements or white papers, to communicate general physician and medical acceptance on a particular topic. A consensus statement on Abusive Head Trauma published in 2018 was written and then endorsed by representatives from multiple subspecialties from 15 major national and international professional societies spanning seven countries.³⁴ It was created specifically to reduce confusion on the topic and to distinguish genuine evidence-based opinions of the relevant medical community from legal arguments or etiological speculations. The referenced confusion on this topic often highlighted by the media and promulgated within the courtroom has the potential to disseminate inaccurate information that could result in parents not trusting nor seeking medical care due to the potential of child abuse being over-diagnosed. Dangerously, the message that shaking an infant cannot cause serious injury will create the additional risk of encouraging dangerous or even life-threatening caregiver behavior.

A uniform, unbiased, and non-judgmental approach is required when making the diagnosis of AHT. This entails utilization of a multidisciplinary team that can be comprised

of child abuse pediatricians, ophthalmologists, radiologists and other providers depending on the case (e.g., ICU teams, genetics, hematology). Standard medical diagnostic processes within the context of an extensive peer-reviewed literature and in conjunction with the clinical expertise of thousands of physicians, leads to the conclusion that children can sustain head and brain injuries caused by those entrusted to care for them.

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Authors

Amy P. Goldberg, MD, Professor, Pediatrics, Warren Alpert Medical School of Brown University; Clinical Director, Pediatric Abuse and Neglect Diagnostic Assessment Clinic, Aubin Child Protection Center, Rhode Island Hospital/Hasbro Children's Hospital, Providence, RI.

Christine E. Barron, MD, Professor, Pediatrics, Warren Alpert Medical School of Brown University; Division Director, Aubin Child Protection Center, Rhode Island Hospital/Hasbro Children's Hospital, Providence, RI.

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Correspondence

agoldberg@lifespan.org

A Case of Child Abuse Presenting With a Traumatic Chylothorax

STEPHANIE RUEST, MD, MPH; MEGHAN BEUCHER, MD

ABSTRACT

Chylothorax is a rare cause of pleural effusion in young children and may result from congenital lymphatic abnormalities, trauma, tumors, and systemic infections. Here we discuss a case of a previously healthy toddler who presented to the emergency department with fever and refusal to walk and subsequently developed respiratory distress with concern for impending respiratory failure. A large right sided pleural effusion was identified and ultimately determined to be consistent with chylothorax secondary to inflicted trauma.

KEYWORDS: chylothorax, child abuse, trauma

BACKGROUND

Chyle is a lymphatic fluid composed primarily of fat, cholesterol, electrolytes, lymphocytes, proteins (including immunoglobulins) and glucose.^{1,2} Chylothorax, an accumulation of chyle in the pleural space, is a rare cause of pleural effusion in infants and children, and generally occurs due to disruption of the thoracic duct.¹ The true incidence is unknown.¹ Chylothorax in the pediatric population is most commonly seen in infants and young children due to a congenital abnormality of the lymphatics or in the setting of cardiothoracic surgery; however, traumatic chylothorax can occur secondary to unintentional or intentional (inflicted, abusive) trauma.^{1,2} Additional atraumatic causes may include neoplastic processes and infection. Rarely, the cause of chylothorax is determined to be idiopathic, after extensive evaluation reveals no other clear etiology.

Much of what is known about chylothorax in the pediatric population comes from case reports and case series. While the literature focused on congenital chylothorax and chylothorax secondary to cardiothoracic surgical complications is more robust, there are few publications detailing traumatic chylothorax in pediatric patients. Chylothorax as a presenting finding leading to the diagnosis of child abuse is rare, with limited case reports published in the past 30 years.³⁻⁸ This case study adds to the limited body of literature of inflicted traumatic chylothorax secondary to child abuse.

CASE PRESENTATION

A 15-month-old ex-full-term male with no reported medical history and normal motor development presented to the emergency department with a parental chief complaint of decreased oral intake, refusal to walk and a reported fever to 101°F. Parents reported that he vomited in his crib two nights prior as well as on the morning of presentation and noted that he had also been refusing to walk during this time. They denied any trauma or injury. He had been making at least 4–5 wet diapers daily with a normal non-bloody stool the day of presentation. Parents denied any congestion, rhinorrhea, coughing, difficulty breathing, or rash. The child lived at home with parents and there were no other caregivers. Review of systems was otherwise negative, and he was up-to-date on vaccinations. Upon review of his past medical history, his mother noted that he was brought to the pediatrician approximately one month prior for a bruise on his chest of unclear etiology; however, no further work-up was pursued at that time, per her report.

VS on arrival: T 100.5°F, HR 166, BP 124/76 on the left lower leg, RR 60, 99% on room air. After a dose of ibuprofen, vital signs normalized. The patient was described as pale, tired appearing, and irritable in his mother's arms. There was a small bruise adjacent to the right eye and bilateral periorbital petechiae. His mucus membranes were moist with a non-specific lesion on the tip of the tongue. His lung fields were clear without any increased work of breathing and his cardiac examination was unremarkable, although the cardiopulmonary exam was noted to be limited by the patient crying. The abdomen was slightly distended; due to ongoing crying, focal tenderness was unable to be appreciated. He was able to passively range both lower extremities at all joints without obvious discomfort. There were no areas of swelling, bruising, or apparent focal pain with palpation; however, when attempts were made to stand him up, he pulled up his legs, cried, and refused to bear weight.

Given the patient's ill appearance and vital signs on arrival, a broad work-up was undertaken with concern for possible sepsis, accidental versus inflicted injury, intra-abdominal surgical process, and hematologic/oncologic causes, among other etiologies. Blood cultures were sent, and empiric antibiotics were initiated. Initial labs are seen in **Table 1**.

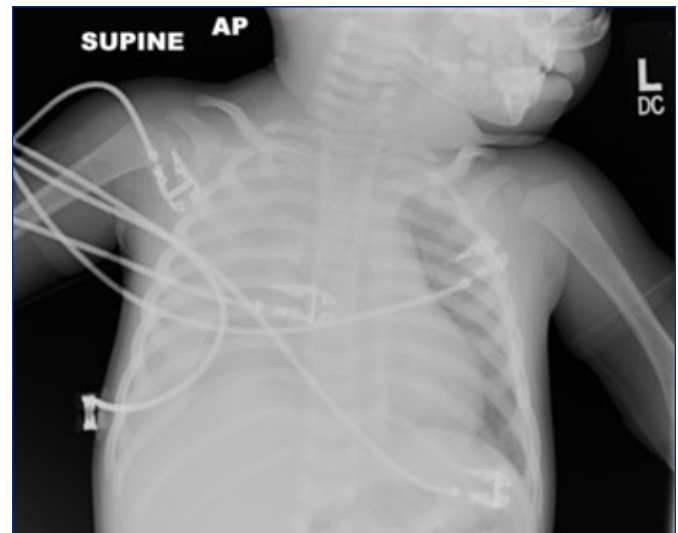
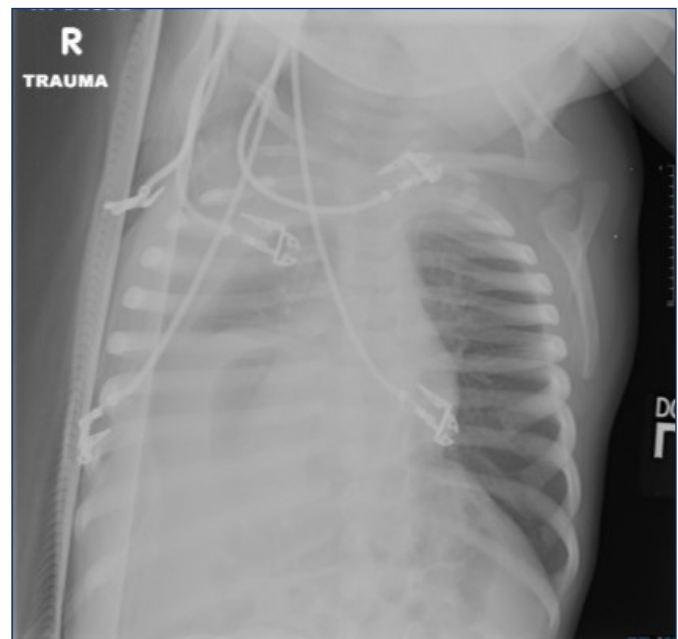
Given the presence of abdominal distension with limited ability to assess for focal pain and concern that his refusal to

Table 1. Emergency Department Laboratory Results

Diagnostic Test	Result	Normal Range
CBC		
WBC	10.8	4.9–15.0 $\times 10^9/L$
Hemoglobin	12.8	10.5–13.5 g/dL
Hematocrit	38.9	32.0–43.8%
Platelets	636	150–400 $\times 10^9/L$
Differential	Normal differential for age	
Coagulation studies		
PT	13.1	10.6–11.4 sec
PTT	25.0	24.0–3.0 sec
INR	1.2	0.8–1.2 sec
Comprehensive Metabolic Panel		
Glucose	102	60–100 mg/dL
BUN	13	5–27 mg/dL
Creatinine	0.20	0.30–0.70 mg/dL
Sodium	135	132–143 mEq/L
Potassium	5.0	3.4–4.7 mEq/L
Chloride	103	99–116 mEq/L
CO ₂	22	22–32 mEq/L
Anion Gap	10	3–13
Calcium	9.8	8.9–10.3 mg/dL
AST	43	22–58 IU/L
ALT	49	11–39 IU/L
Other labs		
Troponin	<0.006	0.006–0.060 ng/mL
Lactate	2.2	0.2–1.9 mEq/L
Lipase	3	10–60 IU/L
CRP	47.77	0.00–10.00 mg/L
ESR	15	0–15 mm/h
Microbiology		
Blood culture	No growth	

bear weight could have been due to referred abdominal pain, an ultrasound was obtained to assess for an intra-abdominal surgical process. Upon return from ultrasound, the child was noted to be pale, mottled, tachypneic, and grunting. A complete undressed re-examination was notable for newly appreciated diminished breath sounds on the right and fullness and significant tenderness over the right paraspinal thoracolumbar back. The patient was moved to a critical care room for further evaluation and treatment. While the abdominal ultrasound did not reveal a clear intra-abdominal pathology, it did demonstrate a very large right-sided pleural effusion. An anterior-posterior (**Figures 1a,b**) and lateral-decubitus chest X-ray redemonstrated a large pleural effusion with a loculated component. The differential diagnosis was narrowed to include an infectious or oncologic process with parapneumonic effusion versus a traumatic effusion.

The patient subsequently rapidly deteriorated with poor perfusion, mottling, increased tachycardia, and decreased respiratory effort with concern for evolving tension physiology and impending cardiorespiratory failure. Fluid resuscitation was provided with improved hemodynamics and

Figure 1a. Anterior posterior chest X-ray**Figure 1b.** Right lateral decubitus chest X-ray

perfusion, and the patient underwent rapid sequence intubation with immediate post-intubation chest tube placement by pediatric surgery. A large volume of milky-white fluid was drained upon placement of the pigtail catheter; fluid was sent for analysis, and ultimately found to be consistent with chylothorax.

While in the pediatric ICU, the paraspinal back fullness developed into a hematoma and there were evolving facial petechiae and bruises. Given these findings in addition to a chylothorax of unknown etiology, a full non-accidental trauma evaluation was completed, including a CT-panscan, skeletal survey, and MRI of the spine. Numerous injuries were identified, including a T12 posterior vertebral body

Figure 2a. Chest CT sagittal view with T12 vertebral body fracture

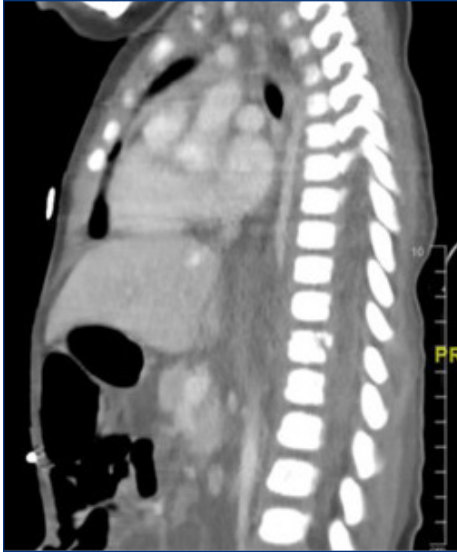


Figure 2b. Left forearm X-ray with subacute distal radial buckle fracture



Figure 2c. Right upper extremity X-ray with subacute fracture of the humeral metaphysis and ulnar bowing



fracture with epidural hematoma and soft tissue swelling of the back (**Figure 2a**), bilateral rib fractures (not shown), bilateral subacute upper extremity fractures (**Figures 2b,c**), and a subacute femur fracture (not shown), confirming the diagnosis of child abuse. All blood and pleural fluid cultures were negative and work-up for hematologic and oncologic pathologies and metabolic bone disease was negative. He was extubated on hospital day 3. His chyle leak resolved with non-operative management and the chest tube was removed. No clear disclosure of inflicted injury was made by the parents; however, given the multiple injuries in various stages of healing, the patient was discharged into foster care.

DISCUSSION

Here we report a previously healthy toddler presenting with a variety of non-specific complaints, ill appearance, and subsequent development of respiratory distress, tachycardia, and poor perfusion, concerning for evolving tension physiology and impending respiratory failure. He was ultimately found to have a traumatic chylothorax and numerous orthopedic and cutaneous injuries in various stages of healing, consistent with a diagnosis of child abuse.

Child maltreatment is an unfortunately common occurrence, affecting over 8 per 1,000 children in the United States in 2021, equating to approximately 600,000 victims of child maltreatment per year.⁹ Inflicted injuries, or child physical abuse, is estimated to account for 16% of all child maltreatment, with the remainder of cases involving neglect or other forms of abuse.⁹ In Rhode Island, the rate of child maltreatment is estimated to be 11.6 per 1,000 children, with approximately 40% of these cases in the form of abuse, and 60% in the form of neglect.¹⁰ The presentation

of child abuse can be varied and the diagnosis may not be straightforward. Because of the complexity of this diagnosis, a high index of suspicion for child abuse must be maintained when evaluating a pediatric patient with unexplained and/or uncommon findings.

Highlighting the rarity of its occurrence, only six prior case reports of traumatic chylothorax in the setting of child abuse have been published between 1980 and 2021,³⁻⁸ all of which presented with respiratory symptoms and a varied combination of readily apparent and occult skeletal and cutaneous injuries. This is the first report known to the authors to describe an evolving traumatic tension chylothorax secondary to child abuse. Only one case of tension chylothorax in a toddler in the setting of non-inflicted injury has been previously reported.¹¹

Because chylothorax may occur in the setting of blunt trauma, specifically due to forceful blows to the back, abdomen, or chest, its identification in a young patient should raise concern for the possibility of inflicted injury. Of note, blunt trauma to the thoracic spine or chest can cause injury to the thoracic duct even in the absence of obvious surrounding injuries,² and careful consideration of inflicted trauma must be undertaken when a chylothorax is identified. It is imperative that the involved clinicians complete both a medical work-up to identify atraumatic causes of chylothorax (e.g., infectious and oncologic) as well as a detailed child abuse evaluation to identify other occult injuries, as was done for this described patient.

It has been reported that chylothorax secondary to blunt trauma most commonly occurs on the right side, in the region of the 9th or 10th thoracic vertebra.¹² The described patient had multiple injuries, including a fracture of the thoracic spine and bilateral rib fractures. Furthermore, a latent

period of 2-10 days between the time of the blunt trauma and the development of pleural effusion has been reported.^{2,13,14} In this case, parents report a variety of symptoms that began two days prior to his initial presentation, which may have corresponded to when the acute injuries were inflicted. As the effusion progresses, the rapid accumulation of chyle in the pleural space can lead to respiratory compromise and possible tension physiology, as was also seen in this case.

CONCLUSION

Chylothorax is a rare cause of pleural effusion in infants and young children and may be caused by atraumatic and traumatic causes. A thorough evaluation for medical and traumatic etiologies must be undertaken, and in the absence of an alternative clear etiology, pursuit of a full child abuse evaluation is recommended.

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Authors

Stephanie Ruest, MD, MPH, Departments of Emergency Medicine and Pediatrics, Alpert Medical School of Brown University, Providence, RI.

Meghan Beucher, MD, Departments of Emergency Medicine and Pediatrics, Alpert Medical School of Brown University, Providence, RI.

Correspondence

Stephanie Ruest, MD, MPH
55 Claverick Street, 2nd Floor
Providence, RI 02903
Stephanie_Ruest@Brown.edu

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Caring for Domestic Minor Sex Trafficking Patients: Recommendations for Identification, Interventions, and Resources

JESSICA L. MOORE, BA; MEAGAN FITZGERALD, MS, CCLS; ANISH RAJ, MD

ABSTRACT

Domestic minor sex trafficking has increasingly gained awareness as a social phenomenon that affects adolescent health and safety. Healthcare providers are uniquely positioned to identify and facilitate supportive interventions for adolescents at high risk or involved in trafficking. A growing literature base and clinical experience provide recommendations on how to identify, engage trafficked youth, and provide beneficial linkages with community resources. A coordinated, multidisciplinary, and trauma-informed response that fosters therapeutic alliances promoting agency, safety, and trust are key components of successful care for this vulnerable adolescent population.

KEYWORDS: human trafficking, child abuse, adolescent health

BACKGROUND

Domestic minor sex trafficking (DMST) is the “recruitment, harboring, transportation, provision, or obtaining of a person for the purpose of a commercial sex act” within domestic borders, in which the person is a United States citizen or lawful permanent resident <18 years of age.^{1,2} Increased awareness and research of DMST across the country has identified that sex trafficking is a national problem that occurs in every state.¹ Victimization related to DMST involvement has been linked to negative health consequences, such as recurrent sexually transmitted infections (STIs), unintended pregnancies, and untreated chronic medical conditions.¹⁻⁵ It is estimated that up to 88% of youth involved in sex trafficking interface with a medical provider during their period of involvement, giving healthcare workers the opportunity to identify victims in a timely manner and provide appropriate care.⁴ Trafficked youth commonly suffer from mental health morbidities including, but not limited to, post-trauma sequelae, anxiety, depression, and substance use disorders.³⁻⁵ Goldberg and colleagues found that most patients (66%) had a previously documented psychiatric diagnosis, and 46% required a psychiatric admission in the year before referral for DMST evaluation.⁴ Similarly, Lindahl and colleagues combined a population of DMST-involved youth with a general adolescent population and

then created two categories of subjects based on their overall psychosocial risk.⁶ They found that subjects with higher psychiatric complexity scores were more likely to have DMST involvement as compared to subjects with lower psychiatric complexity scores even when considering other psychosocial risk factors. These data confirm the strong role of psychiatric complexity as a risk factor for DMST.

RISK FACTORS FOR DMST INVOLVEMENT AND SCREENING

Based on their age and neurodevelopmental stage, all adolescents share vulnerabilities that increase their susceptibility to the exploitative strategies employed by traffickers. These can include efforts to gain independence from caretakers, growing desires for a romantic partner, and risk-taking behaviors associated with an incompletely formed prefrontal cortex.⁷ Although sex trafficking is more commonly reported among females than males, research has shown that males are also victimized in significant numbers; this subset of victims is often underreported.⁸⁻¹¹ Social-ecological research has determined that involvement in trafficking is intrinsically difficult to separate from other childhood adversities including poverty, household dysfunction, and systemic inequities based on race, gender identity, and sexual orientation.^{3,10} Studies have shown that while youth who are homeless or experience housing instability are at increased risk, youth who live at home with their families and attend school are also involved in sex trafficking.⁴ Therefore, providers should maintain a level of suspicion for adolescents of all genders and socioeconomic backgrounds.

In addition to the developmental vulnerabilities of adolescents, the following have been identified as factors for DMST involvement that increase risk for certain youth. Child maltreatment, especially sexual abuse, is a well-established risk factor for DMST.^{4,10} Sixty-eight percent of children involved in DMST have a history of child sexual abuse.^{4, 9-13} Adolescents who experience housing instability (e.g., youth who run away or are forced to leave their homes; youth living in and leaving congregate care settings) can be at increased risk of DMST in that sex may be exchanged to meet basic needs, such as for money, shelter and food.^{10,11} Moreover, youth who identify as lesbian, gay, bisexual, transgender, queer (LGBTQ) often experience family rejection, run away

from home and are at increased risk of trafficking. Overall, LGBTQ youth are 7.4 times more likely to experience sexual violence than their heterosexual counterparts,¹⁴ and are 3–7 times more likely to engage in survival sex to meet basic needs.^{11,15} Additional risk factors include household domestic violence, parental substance abuse, and caretaker mental illness.⁹ Minors with previous interface with the justice system (especially if it resulted in incarceration) are also considered more likely to be trafficked.⁹ Studies have shown a high prevalence of substance use among DMST-involved youth, including illicit substances, tobacco, and alcohol. Substance use may increase high-risk behaviors and may also be used by traffickers to entice youth to exchange sex to obtain drugs or alcohol.¹⁶

To identify and care for involved youth, healthcare providers who treat children and adolescents should familiarize themselves with associations of DMST to recognize patients at-risk for or involved in sex trafficking in their practice. If an adolescent is identified to have some of the aforementioned risk factors, providers should consider integrating the topic of DMST into a universal adolescent risk-screening tool (e.g., HEADSS, the home, education, employment, activities, drugs, sexuality, and suicide psychosocial assessment).¹⁷ A provider may lead the conversation with, “I have patients who are involved in selling or trading sex for things like (blank).” The blank can be filled in with factors that the clinician deems potentially relevant to each youth based on circumstances of presentation or topics raised during the medical interview (e.g., a place to stay if evaluating a patient who has run away, money for a minor who expresses financial concern). The patient should then be asked if he or she is aware of or familiar with such exchanges involving sex and something of value (i.e., sex trafficking).¹⁸ If the child acknowledges knowledge about trafficking, the evaluator might then ask a follow-up question that is more proximal to the patient, such as whether the patient knows an acquaintance or a friend who has been involved in trafficking. Engaging in an open, compassionate conversation with the youth pertaining to specific issues relevant to the patient as opposed to using a list of screening questions is recommended, especially within a longitudinal healthcare setting.¹⁸

RECOMMENDATIONS FOR PROVIDERS

A. Trauma informed care

Adolescents involved in trafficking often have experienced complex and multiple traumas including physical, psychological, and sexual that preceded or are concurrent to their involvement in trafficking.^{10-12,19} Key aspects of trauma-informed care include providing a safe, compassionate environment, investing the time to build trust, ensuring reliability and consistency, displaying a non-judgmental attitude, and asking open-ended questions. In addition, a

patient-centered response requires restoring as much control of the healthcare encounter and treatment plan to the adolescent.¹⁹ Transparent communication includes explaining why specific elements of the medical workup are suggested, which reinforces that the clinical setting will be predictable and supportive.^{21,22} Based on clinical experience and the available literature, clarifying adolescent privacy and confidentiality, especially as it relates to mandated reporting, is recommended so that patients know what to expect if involvement with state agencies becomes necessary.

B. Nonjudgmental approach

Youth involved in trafficking may not self-identify as a victims. Their perceptions of their own experience may not align with the provider’s concerns and assessment. Youth involved in trafficking may not be actively trying to leave their situation and, in fact, may view their trafficker as a source of stability, love, and support.^{10,11} Additionally, DMST-involved youth may exit and re-enter trafficking many times throughout their adolescence and young adulthood. Providing clear and consistent access to care when an adolescent is involved or even re-involved in trafficking can promote the adolescent feeling accepted and being more likely to seek care and assistance in the future.

Youth involved in sex trafficking may fear judgment and stigmatization due to the nature of their experiences and may have already faced blame from others when disclosing their involvement. Ravi and colleagues chronicled recommendations for those working in healthcare with trafficked adult survivors,²⁰ finding that the interviewed women emphasized asking questions about trafficking in a normalized manner with non-judgmental facial expressions and body language. An open-minded, non-judgmental attitude can help to validate their trauma, and affirm that the patient has been heard and believed, while also counteracting the isolation and self-blame he or she may feel.^{19,20-22}

C. Providing a medical home

The serious and far-reaching consequences associated with sex trafficking underscore the critical role of healthcare providers in offering a comprehensive and consistent medical home for involved youth.²³ To establish a medical home, there must be an investment in continuity of care. Youth often face significant disruptions in their lives, including relocations, limited access to healthcare, and unstable living conditions. By providing a consistent medical home, healthcare providers are ensuring a safe, reliable environment for youth to receive support, guidance, and medical care – even if intermittent.²⁴

The physical examination can begin to address the patient’s potential concern about their body after experiencing physical and/or sexual trauma. A comprehensive examination with detailed documentation should include a thorough inspection for inflicted physical injury (e.g., injuries caused

by others, self-inflicted cutting, tattoos that may represent branding), acute and chronic anogenital trauma, malnutrition, and other neglect (e.g., dental and findings associated with chronic and untreated medical conditions).²⁴ Communicating the presence of absence of physical findings can help to dispel misconceptions and reassure the youth that their bodies are not damaged or abnormal, despite potentially needing treatment or intervention. If the last sexual encounter occurred within 72 hours of presentation, a forensic evidence kit should be offered. While medical documentation of injuries can become crucial evidence during future legal proceedings, a physical examination potentially serves a greater purpose for the youth in their healing process.

Providers should follow the 2021 Centers for Disease Control and Prevention (CDC) STI guidelines for sexual assault and abuse for adolescents and adults. Given the high probability of poor compliance with follow-up medical visits for those who have not established a medical home, it is generally advisable to provide empiric treatment for the possibility of chlamydia, gonorrhea, and trichomonas.²⁵ However, for those patients who have established a reliable medical home, treatment for STIs can be provided during the follow-up visit based on testing results. Emergency contraception should be offered based on the history provided, and the provision of HIV prophylaxis should be evaluated on a case-by-case basis, and with consultation of infectious disease and child abuse experts. Medical providers should complete a risk assessment and communicate openly with the patient about their likelihood of adherence to the medication and follow-up visits.^{23, 25}

Ongoing conversations over the course of multiple visits within the context of a medical home can facilitate building trusting relationships between patients and providers. Integrating important topics such as mental health, education, safe relationships, and a youth's future goals gradually into medically-based discussions, fosters a holistic approach to promote the youth's overall health and safety. Establishing collaboration with mental health providers equipped to treat the complex needs of trafficked and vulnerable youth best serves these patients through consistent messaging and unified recommendations.

TRAFFICKING-SPECIFIC RESOURCES AND PROGRAMS

The provision of services to adolescents at risk for or involved in trafficking requires a coordinated, multidisciplinary approach through the collaboration of child protective services, law enforcement (local, state, and federal), attorneys, social workers, advocates, case coordinators, educators, and mental health/medical providers. Many states have established specific DMST task forces to address trauma-informed identification and interventions, including legislative changes (e.g., Safe Harbor laws which provide

immunity from prosecution for DMST-involved youth) and coordination of responses (e.g., between law enforcement and mental health providers). National resources include the National Human Trafficking Resource Center (NHTRC), which offers a 24-hour, 7-day a week, toll-free hotline. Specialists connect victims with law enforcement and social service providers in their local area and can help DMST-involved youth gain safety from exploitative situations and connect them with services, such as emotional support, healthcare and legal services.^{10,11}

My Life My Choice (MLMC) is a nationally recognized and widely utilized program that aims to prevent the commercial sexual exploitation of vulnerable youth. MLMC primarily focuses on adolescent girls who are at-risk or have already been exploited in the commercial sex industry.²⁶ The program offers a range of comprehensive services, including prevention education, survivor mentorship, and professional training. The MLMC prevention education curriculum is delivered in schools, residential programs, and community-based settings. MLMC also provides survivor mentoring, where survivors with lived experience of trafficking serve in a mentorship role. Additionally, MLMC offers training and consultation to a wide range of professionals working with vulnerable youth, including educators, healthcare providers, law enforcement, and social workers.²⁶

Providers should be familiar with the available local and regional resources for this vulnerable population. For example, in Rhode Island a prevention program uniquely aimed at males titled "Addressing Domestic Minor Sex Trafficking Involvement: Male-Focused Intervention Curriculum" (Male DMST Curriculum) has been established. This curriculum provides an educational program to address male-identifying youth as victims, perpetrators, or sex-buyers.²⁷ Multi-session group interventions are held at the Rhode Island juvenile detention center, recognizing that justice-involved youth are at a disproportionately high risk for exploitation or perpetration. Participants learn about risk factors, medical and psychological implications of victimization, engage in discussions about trafficking, and connect youth with community providers and resources.²⁷

Another regional resource is the Girls Educational and Mentoring Services (GEMS), a well-established program based in New York, that is dedicated to empowering and supporting girls and young women who have been victims of commercial sexual exploitation and trafficking. This survivor-led organization provides a wide range of services to help individuals heal, reintegrate into their communities, and build brighter futures. The program offers a holistic approach that addresses the physical, mental, emotional, and social needs of the girls and young woman it serves. GEMS offers drop-in sites, community advocacy, policy change/reform, residential programs, mental health services, and education/training.²⁸

CONCLUSION

Healthcare providers are in a unique position to identify youth at-risk or involved in DMST, establish a medical home, and offer trauma informed care. While all youth are vulnerable to involvement given their age and neurodevelopmental stage, it is imperative that providers familiarize themselves with risk factors that place youth at increased risk; these include a history of child maltreatment, run-away behavior, poverty, identifying as LGBTQ, and substance use. Additionally, providing a medical home for youth can begin to address some of their physical and mental health comorbidities. This includes performing comprehensive physical exams, offering a forensic evidence kit (if appropriate), testing for STIs, and screening for mental health disorders (e.g., PTSD, depression, suicidal ideation). Using a non-judgmental and trauma-informed approach will help establish a trusting relationship between the youth and provider. Professionals should learn about the trauma-informed resources available in their local community and nationally, and work as a multidisciplinary team with other professionals who can offer necessary and supportive complementary services to patients.

Table 1. National Resources for Trafficking Victims

National Human Trafficking Resource Center (NHTRC) hotline: 888-373-7888; http://traffickingresourcecenter.org
My Life My Choice: https://www.mylifemychoice.org/
Addressing Domestic Minor Sex Trafficking Involvement: Male-Focused Intervention Curriculum: https://www.lifespan.org/centers-services/lawrence-aubin-sr-child-protection-center
Girls Educational and Mentoring Services (GEMS): http://www.gems-girls.org
Love 146: https://love146.org
HEAL Trafficking (organization addressing trafficking through a public health lens): www.healtrafficking.org
Polaris Project (national resource for human trafficking): https://polarisproject.org/
National Survivor Network: https://nationalsurvivornetwork.org/
The Switch: http://jointheswitch.org/

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Authors

Jessica L. Moore, BA, Warren Alpert Medical School of Brown University, Providence, RI.

Meagan Fitzgerald, MS, CCLS, Hasbro Children's Hospital, Providence, RI.

Anish Raj, MD, WakeMed Children's Hospital, Raleigh, North Carolina.

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Correspondence

Jessica L. Moore

jessica_moore2@brown.edu

Female Caregivers' Perception of their Child's Sexualized Behaviors: A Pilot Study at a Child Protection Clinic

ADEBIMPE ADEWUSI, MD; JESSICA L. MOORE, BA; MELISSA A. CLARK, PhD; ROCHELLE K. ROSEN, PhD;
CHRISTINE E. BARRON, MD; AMY P. GOLDBERG, MD

ABSTRACT

This pilot study explored female caregiver's perception of their child's behaviors during sexual abuse evaluations. We compared reports by caregivers with histories of their own child sexual abuse (PCSA) to caregivers with no prior history of child sexual abuse (NPCSA) regarding their 1) child's sexualized behaviors and (2) perceptions of whether their child had been sexually abused. Forty-four caregivers met inclusion criteria. Ninety-five percent of PCSA caregivers versus 21% of NPCSA caregivers reported at least one behavior from the Child Sexual Behavior Inventory. Our findings identified that PCSA caregivers reported more sexualized behaviors for their children overall, potentially contributing to their perception that their child had been sexually abused. This pilot study demonstrated that caregivers were able to tolerate answering questions about their own history of child abuse. Parents should be asked these questions as this may influence perceptions of their child's behaviors and possible sexual abuse.

KEYWORDS: child sexual abuse, adult survivor of sexual abuse, child sexualized behaviors

INTRODUCTION

A history of childhood sexual abuse (CSA) influences a person's parenting characteristics.^{2,4,5,6,7,16} Mothers with their own histories of CSA have been shown to be hyper-vigilant about the possibility of their child(ren) being sexually abused.³ These mothers describe the rewards and obstacles of parenting in more self-focused rather than child-focused ways, and more often refer to their child as a friend compared to mothers without a history of CSA.² Mothers with a CSA history show more permissive parenting styles, lower reported parenting self-efficacy,^{6,7,16} and are more likely to be overly dependent on their children to meet their own emotional needs than mothers without a CSA history.^{4,18} Children whose mothers have experienced CSA have been found to have higher rates of problematic behaviors and are more likely to report having been sexually abused by a person known to the child.¹

Normal sexualized behaviors are common, transient, non-aggressive, involve similar aged children, and can be

redirected.¹⁹ Behaviors considered abnormal and raise concern for possible sexual abuse or exposure to adult sexual material are imitative of adult sexual acts, associated with aggression, involve coercion, and/or are difficult to redirect the child away from.^{11,19} When a child has developmentally inappropriate sexualized behaviors, or behaviors that a caregiver perceives to be developmentally incongruous, they may be referred for a CSA evaluation.¹⁹

Clinicians rely on a caregiver's report and perception of their child's sexualized behaviors during a child's evaluation for possible sexual abuse. Given that parenting styles differ depending on the mother's CSA history, there may be important clinical implications to understanding a mother's CSA history and how it may influence her reporting and perceptions of her child's behaviors. A child's sexualized behaviors may be assessed by using the Child Sexual Behavior Inventory (CSBI), a 38-item parental report measure of sexualized behavior in children ages 2 to 12.⁸ The CSBI includes three scales that aid in the interpretation of the results. The CSBI was validated only with reports by female caregivers and can help to inform clinicians' decisions about diagnosis and treatment of CSA and can help assess whether a child is displaying abnormal sexualized behaviors.⁸

To date there is no research comparing differences in reporting child sexualized behaviors, made by female caregivers with a history of CSA to female caregivers without a history of CSA. Using the CSBI, this pilot study compared female caregivers with a history of prior child sexual abuse (PCSA) with female caregivers with no prior history of child sexual abuse (NPCSA) regarding (1) reports of their child's sexualized behaviors and (2) their perceptions of whether their child had been sexually abused. This study also assessed the feasibility of asking female caregivers detailed questions about their own history of CSA. This research may inform clinicians about the potential influence a history of CSA has on a female caregiver's perception of their child's sexualized behaviors.

METHODS/PROCEDURES

Sample

The population for this study was female primary caregivers accompanying their child to a hospital-based child protection clinic for the evaluation of CSA. Inclusion criteria for

participation were: a female caregiver who was (1) a biological, step, adoptive parent, or guardian (established through private arrangement not through a child welfare agency), (2) 18 years of age or older, (3) proficient in English, and (4) accompanying their child (between the ages of 2 and 12). Male caregivers were excluded because the CSBI has not been validated among male caregivers. Participation was voluntary and anonymous.

Measures

The questionnaires were written at a 5th-grade level, self-administered, and had three parts:

Part 1: Questions about primary female caregiver

Information collected from the caregiver included whether they had a history of CSA. Those that reported their own history of CSA were then asked to provide additional information about their sexual abuse, if they received any mental health intervention specifically related to the CSA and if the treatment was perceived to have been helpful.

Part 2: Questions about the child

Information collected from caregivers about the child included demographics, and if the caregiver thought their child had been sexually abused. Caregivers who thought their child was sexually abused were asked to provide details of the sexual abuse.

Part 3: CSBI

Caregivers completed the 38 item CSBI to assess their child's sexualized behaviors in nine domains: boundary issues, sexual interest, exhibitionism, sexual intrusiveness, gender role behavior, sexual knowledge, self-stimulation, voyeuristic behavior, and sexual anxiety.^{8,10} Three clinical scales were calculated: the CSBI total scale, the Developmentally Related Sexual Behavior (DRSB) scale, and the Sexual Abuse Specific Items (SASI) scale.⁸ The CSBI total scale gives a comprehensive assessment of the sexual behaviors the child exhibits. The DRSB scale reports sexual behaviors considered normal for the child's age and gender.⁸ The SASI scale reports sexual behaviors considered atypical for the child's age and gender.

After completing the questionnaires and inventory a clinician not involved in the child's evaluation debriefed with the caregiver and assessed their emotional response regarding participation in this study. This additional assessment was completed to provide psychological supports and interventions if determined to be clinically indicated.

Data collection and procedures

This cross-sectional pilot study included two phases. In the first phase (February 2015), the surveys were completed by five of the nine caregivers approached, the remaining four declined, to assess the feasibility, content, and psychological response by the caregivers being asked details about their own CSA history. After they completed the questionnaires

and CSBI, each caregiver was asked for feedback, which was used to modify the questions prior to implementing the second phase. In the second phase, data were collected from a convenience sample between March 2015 until August 2016.

Before their child's evaluation, potential participants (caregivers) were approached by a child abuse pediatrician or social worker who was not involved in the child's evaluation. Using a prewritten script, potential participants were screened to determine if they met inclusion criteria. Verbal consent was obtained. Eligible and consented individuals were asked to complete a three-part self-administered questionnaire. Participants completing the questionnaire received a \$10 gift certificate. A clinician remained in the same room as the participant, to answer any questions. Due to the sensitive nature of the questionnaire, the clinician debriefed each participant after completion to assess any need for a mental health referral or intervention.

Data management and statistical analysis

Responses were collected and managed using Research Electronic Data Capture (REDCap) software.¹⁵ Responses to the CSBI were scored to determine a score summary, which includes raw scores and T scores for the CSBI Total scale, DRSB scale, and SASI scale.

Caregivers and child demographics, caregivers' reports of child sexualized behaviors, and the three CSBI clinical scales were compared between caregivers with and without a history of sexual abuse using bivariate analyses. A p value of <0.05 was considered statistically significant. All analyses were conducted using STATA (Version 11.2, StataCorp, College Station, Texas). All procedures were approved by Rhode Island Hospital Institutional Review Board.

RESULTS

Sixty-seven caregivers were approached to participate in the study; 44 met inclusion criteria. The 23 caregivers who were not screened for eligibility included 13 who declined, nine who had started their child's sexual abuse evaluation before and therefore could not be approached to participate, and one caregiver who could not complete the survey because her child was sick and sent home.

Table 1 describes the demographic characteristics of the 44 caregiver participants. Of the 44 caregivers, 20/44 (45%) reported having a history of CSA and were categorized as prior child sexual abuse (PCSA); the remainder were categorized as no history of child sexual abuse (NPCSA). The majority of caregivers were biological parents (39/44, 84%) and employed (29/44, 66%). Half of participants reported a two-parent home (23/44, 52%) and over half identified as Non-Hispanic White (25/44, 57%). Seventy-three percent (32/44, 73%) of the caregivers thought their child had been sexually abused.

Table 1. Characteristics of female caregiver (n=44)

	Prior Child Sexual abuse n=20 (45%)	No history of Child Sexual Abuse n=24 (55%)	Total n=44
Relationship to child			
Biological parent	18 (90%)	21 (88%)	39 (89%)
Step parent	1 (5%)	1 (4%)	2 (4%)
Foster parent/guardian	1 (5%)	2 (8%)	3 (7%)
Single parent			
Yes	9 (45%)	12 (50%)	21 (48%)
No	11 (55%)	12 (50%)	23 (52%)
Employment Status			
Employed	11 (55%)	18 (75%)	29 (66%)
At home/other/student	9 (45%)	6 (25%)	15 (34%)
Education			
Some high school	3 (15%)	3 (13%)	6 (14%)
High school graduate	7 (35%)	8 (33%)	15 (34%)
Some college/technical	9 (45%)	8 (33%)	17 (39%)
College graduate	1 (5%)	5 (21%)	6 (14%)
Race/ethnicity			
Hispanic	6 (30%)	4 (17%)	10 (23%)
Non-Hispanic White	12 (60%)	13 (54%)	25 (57%)
Non-Hispanic Black	2 (10%)	5 (21%)	7 (16%)
Other	0	2 (8%)	2 (4%)
Has child ever been abused?			
Yes	15 (75%)	17 (71%)	32 (73%)
No	5 (25%)	6 (25%)	11 (25%)
Unknown	0 (0%)	1 (4.2%)	1 (2%)

Table 2. Demographics of child (n=44)

	Prior Child Sexual abuse n=20 (45%)	No history of Child Sexual Abuse n=24 (55%)	Total n=44 (100%)
Gender			
Female	14 (70%)	15 (62.5%)	29 (66%)
Male	6 (30%)	9 (37.5%)	15 (34%)
Age of child			
2–5	8 (40%)	10 (42%)	18 (41%)
6–9	6 (30%)	11 (46%)	17 (39%)
10–12	6 (30%)	3 (12.5%)	9 (21%)
Race/ethnicity			
Hispanic	2 (10%)	1 (4%)	3 (7%)
Non-Hispanic White	12 (60%)	11 (46%)	23 (52%)
Non-Hispanic Black	3 (15%)	6 (25%)	9 (21%)
Other	3 (15%)	6 (25%)	9 (21%)

Table 2 describes the child's demographic information. Most of the children were female (29/44, 66%), between the ages of 2 and 5 (18/44, 41%), and non-Hispanic White (23/47, 49%).

Table 3 presents the child's sexualized behaviors as reported by PCSA and NPCSA caregivers. The most common sexualized behaviors reported by the cohort of 44 caregiver participants were item 2 (Stands too close to people), item 12 (Touches sex (private) parts when at home), item 19 (Tries to look at people when they are nude or undressing), and item 35 (Is very interested in the opposite sex). These behaviors fell into the domains of boundary problems, self-stimulation, and voyeuristic behavior. Nineteen of the 20 PCSA caregivers (95%) reported at least one of the behaviors on the CSBI, whereas five of the 24 NPCSA caregivers (21%) reported at least one of the behaviors on the CSBI. Overall, PCSA caregivers reported more clinically significant CSBI, DRSB, and SASI scores for their child than NPCSA caregivers (**Table 4**).

Twenty-eight participants responded to questions about their experiences completing the questionnaire during debriefing. **Table 5** outlines their open-ended responses, when asked about their participation in the study. Five caregivers reported "okay," three "good," and two "fine." The rest of the responses were unique and not repeated. One caregiver who reported "okay" began to cry during debriefing because she was concerned that her child had been abused. No caregiver required psychological supports, interventions, or immediate mental health referrals due to participating in the study.

DISCUSSION

It is standard practice for clinicians conducting sexual abuse evaluations to consider sexualized behaviors, and to rely upon caregiver's reports of their child's sexualized behaviors. Thus, it is important to recognize potential factors that may affect caregiver reporting. The current study captured preliminary data to explore the potential influence a caregiver's CSA history may have on their perceptions and subsequent reporting of their child's sexualized behaviors.

This study reveals that caregivers who had previously experienced their own sexual abuse during childhood (PCSA) were more likely to report at least one of the behaviors on the CSBI, as compared to caregivers without a history of child sexual abuse (NPCSA). Additionally, PCSA caregivers reported more clinically significant CSBI, DRSB, and SASI scores than NPCSA caregivers. There are several possibilities to explain these findings, including that relative to NPCSA caregivers PCSA caregivers: 1) Are more aware of their

Table 3. Child sexualized behaviors reported by caregivers (n=44)

	Prior Child Sexual abuse n= 20		No history of Child Sexual Abuse n= 24		Both n= 44	
Dresses like the opposite sex	4	20%	1	4%	5	11%
Stands too close to people	10	50%	11	46%	21	48%
Talks about wanting to be the opposite sex	1	5%	1	4%	2	5%
Touches sex (private) parts when in public places	4	20%	5	21%	9	20%
Masturbates with hand	5	25%	3	13%	8	18%
Draws sex parts when drawing pictures of people	2	10%	0	0%	2	5%
Touches their mother's or other women's breasts	7	35%	7	29%	14	32%
Masturbates with toy or object	3	15%	5	21%	8	18%
Touches another child's sex (private) parts	5	25%	6	25%	11	25%
Tries to have sexual intercourse with another child or adult	0	0%	0	0%	0	0%
Puts mouth on another child's/adult's sex parts	1	5%	0	0%	1	2%
Touches sex (private) parts when at home	11	55%	10	42%	21	48%
Touches an adult's sex (private) parts	3	15%	4	17%	7	16%
Touches animal's sex parts	1	5%	0	0%	1	2%
Makes sexual sounds	2	10%	2	8%	4	9%
Asks others to engage in sexual acts with him or her	2	10%	2	8%	4	9%
Rubs body against people or furniture	5	25%	2	8%	7	16%
Puts object in vagina or rectum	2	10%	2	8%	4	9%
Tries to look at people when they are nude or undressing	9	45%	7	29%	16	36%
Pretends that dolls or stuffed animals are having sex	2	10%	1	4%	3	7%
Shows sex (private) parts to adults	6	30%	6	25%	12	27%
Tries to look at pictures of nude or partially dressed people	4	20%	5	21%	9	20%
Talks about sexual acts	3	15%	7	29%	10	23%
Kisses adults they do not know well	0	0%	3	13%	3	7%
Gets upset when adults are kissing or hugging	8	40%	5	21%	13	30%
Overly friendly with men they don't know well	3	15%	0	0%	3	7%
Kisses other children they do not know well	2	10%	0	0%	2	5%
Talks flirtatiously	3	15%	3	13%	6	14%
Tries to undress other children against their will	0	0%	0	0%	0	0%
Wants to watch TV or movies that show nudity or sex	3	15%	2	8%	5	11%
When kissing, tries to put their tongue in other's mouth	2	10%	3	13%	5	11%
Hugs adults they do not know well	3	15%	3	13%	6	14%
Shows sex (private) parts to children	3	15%	3	13%	6	14%
Tries to undress adults against their will	1	5%	1	4%	2	5%
Is very interested in the opposite sex	8	40%	6	25%	14	32%
Puts their mouth on mouth's or other women's breasts	2	10%	0	0%	2	5%
Knows more about sex than other children their age	8	40%	3	13%	11	25%
Caregiver reported ≥ one sexualized behavior listed above	19	95%	5	21%	38	86%

Table 4. CSBI score summary by history of child sexual abuse among female caregivers

Score	Prior Child Sexual abuse n= 20			No history of Child Sexual Abuse n= 24		
	Clinically Significant	Suggests Difficulty	Non-significant	Clinically Significant	Suggests Difficulty	Non-significant
CSBI	11 (55%)	1 (5%)	8 (40%)	9 (38%)	2 (8%)	13 (54%)
DRSB	9 (45%)	0 (0%)	11 (55%)	7 (29%)	2 (8%)	15 (63%)
SASI	9 (45%)	1 (5%)	10 (50%)	8 (34%)	2 (8%)	14 (58%)

CSBI scale raw scores and the corresponding T-scores for each age-gender group are available in the appendix of the CSBI Professional Manual. For all clinical scales, T scores at or above 65 were considered clinically significant. T scores in the range of 60 through 64 suggest difficulty and may indicate a clinical behavioral problem. T scores 59 or less were considered clinically nonsignificant (Friedrich, 1997).

*No significant differences found

Table 5. Open-ended responses of female caregivers about their participation in the study

Open-ended responses	Number of responses
Okay	5
Good	4
Fine	2
Feels weird	1
Same	1
Nervous	1
Never had therapy, relieving	1
The booklet is awkward	1
It's disturbing	1
Oh my God! Those questions are horrifying.	1
Fine. The questions are a little abrasive. Needed for something like this.	1
Weird questions	1
Good knowing she can see some of the same patterns	1
It was a little uncomfortable to think half of that stuff goes on.	1
Feels uncomfortable	1
Feels it's a good thing. Stuff like that should definitely be researched.	1
I don't know.	1
Think I made a good choice if something to benefit kids sexually abused. Some questions were graphic but for 12 years old who was sexually abused it may affect them more.	1
A little disturbing to know that stuff goes on.	1

child's sexualized behaviors, 2) Recognize the relevance of sexualized behaviors and are more willing to report this during an evaluation, based upon their own experience. Since this study did not capture data on whether a diagnosis of sexual abuse was made for any of the children evaluated, it cannot be used as a factor to interpret these differences in reporting. Additional research with larger sample sizes is needed to further examine differences between PCSA caregivers and NPCSA caregivers regarding perceptions of their child's alleged sexual abuse and reported behaviors.

Hypervigilance and increased reporting may be a developed response among caregivers due to their own trauma history. This concept has been explored by others. In a 2015 qualitative study of 44 mothers who had been sexually abused as children, three common themes related to their parenting emerged: (1) efforts to protect their children, (2) reactions to real or imagined abuse, and (3) belief that their children were victims. The study suggests that the mothers' CSA histories directly impacted their concerns that their child had been sexually victimized.³ Consistent with these prior findings, our participants' recognition of any sexualized behavior, and slightly increased awareness of clinically significant sexualized behaviors, may be related to their concern that their child had been sexually abused.

Due to the sensitive subject matter, a clinical research team member was available to professionally address any concerns or provide resources to participants. When debriefed about participating in this study, a majority of caregivers reported a neutral or positive response. This suggests that it is feasible to explore sensitive clinical research questions with previously victimized female caregivers. As commonly experienced by clinicians that conduct child sexual abuse evaluations, one caregiver expressed anxiety related to the possibility of her child being sexually abused, rather than to her own abuse history or participation in the study. Notably, six caregivers volunteered positive feedback about the survey, their support for the research, and their understanding of the questions. One caregiver said, "[I] feel it's a good thing. Stuff like that should definitely be researched." Feedback from our participants indicates that clinicians can have conversations about a caregiver's own experiences of sexual abuse during their child's sexual abuse evaluation. A caregiver's own experience should be discussed given its relevance to the child undergoing a child sexual abuse evaluation.

This pilot study has several limitations. It was a small convenience sample and was conducted at a single institution. Therefore, findings cannot be generalized beyond the included sample. The CSBI is standardized only for female caregivers, and therefore other caregivers' perceptions were not included. The caregiver was approached intentionally before the sexual abuse evaluation started; the results of the sexual abuse evaluation was unknown to the caregiver when they answered the questionnaires and the caregiver's responses were not shared with the clinical team completing

the child sexual abuse evaluation. The outcome of whether the children evaluated were diagnosed with child sexual abuse was not included and therefore, this study cannot be used to assess if the caregiver's reports and perceptions were accurate or due to hypervigilance. Finally, participants were asked to recollect events from their own childhood, which due to the passage of time or the traumatic nature may result in recall bias.

Future research

A larger sample size is needed to further explore and confirm our preliminary findings about differences in reporting of sexualized behaviors between caregivers with and without their own childhood history of sexual abuse. Additionally, a study examining provider bias would be a valuable contribution; previous literature identifies that clinicians may perceive mothers with a history of CSA to misinterpret, or be hypervigilant of, innocuous behaviors due to their own prior experiences.⁵ Therefore, another important factor for consideration in future research is how a caregiver's report of their own history of sexual abuse influences the clinician while conducting the child's evaluation and making a diagnosis of child sexual abuse. Finally, further investigation is needed to determine if there is a difference among caregivers with and without their own history of child sexual abuse, with regard to perceiving their child's sexualized behaviors as abnormal and an indication of potential sexual abuse warranting evaluation and ultimately whether a diagnosis of sexual is made.

The CSBI is a limited inventory of children's sexualized behaviors because it is validated only for female caregivers. The CSBI should be validated considering the gender identity of all caregivers.

CONCLUSION

Our findings raise important considerations for practice, and preliminarily suggest that caregivers with a personal history of sexual abuse may be more aware of their child's sexualized behaviors overall and may interpret their child's sexualized behaviors differently than caregivers without an abuse history. Our data provides foundational information about the importance of asking caregivers about their own abuse history in the context of their child's sexual abuse evaluation and demonstrates that caregivers are willing to answer these questions.

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Authors

Adebimpe Adewusi, MD, CARES Northwest, Randall Children's Hospital, Legacy Emmanuel Medical Center, Portland, Oregon.

Jessica L. Moore, BA, The Warren Alpert Medical School of Brown University, Providence, Rhode Island.

Melissa A. Clark, PhD, Department of Obstetrics and Gynecology, The Warren Alpert Medical School of Brown University; Department of Health Services, Policy and Practice, Brown University of Public Health, Providence, Rhode Island.

Rochelle K. Rosen, PhD, Center for Behavioral and Preventative Medicine, The Miriam Hospital; Department of Behavioral and Social Sciences, Brown University of Public Health, Providence, Rhode Island.

Christine E. Barron, MD, The Warren Alpert Medical School of Brown University; Rhode Island Hospital/Hasbro Children's Hospital, Providence, Rhode Island.

Amy P. Goldberg, MD, The Warren Alpert Medical School of Brown University; Rhode Island Hospital/Hasbro Children's Hospital, Providence, Rhode Island.

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The authors have no financial disclosures.

Correspondence

cbarron1@lifespan.org

Unintentional Cannabis Ingestions and Supervisory Neglect

HINA RAZA, MD, MSc; SARAH BECHTA, MD; STEPHANIE FOGLI-TERRY, MSW, LCSW; KATHERINE MASON, MD

ABSTRACT

Unintentional pediatric ingestions of substances can lead to serious and even fatal consequences in children¹ and raises concern for supervisory neglect. Supervisory neglect occurs when a caregiver's supervisory decisions or behaviors place a child in their care at significant risk for physical, emotional or psychological harm.² A caregiver who is taking prescription medication or who uses recreational or therapeutic substances, such as cannabis, must protect children in their care from accessing these potentially harmful drugs. Studies have demonstrated that unintentional cannabis ingestions by children has increased in states that have legalized medical and recreational cannabis.³ Given the changing laws surrounding cannabis in Rhode Island, this study aims to provide a conceptual framework to diagnose, manage and understand supervisory neglect when children present to care with a cannabis ingestion. Additionally, this paper provides guidance for providers to help prevent unintentional cannabis ingestions.

KEYWORDS: child maltreatment, supervisory neglect, cannabis, ingestion

CASES

The caregiver of a 3-year-old child contacts their primary care provider after the child was found eating cannabis gummies. The patient is referred to the Emergency Department and has a normal mental status. The urine toxicology screen is positive for cannabinoids, the rest of the medical evaluation is negative.

A 5-year-old child is found unconscious in the home. At the hospital he is intubated for a GCS of 7 and is admitted to the pediatric intensive care unit. The urine toxicology screen is positive for cannabinoids, the rest of the medical evaluation is negative.

Question: Should these cases be reported to child protective services (CPS)?

CANNABIS

Globally, cannabis is the most commonly used psychoactive substance.⁴ Cannabis refers to the different psychoactive

substances that come from the plant *Cannabis sativa*, which includes marijuana (dried and crushed leaves and flower buds), hashish (the resin of the flower buds), and cannabis extracts (oils or wax).⁵ The psychoactive properties of cannabis are mainly produced by the cannabinoid delta-9-tetrahydrocannabinol (delta-9-THC).⁶ Another major neuroactive compound found in cannabis is cannabidiol (CBD), which does not have the psychoactive effects of delta-9-THC, but does have other central nervous system effects.⁶

Cannabis Legislation

Cannabis decriminalization refers to the absence of criminal penalties and either no or decreased civil penalties for its possession or personal use.⁷ Cannabis legalization refers to the permission to grow, sell and possess cannabis.⁷ Colorado was the first state to legalize the use of cannabis in adults (21 years and over).⁸ As of February 2022, in the United States, medical cannabis is legal in 37 states, three territories and the District of Columbia.⁹ As of May 2022 recreational cannabis is legal in 19 states.⁹ In the state of Rhode Island, medical cannabis was legalized in 2006 and recreational cannabis was recently legalized in May 2022 for adults.⁹ Dispensaries received state approval to sell cannabis products as of December 1, 2022.¹⁰ The legalization of cannabis in Rhode Island increases the likelihood of there being cannabinoid containing products in places where children live and play. Unintentional cannabis ingestion in children poses a threat to their physical safety and therefore supervisory neglect should be considered in all cases of unintentional cannabis ingestions in children.

Unintentional Cannabis Ingestions

Most cannabis ingestions are unintentional in children younger than 12 years old and the highest number of unintentional ingestions occur between ages of 1 and 3 years old.⁸ In addition to the increased incidence of unintentional cannabis ingestions by young children in states that have legalized medical and recreational cannabis, a large study has shown that children who unintentionally ingest cannabis in these states, have more serious symptoms requiring a greater frequency of critical care admissions as compared to states where cannabis use is illegal.³ The authors discuss that this could be due to children having increased access to cannabinoids in larger doses, caregiver unfamiliarity with

risks of pediatric exposure to cannabis, or greater potency of the cannabis than in the past.³ In fact, THC concentrations are much higher in modern cannabis products than in the past.^{8,11} A recent systematic review and meta-analysis found that concentration of THC in international cannabis markets increased from 1970 to 2017, while CBD concentrations remained the same.¹² Similarly another study found that the average THC concentration in 2009 was more than 9 times greater than that of 1970.¹³ The severity of symptoms resulting from an unintentional cannabis ingestion can be influenced by factors such as the age/body mass of the child, the form of the cannabis, and the dose of cannabis (THC).¹⁴ Symptoms frequently reported in unintentional pediatric ingestions include sedation, lethargy, ataxia, tachycardia, and vomiting.¹⁴⁻¹⁶ Central nervous system and respiratory depression requiring intubation is less common but may be associated with significant morbidity, psychological distress and financial expense.¹⁴⁻¹⁶

In a retrospective cohort study conducted in Colorado comparing the incidence of cannabis exposures before and after legalization, the rate of poison control center cases increased by 34% between 2009 and 2015 and was greater than the rest of the United States.¹⁴ In addition, a large number (35%) of those children presenting for ingestions in the study required hospital admission.¹⁴ In the same study, the authors found that caregivers disclosed a history of children's cannabis ingestion more frequently after its legalization. This is hypothesized to be due to the perception that there may be fewer legal consequences of the ingestion because of legalization.¹⁴ This decrease in social stigma may encourage disclosures of unintentional cannabis exposures and thus facilitate accurate diagnosis.³ However, when assessing a child with clinical symptoms or history suggestive of cannabis ingestion, a urine toxicology screen for cannabis should always be obtained. Prompt diagnosis can prevent costly and potentially harmful interventions such as CT scans, lumbar punctures, and subspecialty consultation. Even though a caregiver discloses an unintentional cannabis ingestion, urine testing for all drugs of abuse including confirmatory testing should be obtained and can help determine if co-ingestion has occurred. This allows accurate diagnosis, may inform of other potential risks to the child and will help in assessing safety.

SUPERVISORY NEGLECT

Neglect and Supervisory Neglect

Across the country physicians are mandated by law to report cases of suspected abuse and neglect to CPS. Neglect is defined as an act of omission that results in harm or potential harm.¹⁷ Neglect represents the most common and the most fatal type of child maltreatment in United States.¹⁸ In 2021, neglect represented 76.0% of the substantiated cases of child maltreatment in the United States.¹⁸ In Rhode

Island, in 2021, neglect accounted for 60.4% of indicated cases of child maltreatment.¹⁸ At a national level, 77.7% of child fatalities resulting from abuse were found to include neglect.¹⁸

Different forms of neglect include physical, supervisory, emotional, educational, medical, and nutritional neglect. Supervisory neglect, a form of physical neglect, represents the most frequent type of all investigated cases of neglect.^{19,20} Defining adequate and inadequate supervision remains challenging for providers.² Definitions may vary from one jurisdiction to another. Some definitions focus on caregivers' behaviors while other definitions focus on the effect of the caregiver's behavior, such as whether or not the child suffered harm.¹⁹ Per the American Academy of Pediatrics (AAP), supervisory neglect occurs when a caregiver's supervisory decisions or behaviors place a child in his or her care at significant ongoing risk for physical, emotional or psychological harm.² Regardless if a child suffered harm or not, neglect is defined in terms of caregivers' behaviors that lead to harm or that place children at risk of harm.

RISK AND MITIGATING FACTORS OF SUPERVISORY NEGLECT

When making a diagnosis of supervisory neglect, child abuse pediatricians consider a broad range of risk and mitigating factors. One recent qualitative and quantitative study explored and identified contextual factors associated with the general diagnosis of supervisory neglect.²⁰ These factors included absent caregiving, distracted caregiving, lack of adequate child care, limited problem-solving or caregiving skills, mental health issues of caregiver, exposure to domestic violence, exposure to intimate partner violence, substance-related problems of the caregiver, situations in which the child accessed and/or used substances, and situations in which the caregiver allowed the child to engage in risky behavior.²⁰ Specific to supervisory neglect in the case of unintentional cannabis ingestions, patient, caregiver and healthcare provider factors are important elements to consider when making the diagnosis. It is also important to consider larger societal factors that may have contributed to children having more access to cannabis in the home.

Child Factors

Children have increased access to cannabis, not only because of the legalization in many states but because of the cannabis formulation available. Cannabis edibles are a common source of unintentional ingestions in children.¹⁴ Many cannabis edibles are attractive to children as they often take the form of baked goods, candies, chocolate, popsicles and beverages, which can be difficult to distinguish from equivalent non-cannabis products.^{1,3} As noted by Wang et al, no other medications, drugs or controlled substances, other than sublingual tablets and films of fentanyl or buprenorphine,

hydrochloride/naloxone hydrochloride or gum containing nicotine or aspirin are available in food or beverages.³ Frequently there are multiple doses in one packet or product, and a child would not have the insight to stop at one dose.²¹ A small quantity of cannabis edible products may contain very high amounts of THC, causing more severe symptoms after ingestion.³ Safe storage in a location that is unknown to children, disposal and lock boxes/cabinets should be discussed with caregivers to prevent a potential ingestion.¹ An increasing number of states have passed regulations requiring child resistant packaging to prevent children from ingestions.¹⁴ However, this type of packaging is only effective if the product is kept in its original package and if it stays intact.^{1,14}

Caregiver Factors

Prior studies have reported a decreased perception of risk among cannabis users in places that have decriminalized cannabis.¹ Decrease in risk perception may lead to products being left in accessible locations and not properly stored away, increasing the risk of a child having access to these products resulting in unintentional ingestion. Wang et al found that, in addition to absent child-resistant packaging and safe storage, inadequate child supervision was associated with unintentional cannabis ingestions.¹⁴ Another caregiver factor to consider is caregiver impairment by substance use. An intoxicated or impaired caregiver cannot provide appropriate supervision, raising concern for neglect.

Provider Factors

Reporting cannabis exposures to social services remains a source of controversy in certain jurisdictions.¹⁴ Cases reported to regional poison control centers may underestimate the actual number of unintentional cannabis ingestions in children as it seems plausible that only children with more severe symptoms may trigger reports.⁸ Healthcare provider familiarity with the ingestion may also affect calls to poison control. While Wang et al found an increase in ingestions with the legalization of cannabis, they also found that social work consultations decreased from 93% from 2009–2013 to 66% in 2014–2015.¹⁴ Although in some cases of unintentional ingestions children may be relatively unharmed, it is important to recognize that all cannabis ingestions pose a risk of harm. Per the AAP, a cannabis ingestion in a child should prompt a notification to CPS.⁸ It is important to recognize the disproportionality that exists with increased reporting of children of racial and ethnic minorities and children with low socioeconomic status.²² A healthcare provider's understanding of supervisory neglect and creating a standardized, nonjudgmental approach when caring for a child who has an unintentional ingestion can help to address some of these disparities. When a mandatory report to CPS is necessary, medical providers should engage the child's caregiver in this process with an empathic and

direct approach. A transparent discussion with the caregiver should include: the risks to and effects on children exposed to cannabis and potentially other substances, the requirements for mandated reporting to CPS, and the resources and services available to the family in cases where substance use disorder has been identified. When a healthcare provider engages with caregivers in open dialogue to mitigate future harmful effects on children (discussing safe storage and parental cannabis use when not actively caring for their child) they set the stage for medical providers to be available as a resource as opposed to a professional charged only with reporting.²³ Identifying supervisory neglect can help to prevent future exposures to cannabis and/or other substances and potentially prevent other children from exposure who may live in the home. Education and safety recommendations surrounding safe storage of cannabis can be reinforced during the medical visit.

Societal Factors

A recent study analysing data from the National Poison Data System found that during the COVID-19 pandemic (from 2019–2020) there was an association with an increase in unintentional cannabis ingestions in children under the age of 6.²¹ It is hypothesized that this could be related to children having increased opportunity to access products in the home due to quarantines, school and daycare closures.²¹

CHILD WELFARE RESPONSE

The Rhode Island Department of Children, Youth and Families is the state's public child welfare agency. The Division of CPS operates a statewide 24-hour Hot Line to screen and respond to reports of alleged child maltreatment. Under RI General Law, everyone who has a reasonable suspicion that a child is being maltreated is required to make a report within 24 hours. A significant number of these reports involve concerns regarding caregiver substance misuse and children who are exposed to both legal and illicit substances. Since the legalization of cannabis in Rhode Island, DCYF has anecdotally seen an increase in the number of reports of accidental ingestions of cannabis products. DCYF determines child safety during Child Protective Investigations by assessing family functioning instead of focusing solely on the determination of whether or not an incident of maltreatment occurred. Since the legalization of cannabis in Rhode Island, unintentional ingestion by children has been treated the same as an unintentional ingestion of prescribed and over-the-counter medications.

When assessing child safety in these situations, factors considered include whether the caregivers were impaired at the time, how the child gained access, whether cannabis is usually stored safely, and whether the caregivers comprehend the significant risk posed by accidental ingestion of cannabis by children. Detailed interviews are conducted

with children, caregivers, other family members, witnesses and medical professionals. These interviews provide information about the circumstances surrounding the ingestion, and also inform the assessment of the caregiver's protective capacity and the family's overall functioning. Absent any safety threats which may or may not be related to the ingestion, children are not removed from their homes. The family is counseled about safe use and storage and the investigator views the home to confirm that safeguards are in place to keep cannabis and any other harmful substances out of the reach of children.

CONCLUSION

In the setting of changing cannabis laws in Rhode Island, primary care providers should be prepared to address childhood unintentional ingestion prevention and management when providing anticipatory guidance to families. Safe storage of all cannabis products should be discussed. In the case of children presenting to care with unintentional cannabis ingestions, healthcare providers should be familiar with the diagnosis of supervisory neglect and have a standardized, non-judgemental approach in discussions with caregivers. Poison control and CPS should be contacted and, if available, child abuse pediatrics teams should be consulted. When identifying the possibility of supervisory neglect, child, caregiver, provider and larger societal factors should all be taken into consideration and used to inform recommendations to prevent future unintentional cannabis ingestions.

CASES

Although the child in case 1 appears well, both children were in a situation that led to harm or that placed them at risk of harm, which raises concern for supervisory neglect. Both cases require a mandatory report to CPS, which will provide assessment and supports to ensure safety of the children in the home.

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Authors

Hina Raza, MD, MSc, Child Abuse Pediatrics Fellow, The Warren Alpert Medical School of Brown University, Hasbro Children's Hospital, Providence, Rhode Island.

Sarah Bechta, MD, General Pediatrician, Reliant Medical Group, Southboro, Massachusetts.

Stephanie Fogli-Terry, MSW, LCSW, Assistant Director, RI Department of Children, Youth and Families, Child Protective Services, Providence, Rhode Island.

Katherine Mason, MD, Associate Professor of Medicine, The Warren Alpert Medical School of Brown University, Hasbro Children's Hospital, Providence, Rhode Island.

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Correspondence

Hina Raza, MD

Lawrence A. Aubin, Sr. Child Protection Center

Potter Building 005

593 Eddy Street,

Providence, RI 02903

401-444-3996

Fax 401-444-3804

hraz@lifespan.org

A Unique Canine Comfort Therapy Program for Child Maltreatment Cases

CHRISTINE E. BARRON, MD; MEAGAN FITZGERALD, MS, CCLS; MIMI COLEMAN, BA; JESSICA L. MOORE, BA; MICHAEL D. IACONE, MA

ABSTRACT

Research has shown that programs utilizing comfort therapy canines in cases of child maltreatment have been successful in providing valuable support to children and their families. To date these programs have made canine comfort therapy dogs available solely within one of the involved disciplines. Therefore, a unique canine comfort therapy program was established specifically to support this pediatric population by implementing a collaborative canine comfort therapy program within two separate disciplines.

CALI (Cranston Police, Aubin Center, Leadership in Innovation) was the first official K-9 comfort therapy dog in a police department in Rhode Island (RI), and the first employed dog within the state's only children's hospital.

This program provides a longitudinal experience that supports children and their families by fostering a sense of familiarity and trust throughout all the difficult components of a child maltreatment case (e.g., evaluation, treatment, investigation and prosecution).

KEYWORDS: child maltreatment, multidisciplinary team, comfort canine therapy, innovative programs



CALI (Cranston Police, Aubin Center, Leadership in Innovation) was the first official K-9 comfort therapy dog in a police department in Rhode Island (RI). [CRANSTON POLICE DEPT.]

INTRODUCTION

For centuries, dogs have been domesticated to provide companionship, protection, and have been trained to perform specific work. K-9 (a homophone of canine used to identify police dogs) are trained to assist law enforcement in a variety of tasks (e.g., search and rescue, apprehension, and detection of narcotics and explosives). Different from K-9s, service dogs are trained to meet the needs of an individual with a disability, such as assisting with day-to-day tasks, and alerting their owner to potential medical emergencies.¹ An emotional support animal (ESA) is prescribed by a licensed mental health provider to an individual with debilitating mental illness. Comfort therapy dogs, in contrast, are trained to provide support more broadly to many people within different settings such as hospitals, schools, hospice, retirement homes, individual mental health counseling, and more recently have been incorporated into police departments.

Research has demonstrated advantages for patients when comfort therapy dogs are integrated into traditional treatment modalities.^{2,3} For example, there are notable reductions in both physiological and behavioral distress in children undergoing a physical examination when a dog is present.³ Moreover, lower cortisol levels have been noted in pediatric patients interfacing with a comfort therapy canine before, during, and after potentially painful procedures.⁴ One study demonstrated that following a comfort therapy dog visit, pediatric oncology patients had lower distress and significant decreases in worry, fear, sadness, and pain.⁵ These benefits have been attributed to serotonin and dopamine increases, indicating that the presence of a comfort therapy dog had similar reactions compared to treatment with a pain narcotic.⁶ Other benefits have been ascribed to increased communication between patient and staff which were facilitated by the presence of a comfort therapy dog.⁷

Comfort canines may play an important role when working with vulnerable populations, including victims of child maltreatment. An allegation of child maltreatment results in a cascade of events for potential victims. Once a report is made there will be investigations by law enforcement and child welfare agencies, comprehensive medical evaluations, forensic interviews, mental health assessments and treatment, and legal testimony during hearing(s) for the prosecution of cases.⁸ Due to multiple professionals involved in child maltreatment cases, it is standard to have a multidisciplinary team (MDT) approach with the goal of increasing communication amongst varied disciplines and minimizing re-traumatization of children.⁹ A child maltreatment MDT typically includes child welfare agencies, law enforcement, medical, mental health, forensic interviewers, advocates, and prosecutors.

Child sexual abuse cases often lack eyewitnesses and substantial physical examination findings. A child's disclosure, therefore, becomes the primary, if not sole, evidentiary basis for addressing and prosecuting these traumatic incidents.¹⁰ A child victim of abuse or neglect may also experience stress, anxiety, and re-traumatization with each part of the investigatory process.¹¹ Comfort canine therapy is demonstrated in prior studies to be beneficial in child maltreatment cases. However, these programs have been limited in assigning the comfort therapy dog to only one of the MDT disciplines. An example of incorporating comfort canine therapy into an individual setting was described in a 2012 study of 156 children engaged in group therapy for child sexual abuse. This study showed substantial decreases in observed trauma symptoms when a comfort therapy dog was used in that setting.¹² In 2015, a comfort therapy program solely within law enforcement found that the presence of the therapy dog provided initial comfort to the child in an unfamiliar environment. More importantly, the handler was able to build rapport, initiate an open-ended dialogue unrelated to the suspected abuse incident, and assess children's engagement and cognitive abilities prior to conducting an investigative interview.¹³

Programs utilizing comfort therapy canines in cases of child maltreatment have provided valuable support to children and their families. However, to our knowledge, implementing a canine program that offers longitudinal support to victims between the different domains of child abuse cases (e.g., evaluation, treatment, investigation and prosecution) has not been demonstrated in the literature. Considering that these cases involve a diverse MDT, a program that utilizes comfort canine therapy across disciplines was anticipated to be valuable. A unique canine comfort therapy program, therefore, was established specifically to support victims of child maltreatment longitudinally and with the involvement of two community professionals within the RI MDT. CALI (acronym for Cranston Police, Aubin Center, Leadership in Innovation) is an Australian Labradoodle, was

the first official K-9 comfort therapy dog in a police department in RI, and the first employed dog within the state's only children's hospital.

The CALI canine comfort therapy program is distinct because it has two handlers from two separate disciplines within the MDT (law enforcement and healthcare). CALI is co-handled by a Special Victims Unit (SVU) detective, and a child abuse pediatrician. This collaboration has resulted in incorporating CALI as a member of the MDT. CALI accompanies children and their families through the different stages of the investigative process: the initial report of maltreatment; medical evaluations; forensic interviews; subsequent meetings with law enforcement and attorneys; waiting to testify in court. This program provides a longitudinal experience that supports children and their families by fostering a sense of familiarity and trust throughout all the difficult components of a child maltreatment case.

As an officer of the Cranston Police Department, CALI has become a true ambassador between law enforcement and the community. She is well known throughout the state and children meet her during school visits and a variety of community events. This has fostered a positive association for children with law enforcement, which for many children is their first direct interaction with a police officer. During these introductory sessions, children not only meet CALI, but learn about safety. This familiarity with CALI has been instrumental in immediately helping provide support to children when they are re-introduced to her in the police station or at the hospital if allegations of child maltreatment occur.

Since the implementation of a comfort canine five years ago, there has been an improved focus on the emotional well-being of the victim in the initial stages of disclosure. Medical evaluations, specifically those forensic in nature, can be stressful for children, especially when asked to discuss traumatic experiences in detail. As an adjunct to our well-established trauma-informed care, CALI has helped promote a child-friendly environment. This new approach can alleviate additional distress that may impact a child's ability or willingness to provide information that is crucial for medical treatment as well as legal and therapeutic decision making. The presence of a comfort canine enables children to perceive the environment as less threatening, potentially reducing feelings of stress during history taking and during the medical examination. This unique approach has allowed a shift from a diagnostic process to a therapeutic intervention; helping children to regulate their emotions as they recount traumatic events.

Professionals within the MDT are exposed to the graphic details of traumatic experiences reported by children who have suffered from all forms of child maltreatment and therefore are at high risk of secondary trauma and burn out. The rates of secondary trauma can exceed 50% within each of the disciplines represented in a child maltreatment

MDT.¹⁴⁻¹⁹ A study of 20 healthcare workers found significant reductions in both serum and salivary cortisol 45 minutes after a 5-to-20-minute interaction with a comfort canine, suggesting that hospital staff may benefit from very brief interactions.³ Similarly, integrating a canine comfort therapy program has been beneficial for the professionals within the RI MDT. Staff members have reported decreased levels of stress and a happier work environment since CALI became a member of the team. Likewise, a Virginia Commonwealth University study found a notable improvement of employees who brought their dogs to work produced lower levels of cortisol. In this study, average stress level scores fell about 11% among workers who had brought their dogs to work, while they increased 70% for those who did not.²⁰ Moreover, Rodriquez and colleagues examined 73 pediatric healthcare professionals that worked with 46 dogs across 17 children's hospitals. These pediatric healthcare professionals described benefits in their daily lives by reducing stress and improving well-being, staff relationships, and job-related morale.²⁰ A separate study identified that professionals working with a dog described their job in a positive way and reported improved mental health, including less depression.²¹

Overall, the implementation of this unique canine comfort therapy program has benefited the children, their family members, as well as the professional members of the MDT. An example of quotes regarding these interactions are provided in **Table 1**. This program could be replicated within established MDT for child maltreatment in other geographical areas.

Table 1. Quotes about CALI

"I feel so much better just being with her."
"She made me feel joyful."
"CALI made myself and my son feel comfortable enough to talk. Having her as a distraction while talking about some of the hardest stuff ever, definitely made it easier."
"I wanted to let you know just how helpful CALI was in our meeting with the child molestation victim we were preparing for trial."
"CALI provided a sense of calm in a very overwhelming and stressful situation. I was very scared and having to talk with detectives who were complete strangers was nearly impossible. CALI made me feel safe and the second I saw her I could breathe a little better."
"We are so appreciative and grateful for all that CALI has done for survivors of sexual abuse."
"She makes me feel calm and safe."
"Getting hugs from CALI helps to reset the moment, releasing stress and brightening the start of the workday."
"Having CALI in our office is wonderful! She brings joy to everyone in the building."

FUTURE DIRECTIONS

Overall, the use of canine comfort therapy dogs to help establish rapport with children during abuse investigations is a promising innovative practice. A standardized procedure is needed to utilize therapy animals in the context of child maltreatment investigations and evaluations. Quality improvement cycles can be employed to help inform the use of comfort therapy dogs in clinical practice and empirically establish guidelines in different settings. Qualitative research on patient, family, and professional's self-reports of direct experiences with a comfort canine could also be completed. Finally, research utilizing quantitative measures (e.g., cortisol levels, blood pressure) can be useful in determining the benefit of comfort therapy dogs in different environment such as police stations and child abuse clinics, where patients are anticipated to experience elevated stress levels.

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Authors

Christine E. Barron, MD, Professor, Pediatrics, Warren Alpert Medical School of Brown University; Division Director, Aubin Child Protection Center, Rhode Island Hospital/Hasbro Children's Hospital, Providence, RI.

Meagan Fitzgerald, MS, CCLS, Rhode Island Hospital/Hasbro Children's Hospital, Providence, RI.

Mimi Coleman, BA, Rhode Island Hospital/Hasbro Children's Hospital, Providence, RI.

Jessica L. Moore, BA, Warren Alpert Medical School of Brown University, Providence, RI.

Michael D. Iacone, MA, Cranston Police Department, Cranston, RI.

Disclosures

The authors have no financial disclosures.

Correspondence

Christine E. Barron, MD

Aubin Center

Hasbro Children's Hospital

593 Eddy Street

Potter Building, Suite 005

Providence, RI 02903

Christine_Barron@brown.edu