PREDICTORS OF SEXUAL ABUSE INVESTIGATION AND SUBSTANTIATION BY CHILD PROTECTION SERVICES INVOLVING CHILDREN LESS THAN THREE YEARS OLD

by

Phyllis Lynn Thompson

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SUPERVISORY COMMITTEE APPROVAL

of a dissertation submitted by

Phyllis Lynn Thompson

This dissertation has been read by each member of the following supervisory committee and by majority vote has been found to be satisfactory.

10/29/2009 [redacted]
Chair: Reiko Hayashi

10/29/2009 [redacted]
Lawrence H. Liese

10/29/2009 [redacted]
Christina E. Gringeri

10/29/2009 [redacted]
Pamela Clarkson Freeman

10/29/2009 [redacted]
Maureen S. Sanger

THE UNIVERSITY OF UTAH GRADUATE SCHOOL

FINAL READING APPROVAL

To the Graduate Council of the University of Utah:

I have read the dissertation of Phyllis Lynn Thompson in its final form and have found that (1) its format, citations, and bibliographic style are consistent and acceptable; (2) its illustrative materials including figures, tables, and charts are in place; and (3) the final manuscript is satisfactory to the supervisory committee and is ready for submission to The Graduate School.

3/15/2010
Date

[redacted]
Reiko Hayashi
Chair: Supervisory Committee

Approved for the Major Department

[redacted]
Jannah H. Mather
Chair/Dean

Approved for the Graduate Council

[redacted]
Charles A. Wight
Dean of The Graduate School

ABSTRACT

Inherent within a child protection investigator's overarching role of determining who needs protection is the responsibility to also ensure that preverbal children who have not experienced sexual abuse do not grow up thinking they have. Currently, there is a scarcity of research related to the confirmation of sexual abuse of children with limited verbal skills. This scarcity of research is concerning since investigations involving sexual abuse of preverbal children often have inherent complexities that make drawing conclusions difficult.

The purposes of this dissertation research were to 1) identify predictors of child protection services accepting cases for investigation involving sexual abuse concerns of children less than 3 years old; 2) identify predictors of substantiation of cases investigated by child protection services; and 3) examine the concordance rate of anogenital examination findings between general medical providers conducting sexual abuse exams of preverbal children and medical providers who specialize in conducting pediatric sexual abuse exams, in order to aid investigative and medical professionals in their decision-making processes. Finally, this research sought to add to the literature by examining descriptive data related to demographic information, characteristics of alleged sexual offenders, nonspecific physical exam findings, behavioral symptoms, and the nature and range of concerns that prompted referrals of children less than 3 years old for sexual abuse evaluations.

This exploratory quantitative study involved chart reviews of 183 children whose ages ranged from 1-month-old to 2 years and 11 months and who were examined for concerns of sexual abuse between 1999 and 2007 within a Tennessee metropolitan city. Binary logistic regression revealed that 1) "verbal indication" was the only significant factor for the Department of Children's Services accepting child sexual abuse reports of children less than 3 years old for investigations; 2) "having a witness" was a significant factor for child protective investigators to substantiate sexual abuse; and 3) being a juvenile sexual offender also significantly predicted substantiation of sexual abuse. Examination of agreement between the physical exam findings reported by general medical providers and those reported by forensic exam specialists based on percentage revealed a high disagreement ratio related to anogenital examinations.

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CHAPTER 1

INTRODUCTION

Welcome to my blog....I am a nepiophile. That means that I am attracted to young babies and up sexually, emotionally and physically. I have been a pedophile ever since I can remember but I didn't realize that I was one until I was a teen...
-Nepi, published on Google Sunday May 14, 2006

On October 17, 2007 CNN publicized the arrest of Chester Stiles of Las Vegas, Nevada after legal investigators obtained a videotape of a little girl less than 3 years old being raped. After conducting a national search legal authorities found the child who was now 7 years old. Her mother was oblivious to the sexual abuse of her daughter prior to the discovery of the videotape (CNN, 2007).

While many individuals have difficulty envisioning how anyone could sexually abuse an infant or toddler researchers have indicated that 19% of all child pornography images confiscated from arrested individuals were of children less than 3 years old (Wolak, Finklhor, & Michell, 2005). Children within this age range are sexually abused for a variety of reasons. Some sexual offenders are sexually attracted to preverbal children and act on their desires. Others recognize that they are less likely to be caught and convicted of a criminal offense by targeting preverbal children (Scannapieco & Connell-Carrick, 2005), while still others abuse preverbal children in order to take advantage of the large sums of money they can make from selling pornography (Cooper,

Estes, Giardino, Kellogg, & Vieth, 2005). Such motivations, combined with other factors, such as: 1) perpetrators' distorted beliefs that their sexual offenses are not harmful since preverbal children will not remember the abuse (Cooper, 2005); 2) preverbal children are dependent with hygiene (Hewitt, 1999); and, 3) the public's belief that the sexual abuse of infants and toddlers is rare, increase preverbal children's vulnerability for abusive experiences (Hewitt, 1999).

One of the factors that may contribute to the belief that children younger than three are rarely sexually abused is the reportedly low incidence and prevalence rates (Scannapieco & Connell-Carrick, 2005). While statistical averages tend to be low for sexual abuse of those under the age of 3, it is likely that these numbers do not accurately depict the true prevalence for this age group since incidence rates tend to spike to the average prevalence range after children turn three and become increasingly verbal. In light of the fact that a direct statement from a child is often the main evidence for determining whether sexual abuse occurred, one must remember "substantiation rates mirror the ability to talk, not probable abuse" (Hewitt, 1999, p. 3).

Another factor that could lead one to believe that sexual abuse of infants and toddlers is a rare phenomenon is the role that media plays, calling the public's attention to only the few most extreme and brutal cases that are easily identified. One such example is a 10-month-old baby who died from "multisystem organ failure precipitated by the injuries" as a result of being raped and assaulted by her mother's boyfriend in Pittsburgh, Pennsylvania (WPXI News, 2007). Other examples include the 8-day-old baby who died after her father sexually abused and then poisoned her in Detroit, Michigan (Detroit News, 2007) and a 13-month-old baby who was hospitalized in intensive care after she

acquired a skull fracture and a "torn vagina" (The Bryan-College Station Eagle, 2007). While these cases are egregious, they are not representative of the typical and more frequent physical findings resulting from less intrusive forms of sexual contact (Botash, 2003).

In reality, most sexual offenders sexually abuse their victims with methods that do not cause injury or leave any physical evidence. In a 5-year study, Heger, Ticson, Velasquez, and Bernier (2002) out of the University of Southern California found that 96.3% of the 2,384 pediatric anogential exams conducted by medical providers specializing in the area of sexual abuse showed no evidence of physical injury. While studies continue to reveal that physical evidence and injuries are really the exception instead of the rule (Botash, 2003; Lentsch & Johnson, 2000; Muram, 2001; Starling & Boos, 2003), an absence of medical evidence does not mean sexual abuse did not occur (Muram, 2003).

Notably, most sexual offenders tend to be someone who knows and has access to the child (Myers, Berliner, Briere, Hendrix, Reid, & Carole, 2002). As such, a sexual offender can easily rub an infant's anogential area with a finger, penis, tongue or object and ejaculate on them instead of inside of them, thereby avoiding injury to the child's body. Since such behavior rarely involves a witness, the sexual offender can easily wash away the saliva or sperm. Additionally, if the child contracts a sexually transmitted infection, discovering who the offender is can be difficult since infections take time to incubate and sexual offenders can flee or be treated for an infection before any symptoms develop (Scannapieco & Connell-Carrick, 2005).

A final factor that may contribute to the belief that children under 3 are rarely sexually abused is the limited amount of research and literature that draws professional attention to the sexual abuse of preverbal children. Ignoring this issue continues to prevent the opportunity to learn more effective ways for investigating cases involving preverbal children and educating primary caregivers about risks and prevention measures (Scannapieco & Connell-Carrick, 2005).

Considering how experiences during the first 3 years of life play such a substantive and formative role in shaping the neural, physiological and socioemotional development of an individual, the societal costs of ignoring this problem are too high. The extensive literature on the psychological effects related to sexual abuse of children over 3 years old has clearly documented both short- and long-term consequences. Short-term effects can include emotional distress, neurological and physiological changes, behavioral problems, interpersonal difficulties, and cognitive distortions as a result of stressful stimuli and trauma (Schore, 2000; Siegal, 2006).

Long-term effects tend to involve emotional distress during adulthood, trauma symptoms, dissociation, cognitive distortions, externalized emotional distress, interpersonal problems and even death in some rare cases. Not surprisingly, children with a negative general attribution style and family dysfunction are at higher risk for negative outcomes than children with more resilient characteristics (Myers, Berliner, Briere, Hendrix, Reid, & Carole, 2002). Research on the consequences resulting from sexual abuse of children younger than 3 years old, however, is more limited. Some of the ramifications include sleep disturbances and an increase of overt sexual behavior (Hewitt, 1999).

Problem Statement

Inherent within a child protection investigator's overarching role of determining who needs protection is the responsibility to also ensure that preverbal children who have not experienced sexual abuse (and their caregivers) do not grow up thinking they were. Literature related to the confirmation of sexual abuse in preverbal children is scarce. Investigations of sexual abuse in preverbal children have inherent complexities that make drawing conclusions difficult. For example, the very young child's inability to provide contextual details of an event can easily lead to misunderstandings and confusion about what a child with limited verbal ability is actually relaying.

One scenario in which such a misunderstanding could occur may be a single mother who has her own history of sexual abuse and wants to ensure her child's safety. In such a case, a mother may ask her 2-year-old daughter who is complaining of genital pain if anyone touched her after returning from a custodial visit. If the child responds yes and then says "Daddy hurt" in reply to the mother asking who touched her, the mother may draw the conclusion that her child was sexually abused. However, another plausible explanation may be that the child had a rash and when her father helped her wipe she experienced some pain. Either way, a child protection investigator will need to assess if the reported touching was related to hygiene or sexual abuse.

Exhibition of sexual behaviors has also been shown to raise concerns about the possibility of sexual abuse. However, neither the absence nor presence of any specific or range of sexual behaviors is diagnostic of sexual abuse (Drach, Wientzen, & Ricci, 2000). Additionally, while changes in a child's attitudes and behaviors can be associated with sexual abuse, such changes (e.g., sleeping disturbances, regression of toilet training,

decreased appetite, masturbation) are found in children who were not sexually abused (Kuehnle, 1996) and can also be attributed to other types of stressors such as parental conflict and absence of a primary caregiver (Leung & Robson, 1993).

Another problem associated with cases involving preverbal children is that most medical providers are not properly trained to conduct child sexual abuse examinations. In fact, several studies have documented the inability of many medical providers to appropriately identify anatomical genital structures of pre-pubertal girls (Botash, 2003; Lentsch & Johnson, 2000; Muram, 2001; Starling & Boos, 2003). Consequently, medical providers are often unable to provide an accurate diagnosis (Hornor & McCleery 2000; Kellogg & the Committee on Child Abuse and Neglect, 2005). Such errors can lead to harming innocent individuals accused of sexual abuse and contribute to false beliefs that the child was a victim, or they can lead to identifying a child as nonabused when in fact the child was molested.

Cases regarding preverbal children who are diagnosed with Human Papilomous Virus (HPV) are also complex to assess partly because of the multiple modes of transmission. Vertical transmission involves a mother passing the HPV to her child during pregnancy and/or delivery. While finding out if HPV was transmitted vertically may appear easy, the fact that it can take up to several years for the virus to result in a lesion (wart) makes determining how HPV was contracted difficult. Physical contact with another person is the second form of HPV transmission. In cases involving children under three, HPV can be contracted from sexual contact as well as from caregivers who have lesions on their hands and change their diapers. Autoinoculation is the means by which a wart is passed from one body part to another body part on the same person. In such cases,

children with lesions on their hands can scratch their anogenital areas and spread the lesions (Hornor, 2004; Sinclair, Woods, Kirse, & Sinal, 2005).

Finally, the erroneous belief that medical providers can determine if a child experienced sexual abuse by conducting a physical examination also puts preverbal children at risk. As previously noted, there are many forms of sexual contact that do not result in injury and many types of injuries tend to heal quickly (Starling & Boos, 2003). Much more, as previously described with the HPV example, sexually transmitted infections are not always conclusive. Therefore, a conclusion that a child was not sexually abused cannot be based solely on a normal exam finding. In fact, medical providers who assure caregivers, investigators, and/or juries that a child was not sexually abused as a result of a lack of physical evidence can put children in a position of being continually subjected to a sexual offender.

The aforementioned inherent complexities associated with sexual abuse investigations of preverbal children; the lack of education medical providers typically receive on pre-pubertal anogenital anatomy (Botash, 2003; Lentsch & Johnson, 2000; Muram, 2001; Starling & Boos, 2003); and the inability to diagnose sexual abuse from behaviors (Drach, Wientzen, & Ricci, 2000) all support the need for further research that can aid investigative and medical professionals in decision-making. For example, should general medical providers who have not had training examine children when there are concerns of sexual abuse or should they refer to a specialist? Are there any factors that predict whether or not child welfare professionals will investigate cases of alleged sexual abuse in children less than three years of age? Finally, are there any predictors related to

the substantiation of sexual abuse of preverbal children by child protective services that investigators should be aware of?

Purpose of the Study

To truly understand the nature of this phenomenon and what can be done to help, professionals who deal with child sexual abuse, along with their individual agencies, must evaluate more than the few incidence and prevalence studies regarding this vulnerable population. Further, professionals must be willing to collaborate with one another so that they can critically examine a collection of data in a comprehensive manner. This research represents such collaboration. Our Kids®Center is a child-friendly outpatient clinic of Metropolitan Nashville General Hospital that has provided forensic sexual abuse exams to over 15,000 children from all over Middle Tennessee for the past 20 years (Our Kids®Center, 2009). Since Our Kids®Center is not a child advocacy center; highly skilled clinicians examine children whose cases are investigated by child protective services as well as those whose cases are not investigated. Subsequently, there is an opportunity to examine any differences that may be present between the two groups.

The purpose of this dissertation research, which involved collaboration between Our Kids®Center and the Tennessee Department of Children's Services (DCS), sought to add to the body of knowledge involving sexual abuse concerns of children less than 3 years old in order to aid investigative and medical professionals in their decision-making processes by addressing the following goals. The first goal was to examine if sexual behaviors, sleep disturbances and a form of verbal indication (e.g., answering direct or repeated questioning from a parent about sexual abuse with a "yes" or "no" without giving any context, or words interpreted by a caregiver as a disclosure of sexual abuse)

predicted whether or not child protective services investigated sexual abuse reports involving children less than 3 years. The second goal of this research was to identify predictors of substantiation of sexual abuse of children under age 3 by the Department of Children Services. The third goal was to examine if investigations involving alleged juvenile sexual offenders were more likely to be substantiated than cases that involved alleged adult sexual offenders. The fourth goal was to examine the concordance rate between the anogenital examination findings of general medical providers conducting sexual abuse exams of preverbal children and the exam findings of medical providers who specialize in conducting pediatric sexual abuse exams.

Finally, this research provided the following descriptive data on children under age 3 who received forensic medical examinations: (1) demographic information related to the children's gender, age, race, ethnicity and socioeconomic status; (2) characteristics of the alleged sexual offenders (such as gender, age and relationship to the alleged victim); (3) nonspecific physical exam characteristics (exam findings that may or may not indicate sexual abuse); (4) behavioral symptoms exhibited by the children; (5) the nature and range of concerns that prompt referrals for forensic medical evaluations of preverbal children; and (6) concerns that caregivers identified during the presenting history. Providing descriptive data about preverbal children and their offenders offered the opportunity to add to the limited knowledge base regarding children under 3 alleged to have been sexually abused and serves to facilitate opportunities in the areas of identification, prevention and advocacy.

Methodology

This exploratory, quantitative, retrospective study involved chart reviews of 183 children from Tennessee who were less than 3 years old when they were examined at Our Kids®Center between 1999 and 2007 for concerns of sexual abuse. Data extracted from the children's medical charts included information from the referral history, caregiver interviews, medical examination documentation and administrative sections of their records. The information extracted from Our Kids®Center records was combined with investigative data provided by the Department of Children's Services (DCS) of Davidson County in Tennessee. Names and birth dates of children were provided to the appointed Department of Children's Services representative so that the requested data could be retrieved and forwarded to the principal investigator. Providing the name and birthdates to DCS was the only way to combine the data from investigative records between the two agencies responsible for gathering forensic information in regard to child sexual abuse. This dataset provided a comprehensive view of possible predictors associated with this vulnerable population. Details extracted from the charts at Our Kids®Center and the requested information from DCS will be further explained in Chapter 3. Since this was a retrospective study there was not any contact with subjects.

Significance of Study

Since professionals are unable to collect verbal accounts of experiences from preverbal children, there is a dearth of research regarding the sexual abuse of this vulnerable population. One reason for the lack of research is the inherent barriers that make investigating and substantiating sexual abuse difficult (Hewitt, 1999). Some ways of addressing these barriers are to combine and examine the data gathered by agencies

involved in evaluating and investigating child sexual abuse. In this study, data from Our Kids®Center's expert medical and psychosocial professionals was combined with investigative information from the Tennessee Department of Children's Services. Since some of the cases involving sexual abuse concerns of preverbal children who receive anogenital exams at Our Kids®Center are not accepted for investigation by the Department of Children's Services, there was an opportunity to examine characteristics from both groups of children. As Bosquet (2007) points out, a considerable amount of knowledge regarding trauma symptomology for young children is drawn from clinical descriptions rather than systematic research. Ascertaining commonalities about differences in preverbal children's behaviors adds to the information that child protection workers use to assess whether they will investigate reported cases.

Identifying predictors of investigations and substantiation of cases also aids child protection and legal investigators with the investigative process by targeting important subjects that might otherwise be overlooked. Distinguishing predictors additionally helps to inform investigators' decision-making processes. Notably, the more we learn about how preverbal children are affected by sexual abuse the more professionals can educate caregivers on recognizing possible responses and intervene effectively.

Examining the concordance rate of physical exam findings between general medical providers and pediatric sexual abuse exam specialists can provide further evidence that conducting forensic pediatric sexual abuse exams is a professional field that requires specialized training and that general medical providers need more education about prepubertal anatomy that will help reduce false- positive exams. Finally, providing descriptive data about preverbal children and their offenders adds to the limited

knowledge base regarding preverbal children who are sexually abused and thereby facilitates opportunities in the areas of identification, prevention and advocacy.

Research Questions and Hypotheses

Three primary research questions and hypotheses guided the study:

Q1: Are sexual behaviors, sleep difficulties and verbal indications of sexual abuse predictors of child protection services accepting sexual abuse reports of children less than three for investigation? It was hypothesized H^1) that child protective services would be more likely to accept sexual abuse reports for investigation when a child was reported to exhibit sexual behaviors, sleep difficulties and if the child made some form of verbal indication of having been sexually abused.

Q2: Is the presence of anogenital injury, sexually transmitted infections (STI), sexual behaviors and having a witness who observed the sexual abuse act predictors of child protection investigators' decisions that sexual abuse has occurred? It was hypothesized that H^2) the presence of anogenital injury, sexually transmitted infections, sexual behavior and having a witness would predict substantiation.

Q3: Are investigations that involve alleged juvenile sexual offenders more likely to be substantiated than cases that involve alleged adult sexual offenders? It was hypothesized H^3) that investigations involving alleged juvenile sexual offenders were more likely to be substantiated than cases involving alleged adult sexual offenders.

Q4: What is the concordance between the physical exam findings reported by general medical providers and those reported by forensic exam specialists?

In addition, this research expanded its focus on descriptive qualitative data that included demographics of the preverbal children and those alleged to have sexually

abused them; the nature and range of concerns that prompt referrals for forensic medical evaluations; nonspecific physical exam characteristics; concerns that caregivers reported during the presenting history; information related to previous exams conducted by medical providers who were not specialists in pediatric forensic exams and concerning behaviors that caregivers report their children exhibiting.

Overview of Dissertation

Organization of this dissertation is as follows: Chapter 2 examines the literature regarding the scope of the problem of sexual abuse of children less than the age of three. Chapter 3 describes the sample and specifies the analyses that will be employed to answer the study's research questions and test its hypotheses. Chapter 4 presents the results of my analyses. Finally, Chapter 5 discusses the research findings, provides recommendations, and suggests avenues for future investigations.

CHAPTER 2

REVIEW OF THE LITERATURE

This chapter reviews policies related to protecting children; examines the scope of the problem of sexual abuse of children under the age of 3; identifies characteristics of individuals who sexually abuse children less than 3 years old; and presents theories related to etiologies of child abuse. The first 3 years of child neurodevelopment and the negative short- and long-term impacts sexual abuse has on the developing brain and self-regulation will also be reviewed. The focus then turns to reviewing limitations associated with forensic pediatric medical exams and identifying skills and attributes that medical providers should possess for conducting pediatric sexual abuse evaluations. The chapter concludes by describing the Our Kids®Center's organizational history and evolution for meeting the needs and demands of this vulnerable population.

Policies for Protecting Children

The United States federal government first accepted responsibility for protecting children's welfare in 1912 with the establishment of the U.S. Children's Bureau. Unfortunately, the mandate fell short of identifying child abuse as one of the areas that needed addressing. This gap in protection was later confronted by Dr. C. Henry Kempe in the 1960s when he published his work on what he called battered child syndrome. Following Dr. Kempe's publication, research on the prevalence and etiology of child

maltreatment eventually pressed the U.S. legislature to pass the Child Abuse Prevention and Treatment Act of 1974 (CAPTA, PL 93-247). As a result of CAPTA's passage, each state was mandated to formally create and establish a child protection system that would specifically identify, treat and prevent child maltreatment. This Act further created the opportunity for the United States to legally address child sexual abuse for the first time (Scannapieco & Connell-Carrick, 2005).

Scope of the Problem

Approximately 10% of sexual abuse cases indicated (determined to have been abused) by child protection investigators each year involve infants and toddlers (Smyke, Wajda-Johnston, & Zeanah, 2007). However, true prevalence and incidence rates of sexual abuse are difficult to ascertain for several reasons. First, CAPTA delegates the responsibility for delineating the parameters of statutes regarding child sexual abuse to state legislatures. As a result, state statutes that take into account the sexual abuse act, the age of the child, and the relationship between the child and the sexual offender tend to vary from one state to another (Scannapieco & Connell-Carrick, 2005).

A second reason prevalence and incidence rates of child sexual abuse are difficult to determine has to do with a lack of standardized criteria for measuring the incidence rate. For example, in an exploratory study conducted by the Department of Justice Federal Bureau of Investigation in 2004, data were collected from the National Incident Based Reporting System and analyzed from 2001-2003 for cases that included forcible fondling, rape, sodomy and use of an object. The data involving infants included 39 forcible rapes, 25 cases of sodomy, 13 sexual assaults with objects and 85 cases of fondling for a total of 162 reported criminal cases involving children less than age 1.

However, researchers did not include cases of incest as part of their sample even though this would still be considered a criminal act (Department of Justice Federal Bureau of Investigations, 2004).

Uncovering the true prevalence and incidence rates of sexual abuse of children who are less than 3 years old is even more difficult because they (unlike older children) lack the verbal skills to provide credible disclosures. In 1996, data collected for the National Incidence Study of Child Abuse and Neglect (NIS-3) showed a lower incidence rate of maltreatment among children less than age 2 than for groups of children who were older. However, once children reached their third birthday, the incidence rates of sexual abuse remained relatively comparable between age groups. Researchers hypothesized that the differences in the incidence rates between children under age 2 and children from older age groups were a result of the younger children's preverbal stage and isolation (National Child Traumatic Stress Network, n.d.). This point is supported by Hewitt (1999), who notes that "once children reach age 3, their speech and language reach the level of development where it is understood by most adults, and substantiation rates begin to better reflect their histories" (p. 3). While the true incidence and prevalence rates of sexually abused preverbal children remains unclear, media reports, pornography, statements made by child sexual offenders, and studies on sexual offenders provide evidence of their victimization.

Characteristics Associated With Sexual Offenders Who Abuse Infants and Toddlers

Even though the sexual abuse of toddlers and infants is not uncommon (Firestone, Dixon, Nunes, & Bradford, 2005), the literature pertaining to sexual offender

characteristics and dynamics as they relate to children under 3 years old remains sparse. Consequently, information pertaining to offender characteristics and the ways that sexual offenders manipulate their environments to gain access to preverbal children becomes increasingly important for investigative purposes. Nepiophilia is a term used for individuals who are sexually attracted to infants and toddlers, while infantophilia has been used to differentiate pedophiles who sexually abuse children under 5 years old (Cohen & Galynker, 2002) from those who abuse prepubertal children older than age 5.

The DSM-IV-TR further differentiates *exclusive* pedophiles who are only able to have sex with children from *nonexclusive* pedophiles who prefer a sexual relationship with an adult, but also have sexual fantasies about children (American Psychiatric Association, 2004). A small population of pedophiles who are specifically attracted to the immature anatomy of infants and toddlers tend to show no preference of gender (Collins, 2005). Greenberg, Bradford, and Curry (1995) additionally assert that the immature physical, psychological and sexual development stages are the erotic factors that drive an infantophile's sexual arousal.

Sexual offenders who abuse toddlers and infants are typically family members or daycare providers that are opportunistic in their approach to gain access (Greenberg, Bradford & Curry, 1995). In a study comparing infantophiles to extrafamilial sexual offenders who abused children over the age 5, infantophiles tended to be younger and less likely to confess their behavior. Infantophiles who were repeat offenders also tended to have a past criminal record (Greenberg, Firestone, Bradford, & Broom, 2000).

In a later preliminary study, convicted incest offenders of younger children (< 6 years) were compared with convicted incest offenders of adolescent victims. On

psychological measures incest offenders of younger children scored significantly higher for emotional problems and psychopathology. They also reported more problems with sexual functioning, had several victims who tended to be boys, and were more likely to abuse alcohol (Firestone, Dixon, Nunes, & Bradford, 2005).

In the past, pedophiles tended to be relatively isolated, but with the innovation of the internet, pedophiles have been able to create virtual communities where they can socialize and share information with one another anonymously. The internet has also facilitated the ability for pedophiles to join organizations like the North American Man/Boy Love Association (NAMBLA), which argues that sexual relationships with children are not harmful and therefore advocates for the right for adults to have sex with boys. Additionally, there have also been websites and chat rooms dedicated to material related to having sex with toddlers and infants, which continues to fuel the ability of sexual offenders to rationalize and justify their behaviors (Collins, 2005).

Whereas statistics continue to show men as being more likely to sexually abuse a child, one must be cautious not to overlook that women also molest children (Schetky, 1991). As primary caregivers, women typically examine, bathe, dress and touch children as part of their typical daily responsibilities. Consequently, sexual behavior that is masked as nurturing or responsible caregiving can easily go undetected and fail to raise suspicion. Notably, there have been many cases in which women have sexually abused children within daycare centers (Lanning, 2005).

Female sexual offenses are also apt to be under identified as a result of cultural and societal stereotypes and professional biases. Such stereotypes and biases involve a societal disbelief that women are capable of behavior that would harm another,

particularly in a sexual context. In research conducted in 2004, law enforcement officers, whose trainings are normally focused on male perpetrators, revealed a tendency to respond to sexual allegations against women with disbelief. They were also more likely to minimize the allegations, think of the women as less dangerous and disregard the allegations. Similar responses have also been found with professionals working in the mental health and medical fields (U.S. Department of Justice, 2007).

Sexual offenses committed by juveniles also cannot be overlooked. According to Shi and Nicol (2007) juvenile offenders have accounted for approximately 30-50% of child sexual abuse in the United States. Male juvenile sexual offenders make up the majority of sexual offenses while female sexual offenders equate to approximately 5-7% of the child sexual abuse cases (Kubik, Hecker & Righthand, 2002).

Vandiver and Taske (2006) have suggested that juvenile sexual offenders can be classified into one of three categories based on characteristics of their victims. "Pediophilic" classification encompasses juveniles who tend to target very young children and/or children who are at least three years younger than themselves. "Sexual assault" classification is associated with sexual acts targeted against individuals who are around their same age. "Undifferentiated" type involves no sense of preference.

Common characteristics that have been identified among juvenile sexual offenders include social isolation and personal perceptions of social inadequacies, anxiety, feeling threatened or intimidated by heterosexual contact and difficulty regulating anger (particularly in cases of rape). Recognizing such characteristics is important when thinking about areas of prevention considering that studies have continued to establish an onset of deviant sexual fascinations of many adult sexual

offenders during their adolescent years (Murphy, Paige & Hoffman, 2004). Unfortunately, while recognizing characteristics and tendencies of sexual offenders who sexually abuse young children can be helpful to investigators, profiling does not contribute to understanding the etiology of child sexual abuse, dynamics that increase risk to preverbal children or the short- and long-term negative impacts sexual abuse can have on children.

Theoretical Models

Classical theories related to etiologies of child abuse from sociological, social learning and psychological perspectives tend to focus on an individual's mental state, characteristics or circumstances and fall short of explaining exceptions for when abuse does not happen. In order to address this shortcoming, Belsky (1980) added the ontogenic level to Bronfenbrenner's ecological framework on human development and posited that maltreatment can be understood only by evaluating the interactions that happen within and between each level (Scannapieco & Connell-Carrick, 2005).

Like Bronfenbrenner's framework, each of Belsky's ecological levels is nested within the next level. The ontogenic development level encompasses reviewing childhood histories of parents in order to examine dynamics and experiences that could possibly predispose individuals to abusive behavior or put their child at risk of sexual abuse. One important issue associated with the ontogenic development level is attachment, which will be addressed later in the chapter. The microsystem encompasses the child and parental characteristics, the direct context in which child abuse occurs and the abuse itself. The exosystem involves the intersection of person and family with primarily their neighborhood and employment, but also includes schools, socioeconomic

status, support networks and social services. The macrosystem is the intersection of the individual with his or her community and culture (Scannapieco & Connell-Carrick, 2005).

In 1993, Cicchetti and Lynch added their 1981 transactional framework to Belsky's ecological model, introducing the ecological/transactional model of child maltreatment. This broad framework illustrates the dynamic processes related to child abuse as risk factors interact with one another at all levels of the ecological system. For example, a caregiver's traits, child characteristics (including stage of development) and the environment will all influence one another as they interact and therefore play a role in the outcome. Risk factors are characterized as either potentiating factors that increase the risk of abuse or compensatory factors that decrease the risk. These factors can be transient (fleeting) or chronic (constant) and directly affect the child (distal) or affect the child in an indirect way, e.g., social class (proximal). In this model, the assumption is that abuse is more likely if potentiating factors prevail over compensatory factors (Bolen, 2001; Cicchetti & Lych, 1993). Specific risk factors related to sexual abuse of children include being female and growing up in a single parent home. Other risk factors include a lower socio-economic status, parental alcohol abuse and parental history of sexual abuse (Kaplan, 2004).

Although these new etiological models do not explain why child abuse occurs, they have led to a major shift from the unidimensional models such as learned behavioral theories, providing comprehensive and multidimensional theoretical explanations that put a person in an intersecting relationship with situation and culture. Ecological transactional models further provide an opportunity to examine how experiences such as

sexual abuse can affect the developmental trajectories of children and become indicators for abuse (Scannapieco & Connell-Carrick, 2005; Cicchetti & Lych, 1993).

Unfortunately, however, the consequences of sexual abuse within the preverbal population are often insidious and as such, make identification and intervention difficult. Neurological research provides evidence that the interaction of nature and environment both shape children's neural, physiologic, emotional, and social development. Studies have repeatedly revealed that both age and the amount of time a child experiences abuse can directly affects the brain's growth and functioning (Putnam, 2006). To develop a deeper understanding of the gravity of ramifications sexual abuse can have on infants and toddlers, it is important to understand how the basic developmental processes of neurophysiology interact with experience and affect human development.

Developmental Processes

Basic principles of child development theory hold that the human development process is not random and unfurls in an organized manner (Hewitt, 1999) while still being influenced by environmental interaction (Strohman, 2003). This is evident in brain development. Synaptogenisis refers to synapse development and facilitates the ability for developing neurons to connect with one another. A synapse is the space between neurons. Neurons communicate with one another through neurotransmissions, which take place in the synapse and subsequently cause chemical reactions that influence specific genes. This gives the brain flexibility to organize and function with a wide range of potential and is influenced by genetic and environmental cues (Society of Neuroscience, 2006).

The synapse is the most experience-sensitive feature of a neuron because repetitive patterns of experiences refine and sculpt neural connections (Perry, 2004).

During the first year of life, synaptic activity facilitates components within the brain that differentiate in order to perform functions that include attention, emotional regulation, perception and memory (Davies, 2002). By the time children reach 3 years old, they have around one trillion synapses (National Clearinghouse on Child Abuse and Neglect Information, 2001). However, toxic environments that produce excessive stress such as sexual abuse can reduce existing synapses (Siegal, 2001).

Synaptic sculpting refers to the ongoing synaptic changes that occur as a result of neuron pathways and connections either being strengthened from repetitive stimulation or eventually dissolved, which is referred to as pruning. Consistent processing of information across the synaptic gap strengthens connections and the two neurons grow closer together, which subsequently leads to increased efficient neurotransmission. With minimum activity, however, synaptic connections dissolve and pathways to specific neurons are lost through the pruning (discarding) process. From age 3 to adolescence, more than half of the synapses are lost. As such, this use or activity-dependent process not only affects learning and memory, but also reflects the formation of one's internal representation of his or her environment (Perry, 2004; National Clearinghouse on Child Abuse and Neglect Information, 2001).

Tactile stimulation and physical contact from 0 to age 3 are essential and contribute to a child's optimal development. However, trauma that is felt as intense stress (Farmer, 2009), facilitated through such means as fondling, oral sex, and digital and penile penetration, harms the developmental processes by interfering with the initial representational template that infants form at the beginning of life (Perry, 2004; Scannapieco & Connell-Carrick, 2005). The brains of infants and toddlers who are

sexually abused will organize themselves based on the experiences of victimization and the physiological responses to those experiences. Given that the representational template is the culmination of the infant's experiences in terms of predictability and feeling safe, it becomes the foundation on which the child will appraise his or her future relationships and expectations (Perry, 2004). This becomes extremely important when one considers that the abuse of infants and very young children is frequently compounded with significant disturbances in caregiving activities and intense chronic stress responses. Such changes can alter the developmental trajectory of the child (Perry, 2004).

Neuroscience and trauma research has found evidence that sexual abuse can also negatively affect the developing neuroarchitecture of young children (Cooper, 2005; Farmer, 2009), which can simultaneously negatively affect cognition, memory, affect, emotion and self-regulation domains of their development (Farmer, 2009). Additionally, structural and cellular changes of the limbic system stemming from trauma (e.g., sexual abuse) can subsequently impact a young child's entire life specifically increasing their risk for post traumatic stress disorder. Such consequences refute the erroneous belief that infants and toddlers will tend to forget a traumatic event and escape any negative long-term impact (Cooper, 2005).

Experiences within the first 3 years of life are critical for an individual because by age 3 most of the brain has been organized and the brain subsequently becomes less responsive to experiences and one's environment (Perry, 1997). The decreased plasticity (the ability for the brain to be shaped by experiences) in various areas of the brain, particularly the amygdala, creates a barrier for effective interventions in later life (National Clearinghouse on Child Abuse and Neglect Information, 2001).

Neurophysiologic Responses to Stressful Experiences

Numerous studies conducted with adults and children have now established a multitude of neurophysiologic changes associated with traumatic stress. The hypothalamic-pituitary-adrenal axis (HPA axis) is the primary system for mediating responses to stress. Once the HPA axis is activated by stress, neurotransmitters trigger the hypothalamus to secrete a corticotrophin releasing hormone (CRH), which in turn stimulates the pituitary gland to produce adrencoticotropin releasing hormone (ACTH). The ACTH then stimulates the adrenal glands to release cortisol, which functions to return an aroused state back to homeostasis (Schuder & Lyons-Ruth, 2004).

However, during the first year of infancy there is a lower production (hypo-responsive) of cortisol, which results in stressful experiences over stimulating the cortisol response system (Combs-Orme, Wilson, Cain, Page, & Kirby, 2003). As a result, not only is the body unable to return to its initial homeostatic state, the emission of neurotransmitters like norepinephrine increases hyper arousal symptoms in response to stimuli. These physiological responses then trigger impulsiveness and anxiety in situations of perceived threat (van der Kolk, 2002).

Hypo-responsivity is also seen in young children who are exposed to extreme stressors such as sexual abuse. One study measured cortisol levels of ten 5- to 7-year-old female children who were suspected to have been sexually abused within the two months prior to participating in the study. Upon comparing their cortisol levels to female children in the control groups, children within the experimental group showed significantly depressed HPA systems. Despite the limitations of the small sample size, this study suggests that exposure to sexual abuse at an early age may disrupt normal neuro

endocrinology and impact the developmental trajectory (King, Mandansky, King, Flectcher, & Brewer, 2001). Most notably, cortisol has been found to damage the hippocampus when it circulates at a high level for a sustained period of time. When children build up too much cortisol, brain cell growth is slowed (Davies, 2002).

Such physiological consequences are important because unlike older individuals who respond to cues of a previous traumatic incident by experiencing "a specific increase in sympathetic nervous system reactivity," infants and toddlers tend to experience a generalized autonomic nervous system response along with the "cue specific reactivity" (Perry, 2004, p. 15). Such disruptive effects on development may explain why traumatic events in earlier life can create pervasive and insidious problems like language and motor delays (Perry, n.d). Disruptions within the limbic systems can cause depression, extreme anxiety, and problems with developing attachments to others (National Clearinghouse on Child Abuse and Neglect Information, 2001).

When traumatic stress persists, Perry (2004) has noted that "states become traits" as a result of the recurring activation of the neurophysiology and its ability to reset its homeostasis baseline. As a result, continual hyper arousal leads to altered noradrenergic systems. A hyper arousal response can compromise other portions of the brain, which may cause sleep disturbances, anxiety, impulsiveness, problems with cognition and memory and difficulty forming attachments. In other cases, children may begin to dissociate.

Dissociation, which allows individuals to feel detached or numb to what is happening to them, is more commonly found in females and younger children (Farmer, 2009). In most cases dissociation occurs when one feels like he or she is unable to get

away or escape. Often these children may appear to others as nonreactive due to the overwhelming anxiety they are experiencing from a sensitized neural response (National Clearinghouse on Child Abuse and Neglect Information, 2001). Consequently, they may be labeled as oppositional-defiant because the assumption is that they are choosing not to respond when in actuality they cannot (Perry, 2004).

Shore (2000) emphasizes that the first 2 years of a child's life are critical in developing an internal model of attachment because children integrate learning experiences and create cognitive maps for attachment patterns in their brain. More recently, attachment has been defined as a "behavior control system that maintains the safety and security of infants and children through the care and nurturance of a caregiver" (Shaw & Paez, 2007, p.69). Since the process of attachment also plays a role in brain organization and physiological regulation (Fonagy & Target, 2005), early abusive experiences can alter the brain's structure and functioning through this avenue of development as well (Cicchetti & Lynch, 1993). Perry (2004) particularly calls attention to how neurodevelopment and attachment work together and how sexual abuse during infancy can negatively affect development across domains:

> Attachment and healthy socio-emotional functioning depends upon the presence of consistent, responsive, attuned and nurturing caregivers. One of the central tasks of these relationships is to keep the child safe. If these caregivers are unable to protect, or worse, if they participate in the sexual abuse of the child, the core of all future relational interactions is corrupted. The distortions in attachment that result from sexual abuse in infancy can be toxic to all future relationships. (p.3)

Erikson's Theory of Psychosocial Development

In line with attachment theory, Erikson's theory of psychosocial development also notes that the primary tasks of children who range from 0-3 years are to establish trust

and autonomy. Very young children who are sexually abused are often exposed to unpredictable environments (Scannapieco & Connell-Carrick, 2005). As toddlers grow older they may begin to explore their environments outside their primary relationships, but they will not be able to feel secure and their insecurity will hinder their ability to master an appropriate level of autonomy. Failure to master autonomy often leads to feelings of shame and insecurity and the child may develop dependency on others in an attempt to feel safe and secure (Gardiner & Kosmitzki, 2008). This is a dangerous consequence considering that sexual offenders openly admit to preying on such children, making them more at risk for becoming victims of sexual abuse (Elliot, Browne, & Kilcoyne, 1995).

How Sexual Abuse Impacts Very Young Children

Memory

Memory is intricately intertwined with development as experiences are encoded and shape current and future emotional, perceptual and behavioral functioning. During the first year of life, infants use implicit memory, which allows them to form schemas related to repeated experiences. Developmental amnesia is a universal phenomenon that tends to occur during the second year when the brain reorganizes itself in order to begin developing two forms of explicit memory: autobiographical (episodic) and factual forms (semantic), which involves storage and recall. The reorganization of the brain makes it difficult to access previous implicit memories and has led to an erroneous belief that infants and toddlers will not be able to recall personal traumatic events such as sexual abuse (Siegel, 2001).

However, the human brain is able to recall previous experiences through several trajectories including cognitive, emotional, social, motor and vestibular domains. For example, playing an instrument; feeling frightened from being in an unfamiliar place in the dark; experiencing a sense of calm by the mere presence of a caring person; and initial impressions are all responses to memories that have been utilized (Perry, n.d.). Implicit memories continue to allow the brain to retrieve previous experiences in response to cues (Siegel, 2001) that can stem from motor-vestibule, physiological state and emotional memories (Perry, n.d.), otherwise known as priming. Individuals are not cognizant when implicit memories are activated but they do directly influence their thoughts, perceptions, emotions and behavior (Siegel, 2001).

Children who are sexually abused during an early developmental period with no cognitive "memory" of their abuse may experience confusion due to their own unawareness of the reasons for their fears and difficulties with intimacy and relationships, which can lead to poor self-images, low self-esteem and sexual problems (Amaro, Blake, Schwartz, & Flinchbaugh, 2001). Sexual abuse at such a young age, if perpetrated by a primary caregiver, creates the template for the child to understand relationships from abusive and exploitative perspectives (Scannapieco & Connell-Carrick, 2005). Considering that females tend to identify themselves commonly by their relationships (Amaro, Blake, Schwartz, & Flinchbaugh, 2001), such unawareness may also make some therapeutic interventions more difficult (Perry, n.d.).

Post Traumatic Stress Symptoms

An agreed upon criteria for diagnosing post traumatic stress disorder for children less than 3 years old has yet to be established. However, a serious consequence of sexual

abuse (trauma) may be characterized by a) having been exposed to a traumatic event; b) persistently re-experiencing the traumatic event; c) persistently avoiding stimuli associated with the trauma and numbing of general responsiveness; d) developmental regression; and e) persistent symptoms of increased arousal (Groves & Augustyn, 2007).

Behavioral Symptoms/Manifestations

Symptoms or behavioral manifestations that may occur with very young children include repetitive play that encompasses themes from the traumatic event(s), trauma-specific re-enactment by young children, intense psychological distress on exposure to internal/external cues of the traumatic event and physiological reactivity on exposure to internal or external cues. Symptoms of avoidance involve a restricted range of affect, a loss of already acquired skills and withdrawal. Symptoms of increased arousal encompass difficulty falling or staying asleep; night terrors, nightmares, irritability or outbursts of anger; difficulty concentrating; hypervigilance; and an exaggerated startle response. Other symptoms can include developmental regression, atypical aggressive behavior and the onset of newly developed fears (Groves & Augustyn, 2007).

The one behavior most often linked to sexual victimization in children is sexualized behavior. Research studies have consistently demonstrated that inappropriate sexual behavior is the most frequently reported behavior in young sexually abused children (Slusser, 1995). In a study of preschoolers evaluated for concerns of abuse, children age 3 and under who were determined to be "probably abused" were significantly differentiated from children determined to be "probably not abused" by increased levels of sexualized behavior and by sleep disturbances (Hewitt & Friedrich, 1991). Hewitt and colleagues (1994) similarly found that spontaneous sexualized play

significantly discriminated between "probably abused" and "probably not abused" children in a sample of 21 two-year-olds. Subsequent research indicates that age-inappropriate sexual behavior is the most specific marker of sexual abuse whether sexually abused children are compared with a nonabused, normative sample of children or with children with psychiatric symptoms (Friedrich et al., 2001).

Much of what is known about child sexual behavior in both abused and normative populations comes from the work of William Friedrich, Ph.D. who developed the Child Sexual Behavior Inventory (CSBI) to assess normative sexual behavior and sexual behaviors associated with sexual abuse. The CSBI (Friedrich, 1997) is a parent-report measure designed to rate the sexual behavior of 2- to 12-year-old children over the previous 6-month period. Friedrich has found that age-inappropriate sexual behavior is a more valid discriminator of sexually abused preschoolers than it is for almost any other age group; that is, sexually abused preschoolers appear to be at particularly high risk for developing sexual behavior problems. It has been hypothesized that age-inappropriate sexual behavior is a more useful marker with preschool children than in older children because very young children have not yet learned societal expectations and prohibitions against sexual acting out, whereas older children are more aware of and adherent to society's rules discouraging the public display of sexual conduct (Brilleslijper-Kater, Friedrich, & Corwin, 2004). Thus, as Hewitt (1999) suggests, very young children may not be able to inhibit inappropriate behaviors and their conduct may more directly reflect their experiences.

While sexual behavior in children can be useful in identifying children who may have been sexually abused, there are many sexual abuse victims who do not exhibit such

conduct. In a review of studies of preschool-age children, Johnson and Friend (1995) found that, on average, only 35% of sexually abused children exhibited concerning sexual behaviors. Furthermore, research suggests that young children may engage in sexualized behavior for reasons other than sexual abuse, such as domestic violence, overt family sexuality, physical abuse, absent or disrupted attachments, and exposure to sexual material. Another factor complicating the assessment of sexualized behavior in very young children is that sexual conduct in children under the age of 2 has not been explored systematically, and no clinical instruments have been designed to assess sexualized behavior in the youngest of victims. Despite these limitations, age-inappropriate sexual behavior continues to be a critical indicator to assess when trying to determine whether a child has been sexually victimized.

In addition to assessing behavioral symptoms, a forensic pediatric medical exam can both assure a child's health and aid the investigative process. The difficulties and limitations associated with forensic pediatric medical exams are discussed below; along with the skills and attributes medical providers should possess in order to conduct these exams.

Forensic Pediatric Sexual Abuse Evaluations for Infants and Toddlers

A general consensus among national medical leaders is that an important element of conducting a sexual abuse examination is the medical history (Adams, 2006). However, in cases involving infants and toddlers, a medical history is impossible with nonverbal children and the credibility of yes/no responses to questions can be difficult to assess with children who have limited verbal skills. Given that children under age 3 are

typically unable to provide the quality and clarity of verbal statements that can be used to prove that sexual abuse has occurred, a diagnosis of sexual abuse in very young children must be supported by other corroborative findings. Consequently, greater importance is placed on physical examination findings and behavioral indicators as ways of identifying young sexual abuse victims.

In such scenarios, the importance of the medical exam (with all its limitations noted) for accurate assessment, diagnosis and treatment is heightened. Unfortunately, as previously noted, studies have suggested that many medical providers (including emergency room physicians and pediatric nurse practitioners) are unable to appropriately identify anatomical genital structures of prepubertal girls (Adams, 2006; Botash, 2003; Horner & McCleery, 2000; Lentsch & Johnson, 2000; Muram, 2001; Starling & Boos, 2003). This should not come as a surprise since a majority of pediatric residency programs fail to mandate a substantial education requirement on identifying and handling child abuse cases (Botash, 2003). Consequently, medical providers may not know that concluding that no sexual abuse occurred due to a lack of physical evidence (e.g., injury and/or infection) found during the exam not only is misleading but can also be harmful if the child is actually being abused (Kellogg & the Committee on Child Abuse and Neglect, 2005; Muram, 2003).

In a roundtable discussion, Muram (2003) commented on the difficulty "convincing other professionals that a normal examination does not mean that the child was not telling the truth" (i.e., abuse occurred) (p. 8). even though Heger, Ticson, Velasquez, and Bernier (2002) found that 96.3% of the 2,384 pediatric anogential exams conducted by medical providers specializing in the area of sexual abuse showed no

evidence of physical injury. There is a multitude of reasons why a child who has been sexually abused would not have any injuries; in reality, most sexual offenders sexually abuse their victims with methods that do not cause injury or leave any physical evidence.

A summarization of the reasons previously noted for no injuries include: 1) the offenders are well known to the child and want to maintain easy access; 2) sexual offenders sexually abuse their victims with methods that do not cause injury or leave any physical evidence (e.g., rubbing an infant/toddler's anogential area with a finger, penis, tongue or object and ejaculating on them instead of inside of them); 3) injuries tend to heal quickly in the anogenital region; 4) such behavior rarely involves a witness; 5) a sexual offender can easily wash away the saliva or sperm; and, 6) sexually transmitted infections take time to incubate and may not produce physical symptoms (Briere & Hendrix, 2002; Farley, Cohen, & Elkins, 2003; Muram, 2003; Myers et. al.; Scannapieco & Connell-Carrick, 2005).

In some cases, preverbal children are misdiagnosed as having been sexually abused due to medical providers not understanding what constitutes a "nonspecific" finding. Nonspecific findings relate to physical findings that are commonly found in both abused and nonabused populations. In cases of sexual abuse, nonspecific findings can include anogenital irritation, hymenal tags and mounds, labial adhesions and superficial anogenital scratches (Adams, 2001; Gill-Hopple, 2006; Muram, 2001). In regard to perianal findings, nonspecific findings can include variation in pigmentation, skin tags and smooth areas in both males and female children (Atabaki & Paradise, 1999; Berenson, Somma-Garcia, & Barnett, 1993). Anal fissures (broken skin) are also nonspecific as they can be caused by hard stool and rashes (Pierce, 2004).

Infections, viruses and diseases commonly associated with sexual contact also require specialized knowledge when a child presents. For example, medical providers need to be aware that they must culture children to check for infections rather than use a gen probe which is commonly used to test adults for gonorrhea and Chlamydia (Kellogg & the Committee on Child Abuse and Neglect, 2005). Considering that gen probes have not been standardized on the pediatric population and they can return a false-positive result, cultures are considered the "gold standard" for testing children (S. Ross, personal communication, September 17, 2009). Medical providers also need to be deciphering when prophylactic antibiotics (antibotics used to prevent infections such as gonorrhea, Chlamydia and HIV) are warranted and when they are not (Woods, 2005).

Additionally, pediatric medical providers need to be aware that vertical transmission is an important element to rule out when a child under the age of 3 has contracted an STI. Misdiagnosing sexual abuse can also be attributed to diagnosing a sexually transmitted infection that was transmitted vertically (prenatal exposure from the mother) and in some rare cases through non sexual means depending on the disease or virus. However, providers still need to keep in mind that prenatal exposure does not exclude postnatal acquirement.

Important factors for assessing if an infection or virus was acquired pre or post delivery includes consideration of standard incubation periods, opportunities for fomite transmission and the prevalence of the specific infection/virus/disease within the child's comparable population. However, these factors should not rule out sexual abuse unless another form of acquisition is compelling. Transmitted infections that tend to create the most difficulty include the HPV, Human immunodeficiency virus (HIV), Hepatitis B &

C, and Syphilis (RPR) which, as a result of the length of their incubation periods, can take years to produce symptoms. Even Chlamydia has been documented as having up to a 54-week incubation period (Woods, 2005).

Skills and Attributes of Medical Providers

The following examples are just a few of the necessary skills and attributes pediatric medical examiners need to possess in order to conduct sexual abuse examinations with preverbal children; possessing these skills also helps reduce the risk of further traumatizing children and their caregivers.

- A willingness to consider that child sexual abuse as a real possibility and to see children and their caregivers in a timely manner.
- The ability to attend to caregivers' anxiety, guilt and grief without putting them on the defensive or causing further distress so they can gather a comprehensive presenting history.

The ability to quickly build rapport with children (Adams, 2005; Botash, 2003; Kellogg & the Committee on Child Abuse and Neglect, 2005; Muram, 2001; Myhre, Berntzen, & Bratlid, 2003; Parra, Huston, & Foulds, 1997; Santucci & Hsiao, 2003).

Recognizing the comprehensive and complex nature of providing this type of care, many medical facilities in metropolitan areas throughout the nation have hired medical providers who specialize in meeting the demands of this multifaceted field. Our Kids®Center, a child friendly outpatient clinic of Metropolitan Nashville General Hospital, has been providing such care to families and their children who were suspected of having been sexually abused from all over Middle Tennessee for the past 20 years. The following section will provide this organization's history and evolution for meeting the needs and demands of this vulnerable population and their families.

Organization and Program History

Within 2 years after passage of the 1985 Tennessee child abuse mandated reporting law (Tenn. Code Ann. § 37-1-605), the number of child abuse cases reported to the Tennessee Department of Children's Services increased by 450%. Not surprisingly, hundreds of children and adolescents across Middle Tennessee were taken to Nashville General Hospital by their parents, the police and child protection investigators. Since the medical providers were not experienced or trained to deal with children who presented with sexual abuse concerns and there was some hesitancy that resulted from the possibility of having to testify, children, families and investigators often ended up waiting for hours until they were seen (Our Kids ®Center, 2008).

Around this same time, members of the Junior League of Nashville began expressing their own concerns about the problem of child sexual abuse, and the decision was made to investigate what resources Nashville had for responding to these children. The Nashville Junior League subsequently determined one of the greatest needs Nashville had was to provide specialized medical care to sexually victimized children. As a result of their efforts and their collaboration with Nashville General Hospital and Vanderbilt University Medical Center, Our® Kids was founded in 1987. A year later the Junior League of Nashville established a board of advisors and incorporated the program. Our Kids® has since grown into a free standing clinic (Our® Kids Center, 2008).

As part of the collaboration, patients who are in need of surgery and/or hospitalization are examined at Vanderbilt Children's Hospital. Patients who are seen emergently (within 72 hours of an incident that could cause physical injury, infection or pregnancy and physical evidence could be collected) are seen at the Nashville General

Hospital Emergency Department. Nonacute cases (incidents that are reported to have occurred longer than 72 hours) are all scheduled within clinic hours. Staffed by nurse practitioners and social workers with specialized training in child sexual abuse, services are provided 24 hours/7 days a week (Our Kids® Center, 2008).

The skills and knowledge the Our Kids® medical and mental health providers possess are viewed as a tremendous strength to the Advisory Board and Director Sue Fort-White. Faculty are not only sent to national conferences every other year, but other national experts within the forensic child sexual abuse field are brought in to observe and evaluate the work of the providers and program itself. Several of the faculty members have presented at national and state conferences and contributed chapters to medical text books (professional experience).

Another important aspect of Our Kids® is the mental health providers' roles and responsibilities. Shortly after the program was implemented, medical providers recognized the strengths that their colleagues in mental health could contribute to the evaluation process, including their ability to conduct developmentally appropriate medical interviews while using forensic interviewing techniques. As a result, the medical providers unselfishly delegated the medical history to the mental health providers and the evaluation became the product of an interdisciplinary team approach (M. Sanger, personal communication, March 1, 1998).

Over the years, the mental health providers' tasks have expanded from providing pre-exam preparation to gathering presenting history from the caregivers; taking a comprehensive medical history and screening concerns related to mental health problems from children 5 years and older; assisting the medical providers with the rape kits in the

exam room; helping children and families obtain resources and the support they need, providing them with psycho-education and dispelling myths; and providing expert testimony in court (professional experience).

As the high quality of care and expertise provided by Our Kids® professionals became recognized by the Department of Children's Services and legal entities within Nashville, outlying counties in Middle Tennessee began requesting appointments for the children they were serving. Our Kids® providers accepted the responsibility and have served all of the counties within Middle Tennessee ever since (M. Sanger, personal communication, March 1, 1998). To date, Our Kids® medical and mental health providers have interviewed and examined over 15,000 children (Our Kids® Center, 2008).

While the vision and mission of Our Kids® initially encompassed providing quality medical exams and decreasing the risk for compounding trauma, the board, faculty and staff of Our Kids® expanded their vision statement in 2004 to read: "OUR KIDS will be a national center of excellence for health services, research, and education in the field of child maltreatment," and their mission statement is "to provide expert medical and psychosocial services for children who may have experienced sexual abuse and to increase community awareness, conduct research, and offer education and training about child maltreatment." Within the past year, Our Kids® strategically collaborated with several distant Child Advocacy Centers on the edges of Middle Tennessee to set up satellite clinics in order to reduce the strain of travel and provide quality of care to those who may not be able to get to Nashville. There are now satellite clinics in four locations (Our Kids® Center, 2008).

Program Process and Implementation

Children and adolescents are most commonly referred to Our Kids®Center for a pediatric forensic examination by the Department of Children's Services, child advocacy centers, emergency departments, law enforcement and private medical providers. When caregivers arrive for their appointment, they are asked to register and fill out a questionnaire that relates to the child's demographic, physical and medical information. Additionally, primary caregivers are asked to complete the Pediatric Symptom Checklist (PSC), a psychosocial screening tool utilized to identify potential emotional, behavioral and cognitive problems in children (Jellinek & Murphy, 2006). Caregivers are then escorted to a comfortable interview room and asked questions related to the concerns that prompted the referral, while their child is entertained by a volunteer in the waiting room. The medical provider also gathers information related to the child's medical history and any current medical issues or illnesses while the mental health provider prepares the child for the exam.

The comprehensive examination consists of a thorough physical checkup that includes evaluating the eyes, ears and mouth, heart, lungs, abdomen and reflexes. The anogenital areas are examined with a colposcope (a light attached to a pair of binoculars that enables the medical provider to view the anogenital areas more closely without ever touching the child). A camera is also attached to the colposcope in order to document the exam and provide an accurate record of what the anogenital areas look like.

Infections are tested for by collecting urine, gently touching the child's throat, genitals and/or anus with q-tips and/or drawing blood. After the exam, the providers share the results of the examination with the caregivers if they are the legal guardians.

Time is further taken to provide psychosocial education to the caregivers and to offer recommendations for intervention. A comprehensive report is then forwarded to the medical provider and/or the investigating agency that made the referral. In cases involving an active investigation, this report becomes a critical piece of evidence that child protection investigators use to consider their final determination of abuse.

Conclusion

Thorough examination of the insidious short and long-term impacts sexual abuse can have on the neuro, cognitive, emotional and physical development of very young children and the impending magnitude of their effects underline the importance of increasing research in this area. Specific research should focus on ways for improving our investigative approach and decision-making when it comes to sexual abuse with preverbal children.

CHAPTER 3

METHOD

This was an exploratory, retrospective study that sought to add to the collective body of knowledge on the sexual abuse of children less than 3 years old. The literature related to child protection sexual abuse investigations of preverbal children is scarce, and the inherent complexities of these investigations make drawing conclusions difficult (Hewitt, 1999). This dissertation research aimed to address this gap in knowledge and four research questions guided the investigation: 1) Are sexual behaviors, sleep difficulties and verbal indications of sexual abuse from children through some form of verbal indication, as reported by caregivers, predictors of child protective services accepting sexual abuse reports of children under 3 for investigation? 2) Is the presence of anogenital injury, sexually transmitted infections (STI), sexual behaviors, and having a witness who observed the sexual abuse act predictors of child protection investigators decisions that sexual abuse has occurred? 3) Are investigations that involve alleged juvenile sexual offenders more likely to be substantiated than cases that involve alleged adult sexual offenders? 4) What is the concordance rate between the physical exam findings reported by general medical providers and those reported by forensic exam specialists?

Hypotheses

The following three hypotheses were proposed:

H^{1}) Child protective services are more likely to accept sexual abuse reports for investigation when the report encompasses elements of sexual behaviors, sleep difficulty and indication of sexual abuse through a form of verbal indication by the child.

$H2)$ Presence of anogenital injury, sexually transmitted infections, sexual behavior and having a witness who observed the sexual abuse act will predict substantiation.

H_3) Investigations involving alleged juvenile sexual offenders are more likely to be substantiated than cases involving alleged adult sexual offenders.

Sample

The study involved chart reviews of 182 male and female children under the age of three from an urban metropolitan area in Tennessee who underwent a pediatric medical evaluation for sexual abuse between 1999 and 2007. The children's ages ranged from 1-month-old to 2 years and 11 months. The metropolitan area is a county in which the state of Tennessee assigns jurisdictional responsibilities to the Davidson County Department of Children's Services. This study did not involve any contact with human subjects.

Procedure

Approval was sought from the University of Utah, Meharry Medical College and the Commissioner of Tennessee's Department of Children's Services (DCS) Internal Review Boards to conduct the study. The principal investigator created a file linked to each patient's name, date of birth and study ID number since the names and birth dates of

children who were examined at the pediatric evaluation center were the only way to combine data between DCS and Our Kids®Center (the two organizations charged with gathering information for child protection investigations related to child sexual abuse). The principal investigator personally delivered the information to the appointed representative from the DCS research division on a jump drive.

The DCS representative then provided the principal investigator with the following information: Race and/or ethnicity of child; the alleged offender's age, gender and relationship to the child; and DCS' final determination (i.e., case substantiated, case not substantiated). The linking file was kept in a locked location at Our Kids®Center. Information from DCS was entered into a computer that was password protected at the Our Kids®Center, which is where the children's charts are kept. The building had an active alarm system.

The data from Our Kids®Center medical charts was extracted by the principal investigator, who provided psychosocial services at Our Kids®Center from 1999-2008. Data extracted from the charts included information from four sections within the chart. These sections included the referral history, presenting history, medical examination and administrative sections. Information extracted from the referral section included the identification of the referent's role (e.g., medical provider, child protection investigator, police) and the reason(s) the referent gave for making a referral. Information taken from the presenting history, which was provided through interviewing the caregiver accompanying the child to the medical evaluation appointment, included the reason(s) for the appointment, information about the child's physical symptoms (e.g., injury, discharge, bleeding, pain) as well as emotional and behavioral symptoms or changes

(e.g., sleeping, sexualized behaviors, fearfulness), any corroborating evidence such as pornography, and information related to previous exams of the child conducted by community medical providers.

Information extracted from the medical examination section included physical findings and diagnoses that were used to examine predictors of case dispensation and for children who were examined in the community prior to their forensic medical evaluation at Our Kids®Center, the concordance of examination findings between general providers and pediatric forensic specialists. The information taken from the administrative section included demographic information (age, sex, race, ethnicity, socio-economic status and the time between when the referral was made and the child was seen, since injuries can heal quickly).

In addition, data was extracted from a questionnaire that caregivers completed in the clinic waiting room prior to their child's medical examination. The questionnaire was developed by clinical staff to obtain information about the child's medical and behavioral history. Embedded within this questionnaire was the Pediatric Symptom Checklist (Jellinek & Murphy, 2006). This 35-item screening questionnaire was designed to help pediatricians identify school-age children with difficulties in psychosocial functioning. Though validated for use with parents of children ages 6-12, the Pediatric Symptom Checklist provided useful clinical information about parents' behavioral concerns across all ages seen through Our Kids Center. (See Appendix.)

The principal investigator was the only person who had access to the linking file. The estimated date of destruction is February 26, 2010, at which time all of the data from

the file link and the computer's hard drive will be erased and the linking file will be destroyed.

Statistical Analyses

The first and second questions, "Are sexual behaviors, sleeping difficulties and verbal indications of sexual abuse by a child predictors of child protection services accepting sexual abuse reports of children under 3 for investigation?" and "Are the presence of anogenital injury, sexually transmitted infections (STI), sexual behaviors and a witness who reports seeing the sexual abuse act predictors of child protection investigators' deciding that sexual abuse has occurred?" were analyzed using binary logistic regression. Since the independent and dependent variables were categorical and both questions were attempting to identify predictors, binary logistic regression was the only option for analysis. The third research question, "Are investigations that involve alleged juvenile sexual offenders more likely to be substantiated than cases that involve alleged adult sexual offenders?" also involved categorical variables and binary logistic regression was used. The fourth question, "What is the concordance between the physical exam findings reported by general medical providers and those reported by forensic exam specialists?" was an exploratory question that examined rates of agreement based on percentage (Pallant, 2005). The SPSS software package was utilized to run the analyses.

The following were the pertinent independent and dependent variables for each of the four research questions:

Q1) Are sexual behaviors, sleep difficulties and verbal indications of sexual abuse from children predictors of child protection services accepting a sexual abuse report of children less than 3 for investigation?

Independent Variables	Dependent Variables
Sexual behaviors-Yes/No	Cases investigated by DCS- Yes/No
Sleep difficulties-Yes/No	
A form of verbal indication of sexual abuse- Yes/No	

Q2) Is the presence of anogenital injury, sexually transmitted infections (STI), sexual behaviors and a witness who reports seeing the sexual abuse act predictors of child protection investigative cases being substantiated?

Independent Variables	Dependent Variable
Anogenital injuries-Yes/No	Substantiation of abuse-Yes/No
Sexually transmitted infections-Yes/No	
Sexual behaviors-Yes/No	
A witness who reports seeing the sexual abuse act-Yes/No	

Q3) Are investigations that involve alleged juvenile sexual offenders more likely to be substantiated than cases that involve alleged adult sexual offenders?

Independent Variables	Dependent Variable
Adult sexual offenders	Substantiation of abuse-Yes/No
Juvenile sexual offenders	

Q4) What is the concordance between the physical exam findings reported by general medical providers and those reported by forensic exam specialists?

Independent Variables	Dependent Variable
Medical Provider	Agreement on exam findings-Yes/No
Pediatric Sexual Abuse Examining Specialist	

Strengths of the Study

This study described characteristics of a small sample of preverbal children referred for forensic medical examinations. Strengths of this study included learning about differences in the ways preverbal children who were sexually abused presented for medical examinations from the children's cases that were not investigated or determined

to be abused upon investigation. Identification of common characteristics of young children who were abused from those who were not can aid investigators in their decision-making processes. The more we learn about how preverbal children are affected by sexual abuse the more professionals can educate caregivers on recognizing possible responses and intervene effectively.

Additionally, this research provided further evidence of the need for medical providers to receive education about prepubertal anatomy and demonstrated that medical providers conducting forensic pediatric sexual abuse exams require specialized training. Finally, the qualitative descriptive data adds to the limited knowledge base regarding preverbal children who are sexually abused and facilitates opportunities in the areas of identification, prevention and advocacy.

Study Limitations

This was a retrospective study that inherently contained limitations. Limitations included the limited availability of information DCS was able to provide in terms of the evidence they used to base their determinations on. Additionally, the results only reflected information from recorded cases that sometimes had missing data. Since the study relied on self-reports from caregivers regarding the children's behavioral symptoms some of the information may be inaccurate. Finally, the study's sample size was small and data came from only one pediatric sexual abuse evaluation center, thus limiting the generalizability of the results.

CHAPTER 4

RESULTS

The overall purpose of this research was to aid investigative and medical professionals in their deciphering and decision-making processes by adding to the limited body of knowledge regarding alleged sexual abuse of children less than 3 years old. This chapter presents findings from statistical analyses of the data provided by the Tennessee Department of Children's Services and Our Kids®Center.

The first way this research study sought to contribute to the field of child sexual abuse was by providing descriptive data involving (a) demographic information related to preverbal children who are evaluated due to concerns of sexual abuse; (b) the referent's role and the nature and range of concerns that prompt referrals for forensic medical evaluations of preverbal children; (c) the amount of time between when a referral was made and when the exam by Our Kids® providers was conducted; (d) nonspecific physical exam characteristics (exam findings that may or may not indicate sexual abuse); (e) behavioral symptoms caregivers describe their children exhibiting; and (f) characteristics of the alleged sexual offenders.

The study's second purpose was to examine characteristics of cases that were accepted for investigation by child protective services and cases not accepted for investigation by answering this question: Are sexual behaviors, sleep difficulties, and a form of verbal indication predictors of child protection services accepting a sexual abuse

report of children under three for investigation? Finally, from the cases accepted for investigation, the study sought to answer the following two questions: 1) Are anogenital injuries, sexually transmitted infections (STI), sexualized behaviors and having a witness to the alleged abuse predictors of child protection investigations being substantiated?; and 2) Are cases involving alleged sexual offenders more likely to be substantiated than cases involving alleged adult sexual offenders?

These three questions were posed in order to (a) examine if sexual behaviors, sleep difficulties, and a form of verbal indication as reported by caregivers would predict child protective services accepting a sexual abuse report of children under 3 for investigation. A verbal indication of sexual abuse may take the form of a comment or a response to direct or repeated questioning that is interpreted as suggestive of abuse; (b) identify physical and behavioral predictors of substantiation of sexual abuse with preverbal children; and (c) determine if being an alleged juvenile or adult sexual offender is predictive of substantiation.

Finally, this research explored the concordance rate between anogenital physical exam findings reported by general medical providers and those reported by forensic sexual abuse exam specialists who examined children less than 3 years old with concerns of sexual abuse.

Overview of Major Sections

The first section presents demographic information on the entire sample of 182 children who were evaluated at Our Kids®Center. The second section then compares cases that DCS accepted for investigation (N=89) with cases that were not accepted for investigation (*N*=93). The third section compares cases that were substantiated for child

sexual abuse (N=24) by DCS and those that were not (N=58). Finally, the last section will examine the concordance rate between exam findings reported by general medical providers and exam findings reported by Our Kids Center forensic exam specialists, for which there was data on 27 cases.

Demographic Characteristics of Children

This study included 182 children less than 3 years old who were referred to Our Kids®Center, a metropolitan sexual abuse evaluation center, for a pediatric sexual abuse exam. One hundred fifty (82.4%) of the children were female and 32 (17.6%) were male. Their caregivers identified the children's race and ethnicity. Ninety-one (50%) of the children were identified as White, 76 (41.8%) as African American, 10 (5.5%) as biracial, and one child as Asian (.5%). Eight (4.4%) of the 182, were also identified as being children of Hispanic descent. There were four records in which the child's race was not recorded. Sixty-seven percent of the children in the sample were on TN Care (Medicaid) at the time of the exam (Table 1).

Table 1

Demographic Characteristics of Children

	N	Percent
Gender		
Female	150	82.4%
Male	32	17.6%
Total	182	100.0%
Race		
White	91	50.0%
African American	76	41.8%
Biracial	10	5.5%
Asian	1	0.5%
Not recorded	4	2.2%
Total	182	100.0%
Ethnicity		
Hispanic	8	4.4%
Medicaid	122	67.0%

Referral Information

The majority of children, 47.3%, were referred for specialized sexual abuse examinations by a community medical provider. Additionally, 30.8% were referred to Our Kids®Center from the Tennessee Department of Children's Services (DCS), 8.2% by police, 7.1% by parents and 2.2% by grandparents. Two of the records did not provide information regarding the referent (Table 2).

The children were referred to Our Kids®Center for different reasons and some children were referred for more than one. In regard to physical concerns, 37 caregivers (20.3%) reported that their child was complaining of anogenital pain due to irritation and 24 caregivers (13.2%) noted concerns related to genital bleeding. Twelve children (6.5%) were referred for concerns of anogenital warts. Nine (4.9%) of the children's caregivers indicated that their child had a genital injury, five caregivers (2.7%) reported their child had an anal injury and eight caregivers (4.4%) expressed concern their child's vaginal opening was "too big." Eight caregivers (4.4%) reported concerns related to genital and/or anal discharge and five caregivers (2.7%) noted bleeding from their child's anus.

Table 2

Referents

	N	Percent
Referent		
Medical Provider	86	47.3%
DCD	56	30.8%
Police	15	8.2%
Parents	13	7.1%
Grandparents	4	2.2%
Other	5	3.3%
Not Recorded	2	1.1%

There were also several non-medical reasons that prompted children to be referred to Our Kids®Center. Seventeen children (9.3%) reportedly were subjected to previously identified sexual offenders. Sixteen children (8.8%) were exhibiting sexual behaviors. Sixteen children (8.8%) had siblings diagnosed with an anogenital injury or a sexually transmitted infection and therefore were thought to be at risk for having been sexually abused themselves. Eleven children (6%) reportedly had a sexually abusive incident that was witnessed by others, one child was a subject of pornography and in two cases, the sexual offenders had confessed to their crime. Additionally, 43 (23.6%) caregivers reported their children made some form of verbal indication that they were sexually abused (Table 3).

Table 3

Reasons for Referral

	N =182	Percent
Physical Reasons		
Anogenital pain due to irritation	37	20.3%
Genital bleeding	24	13.2%
Anogenital warts	12	6.5%
Genital injury	9	4.9%
Vaginal opening "too big"	8	4.4%
Genital or anal discharge	8	4.4%
Anal injury	5	2.7%
Anal bleeding	5	2.7%
Nonphysical Reasons		
Verbal indication	43	23.6%
Sex offender access to child	17	9.3%
Sexual behaviors	16	8.8%
Sibling diagnosed with STI and/or anogenital injury	16	8.8%
Sexual abuse witnessed by others	11	6%
Perpetrator's confessed	2	1.1%
Subject of pornography	1	.5%

Thirty-five (19.2%) of the children were acute cases (sexual abuse is alleged to have occurred within 72 hours) and examined in a hospital emergency department by the medical and psychosocial providers of Our Kids®Center. Medical and psychosocial providers from Our Kids®Center are granted privileges at both metropolitan General Hospital and Vanderbilt Children's Hospital in order to evaluate children emergently when necessary. Examining acute cases in the emergency department allows the medical providers from Our Kids®Center access to tests and medication that are time sensitive and surgeons if necessary.

The remaining 147 cases (80.2%) that were not acute were seen at the Our Kids®Center. Timeframes between the referral and the child's medical evaluation were not recorded in 32 (17.6%) of the 182 cases. Of the remaining 150 cases, 73 (40.1%) were evaluated within 24 hours of the referral. Seven (3.8%) of the children were examined within 48 hours and 70 (38.5%) of the children were examined after 48 hours.

Unlike medical providers who are mandated by time constraints as a result of managed care, and investigative agents who are subject to limited time and resources, Our Kids® providers are able to take extra time with caregivers when they bring their child for a medical evaluation in order to build rapport, ease their distress and take a comprehensive, detailed history. Taking such time not only facilitates more complete information-gathering about what specifically prompted the medical evaluation but also enables Our Kids staff to elicit possible previous underlying concerns or symptoms exhibited by the child that the caregiver may not have realized were relevant (e.g., a child having difficulty sleeping and attributing the change to a recent move instead).

This extra time that Our Kids® providers are afforded may explain why the number of physical and behavioral concerns reported by parents during the presenting history interview were greater than the number of concerns reported at the time of referral. For example, 37 children (20.3%) referred to Our Kids®Center were reportedly complaining of anogenital pain. However, the number of reported complaints of anogenital pain increased to 45 children (24.7%) during the presenting history phase, which can often range from 20 to 30 minutes for a thorough interview with the caregivers of children this age. Nine (4.9%) of the children were referred to Our Kids®Center due to concerns the child had genital injury. Yet, during the presenting history phase the number of caregivers reporting concerns of genital injury rose to 24 (13.2%). Concerns related to genital or anal discharge also increased, from 8 children (4.4%) at the time of referral to 20 (11%) during the presenting history.

Other increases of reported concerns during the presenting history included sexual offenders having access to children, exhibition of sexualized behaviors, someone witnessing the sexual abuse and perpetrator confessions. At the time of referral 17 cases (9.3%) included concerns that the child had been subjected to a sexual offender. During the presenting history this number rose to 29 (15.9%). Reports of preverbal children exhibiting sexualized behaviors increased from 16 (8.8%) to 51 (28%), and reports of someone witnessing the sexual abuse rose from 11 (6%) to 17 (9.3%). Additionally, confessions of the alleged offender rose from 2 (1.1%) to 6 (3.3%) during the presenting history (Table 4). These findings underline the importance of taking a thorough history with caregivers so that relevant information is not overlooked. These findings will be discussed in more depth in Chapter 5.

Table 4

Comparison between Concerns at Time of Referral vs. Time of Evaluation

	Prompts for referral % *N*=182	Reported within presenting history % *N*=182	Percentage Increase
Physical reasons	20.3%	24.7%	4.4%
Anogenital pain/irritation			
Genital injury	4.9%	13.2%	8.3%
Anal or genital discharge	4.4%	11.0%	6.6%
Nonphysical concerns for referral			
Sex offender access to child	9.3%	15.9%	6.6%
Sexual behaviors	8.8%	28.0%	19.2%
Sexual abuse witnessed by others	6.0%	9.3%	3.3%
Perpetrator's confession	1.1%	3.3%	2.2%

Report of Behavioral Symptoms

Approximately 33% of the 182 caregivers who brought their children to Our Kids Center indicated, either through their own report during the presenting history interview or in their responses on the Pediatric Symptom Checklist (PSC), that their children were exhibiting behavioral symptoms. Although the PSC was designed to yield a single cutoff score indicating a child's likelihood of having significant psychosocial dysfunction, the use of this cutoff score has not been validated for use with children under the age of 6 years (Jellinek & Murphy, 2006). Therefore, individual item analysis was used to identify the range and types of problems exhibited by children under 3 years of age in this study.

Additionally, because the PSC was not always completed, behavioral information was extracted from the documented histories that caregivers provided during their interviews. Therefore, the total number of caregivers reporting for each item varies. Of 64 caregivers, 38 (59.3%) reported that their children were currently clinging and wanting to be with them more than before. Thirty-four (51.5%) of 66 caregivers reported that their children were irritable or angry while 31 (55.3%) of 56 caregivers indicated their children were fighting with other children. Thirty-seven (56.9%) of 65 caregivers noted their

children were not listening to the rules and 26 (49.1%) out of 53 caregivers observed that their children were refusing to share. Thirty-one (48.4%) of 64 caregivers indicated their children were experiencing difficulty sleeping and 26 (45.6%) of 57 caregivers described their child as being more distracted. In addition, 26 (47.2%) of 55 caregivers reported that their children were afraid of new situations and 23 (43.3%) of 53 caregivers described their children as being sad or unhappy. During the presenting interview, 27 (52.9%) of 51 caregivers reported their children exhibiting sexualized behaviors (Tables 4-5).

There were also several behaviors that tended to be less reported. Only 11 (20%) of 55 caregivers reported that their child was exhibiting hyperactivity. Thirteen (24.1%) of 54 caregivers reported that their children had trouble concentrating; 9 (16.1%) of 56 caregivers indicated that their children were acting younger than their own age; 8 (15.1%) of 53 caregivers noted that their children seemed to be having less fun; and only 7 (13.4%) of 52 caregivers reported that their children were worrying a lot (Table 5).

Characteristics of Alleged Offenders

Of the 123 cases in which the gender of the alleged offender was known, 113 (91.8%) consisted of males and 10 (8.2%) consisted of females (Tables 4-6). Age frames were known for 118 of the alleged offenders. Age frames were broken down as follows. Ninety-one (77.1%) were adults (18 years and older); 5 (4.3%) were ages 16-17; 12 (10.1%) were 13-15 years old; 7 (5.9%) of the alleged offenders ages ranged from 9-12; and 3 (2.5%) were less than 9 years old (Tables 4-7).

Table 5

Behavioral Concerns Indicated by Caregivers

Behavior	Total *N* reporting	Number indicated	Percentage of children exhibiting behavior
Wanting to be with them more than before	64	38	59.3%
Not listening to rules	65	37	56.9%
Fighting with other children	56	31	55.3%
Sexual behaviors	51	27	54.9%
Irritable or angry	66	34	51.5%
Refusing to share	53	26	49.1%
Difficulty sleeping	64	31	48.4%
Afraid of new situations	55	26	47.2%
Being more distracted	57	26	45.6%
Sad or unhappy	53	23	43.3%
Difficulty concentrating	54	13	24.1%
Hyperactivity "Driven by a motor"	55	11	20.0%
Regression of behavior "Acting younger than their age"	56	9	16.1%
Having less fun	53	8	15.1%
Increased worry	52	7	13.4%

Table 6

Gender of Identified Alleged Offenders

Gender	Total *N*=123	Percentage
Male	113	91.8%
Female	10	8.2%

Table 7

Age Frames of Identified Alleged Offenders

Age Frame	Total *N*=118	Percentage
Adults		
18 years and older	91	77.1%
Juveniles		
16 – 17 years	5	4.3%
13 – 15 years	12	10.1%
9 – 12 years	7	5.9%
< 9 years	3	2.5%

While the alleged offenders in 54 (30%) of the cases involving preverbal children were unknown, 36 (20%) of the alleged offenders were identified as biological parents, four (2.2%) as stepparents, 10 (5.5%) as individuals the child's parent was dating, 10 (5.5%) as siblings and six (3.3%) as nonrelative household members. Eleven (6.1%) alleged offenders were identified as cousins, another 11(6.1%) as uncles and five (2.7%) were grandparents. Fifteen (8.3%) of the alleged offenders were daycare providers while three (1.6%) were family members of the daycare provider. Two (1.1%) of the alleged offenders were neighbors while 13 (7.2%) did not fit into the aforementioned classifications and were noted as "other" (Table 8).

Within the presenting history there were 13 (7.1%) cases in which children presented due to concerns of HPV. Six (3.3%) of the primary caregivers indicated that at least one of the parents had HPV lesions in the past and that four (2.2%) of them had the lesions on their hands.

Table 8

Relationship of Identified Alleged Offender to Child

Relationship	Total *N*=180	Percentage
Unknown	54	30.0%
Biological parent	36	20.0%
Daycare/babysitter	15	8.3%
Other	13	7.2%
Cousin	11	6.1%
Uncle	11	6.1%
Parent's dating partner	10	5.5%
Siblings	10	5.5%
Non-relative household member	6	3.3%
Grandparent	5	2.7%
Stepparent	4	2.2%
Member of daycare's family	3	1.6%
Neighbor	2	1.1%

Our Kids® Medical Exam

All of the 182 children in the sample received forensic anogenital examinations at Our Kids®Center. Of the 182 children, 26 children were cultured for genital chlamydia and gonorrhea and 15 were cultured for anal chlamydia and gonorrhea. All of the cultures were negative for infection. Seven of the children had blood drawn and were tested for syphilis and HIV. All tests were negative for infection. Some children had medical conditions typically unrelated to sexual abuse. For example, one child was diagnosed with molluscum contagiosum, and three (1.6%) of the children were noted to have venous congestion (pooling of the blood supply in the anal area) during the exam. Twenty-six of the females were noted to have a labial adhesion (thin layers of tissue that grow and connect the two opposing surfaces of the labia majora in response to inflammation) which is a nonspecific finding for abuse.

Comparisons Between Cases Investigated and Cases not Investigated

Comparison of Demographics and Information Related to Alleged Sexual Offenders

Of the 182 children evaluated at the Our Kids®Center, 89 (48.9%) cases were accepted for investigation by the Tennessee Department of Children's Services (DCS) and 93 (51.1%) were not. Since over half of the cases were not accepted for investigation, descriptive statistics were run to compare variables between the two groups. The demographics of cases that were not selected for investigation as compared to those cases that were are summarized as follows. Out of cases investigated, 75 (84.3%) of the children were female and 14 (15.7%) were male. Forty-nine (55.1%) of the children were White, 31 (34.8%) were African-American, 6 (6.7%) were biracial, and the race of 3

children was not recorded. Four (5.5%) were also identified as being of Hispanic descent and 63 (71%) of these children were on TN Care (Medicaid) at the time of the exam.

In comparison, of the cases not investigated, 75 (80.6%) of the children were female and 18 (19.4%) were male. Forty-two (45.2%) of the children were White, 45 (48.4%) were African-American, 4 (4.3%) were biracial, and the race of one child was not recorded. Four (4.3%) of these children were also identified as being of Hispanic descent. Fifty-nine (63.4%) of the children were on TN Care (Medicaid) at the time of the exam (Table 9). Chi-square tests were used to determine if there were significant differences in gender, race, and receipt of Medicaid between cases either accepted or not accepted for investigation by DCS.

Chi-square results for gender (X^2= .412, p=.521), race (X^2= 2.03, p=.154), and socioeconomic status (X^2= 1.110, p=.292) were not significant, suggesting that these variables did not play a role in deciding whether to accept or not accept a case for investigation (Table 9).

Table 9

A Comparison of Demographics Between Cases Accepted for Investigation and Cases not Accepted for Investigation

	Cases investigated N = 89 (100%)	Cases not investigated N = 93 (100%)
Children's Gender		
Female	75 (84.3%)	75 (80.6%)
Male	14 (15.7%)	18 (19.45)
Children's Race		
White	49 (55.1%)	42 (45.2%)
African American	31 (34.8%)	45 (48.45)
Biracial	6 (6.7%)	4 (4.3%)
Asian	0	1 (1.1%)
Not recorded	3 (3.4%)	1 (1.1%)
Children's Ethnicity		
Hispanic	4 (5.5%)	4 (4.3%)
TN-Care (Medicaid)	63 (71.0%)	59 (63.4%)

Thirty-nine (43.8%) of the children accepted by DCS for investigation and referred to Our Kids®Center for forensic sexual abuse exams were referred by medical providers, 29 (32.6%) were referred by DCS, nine (10.1%) were referred by the police, one (1.1%) was referred by the District Attorney's Office, six (6.7%) were referred by parents, two (2.2%) were referred by grandparents and two (2.2%) were noted to be referred by others. In regard to cases not investigated, 47 (50.5%) of the cases were referred by medical providers, 27 (29%) were referred by DCS, six (6.5%) were referred by the police, one (1.1%) was referred by the District Attorney's Office, seven (7.5%) were referred by parents, one (1.1%) child was referred by grandparents, two (2.2%) were referred by others and in three cases the referent was not noted (Table 10).

Of the 89 cases that were investigated 62 (69.7%) of the alleged offenders consisted of males, seven (7.9%) consisted of females and 19 (21.3%) were unknown. In one case, the alleged offenders consisted of a male and female couple. Out of the 93 cases not investigated, 51 (54.8%) were male, three (3.2) were female and 39 (41.9%) were unknown (Table 11).

Age frames of alleged offenders of cases that were investigated included 50 adults (56.2%); three 16-17 year olds (3.4%); seven 13-15 year olds (7.9%); and five 9-12 year olds (5.6%). One juvenile (1.1%) was less than 9 years old and the ages of 23 alleged offenders (25.8%) were not known. In comparison, cases not investigated included 41 adults (44.1%); two 16-17 year olds (2.2%); five 13-15 years old (5.4%); five 9-12 year olds (5.4%); and two juveniles (2.2%) were less than age 9. The ages of 41 of the alleged offenders (44%) were not known (Table 12). A chi-square test was used to determine if

Table 10

A Comparison of Referent Between Cases Accepted for Investigation and Cases not Accepted for Investigation

	Cases investigated *N* = 89 (100%)	Cases not investigated *N*=93 (100%)
Referent		
Medical Provider	39 (43.8%)	47 (50.5%)
DCS	29 (32.6%)	27 (29.0%)
Police	9 (10.1%)	6 (6.5%)
District Attorney	1 (1.1%)	1 (1.1%)
Parents	6 (6.7%)	7 (7.5%)
Grandparents	3 (3.4%)	1 (1.1%)
Other	2 (2.2%)	2 (2.2%)
Not recorded	0 (0.0%)	2 (2.2%)

Table 11

Gender Characteristics of Identified Alleged Offenders Between Cases Accepted for Investigation and Cases not Accepted for Investigation

Alleged Offender's Gender	Cases investigated *N*= 89 (100%)	Cases not investigated *N*=93 (100%)
Male	62 (69.7%)	51 (54.8%)
Female	7 (7.9%)	3 (3.2%)
Male and female couple	1 (1.1%)	0
Unknown	19 (21.3%)	39 (41.9%)

Table 12

Age Comparisons of Identified Alleged Offenders Between Cases Accepted for Investigation and Cases not Accepted for Investigation

	Cases investigated *N* = 89 (100%)	Cases not investigated *N*=93 (100%)
Alleged adult sexual offenders	50 (56.2%)	41 (44.1%)
Alleged juvenile sexual offenders		
16-17	3 (3.4%)	2 (2.2%)
13-15	7 (7.9%)	5 (5.4%)
9-12	5 (5.6%)	2 (2.2%)
> 9	1 (1.1%)	2 (2.2%)
Unknown	23 (25.8%)	41 (44.0%)

there was a significant difference in alleged offenders' ages (i.e., less than 18 years old or 18 years and older) between cases accepted or not accepted for investigation. The result was not significant (X^2= .157, p =.692), suggesting that the age of alleged sexual offenders does not help determine whether or not a case is accepted for investigation.

While 17 (19.1%) of the alleged offenders in cases that were investigated were unknown, 19 (21.3%) of the alleged offenders were identified as biological parents, three (3.4%) as stepparents, four (4.5%) as individuals the child's parent was dating, seven (7.9%) as siblings and one (1.1%) as a non-relative household member. Six (6.7%) of the alleged offenders were identified as cousins, another six (6.7%) as uncles and three (3.4%) were grandparents. Twelve (12.9%) of the alleged offenders were daycare providers/babysitters while two (2.2%) of the alleged offenders were family members of the daycare provider. Two (2.2%) of the alleged offenders were neighbors while six (6.7%) did not fit into the aforementioned classifications and were noted as "other" (Table 13).

Of the alleged offenders in cases that were not investigated 16 (17.2%) were biological parents, one (1.1%) was a stepparent and six (6.5%) were dating partners of the child's biological parent. There were three cases (3.2%) involving siblings, five (5.4%) involving household members who were not relatives, five (5.4%) involving cousins, five (5.4%) involving uncles and two (2.2%) involving grandparents. Three (3.2%) of the alleged offenders were daycare providers/babysitter and one alleged offender (1.1%) was a member of a daycare provider's/babysitter's family. The relationship between the alleged offender and the child in 39 (41.9%) of the cases not investigated were unknown (Table 13).

Table 13

Comparison of Relationships of Identified Alleged Offender to Children Between Cases Accepted for Investigation and Cases not Accepted for Investigation

Relationship of alleged offender to child	Cases investigated $N = 89$ (100%)	Cases not investigated $N = 93$ (100%)
Biological parent	19 (21.3%)	16 (17.2%)
Stepparent	3 (3.4%)	1 (1.1%)
Parent's dating partner	4 (4.5%)	6 (6.5%)
Siblings	7 (7.9%)	3 (3.2%)
Non-relative household member	1 (1.1%)	5 (5.4%)
Cousin	6 (6.7%)	5 (5.4%)
Uncle	6 (6.7%)	5 (5.4%)
Grandparent	3 (3.4%)	2 (2.2%)
Neighbor	2 (2.2%)	0
Daycare/babysitter	12 (12.9%)	3 (3.2%)
Member of daycare's family	2 (2.2%)	1 (1.1%)
Other	6 (6.7%)	7 (7.5%)
Unknown	17 (19.1%)	39 (41.9%)

Comparison of Reasons for Concerns

Regarding reasons for concerns of sexual abuse, 28 (31.5%) children in cases that were investigated provided some form of verbal indication of sexual abuse, compared to 15 (16.1%) children in the cases that were not investigated. Twelve (13.5%) of the cases investigated involved sexual offenders having had access to a child, compared to 17 (18.3%) cases that were not investigated. Other concerns of sexual abuse in the cases that were investigated included 28 cases (31.5%) of sexual behavior, 14 cases (15.7%) of sleeping disturbances, nine cases (10.1%) of sexual abuse reportedly witnessed by others, nine cases (10.1%) in which a sibling was diagnosed with a sexually transmitted infection and one child (1.1%) who was the subject of pornography. Cases that were not investigated showed 23 cases (24.7%) of reported sexual behavior, 20 cases (21.5%) of sleeping disturbances, eight cases (8.6%) of sexual abuse reportedly witnessed by others,

and seven cases (7.5%) in which a sibling was diagnosed with a sexually transmitted infection.

Regarding physical injuries, of the 89 cases investigated 12 (13.5%) revealed anogenital injury and 77 (86.5%) showed no type of anogenital injury. Of the 93 cases that were not investigated, six (6.5%) revealed anogenital injury (Table 14). A chi-square test showed this difference was not significant (X^2= .302, p=.583), indicating anogenital injury likely was not a deciding factor in whether or not a case was investigated.

Chi-square tests were used to determine whether there were any significant differences between cases investigated and cases not investigated on the following variables: a) sexual offenders having had access to a child (X^2= 1.19, p=.551); b) children who had siblings or another child in their family diagnosed with a sexually transmitted infection (X^2= .302, p=.583); and c) children being subjected to pornography (X^2= 1.05, p=.305). As can be seen, the results were not significant, indicating that these variables likely were not factors in deciding whether a case was investigated or not.

Table 14

A Comparison of Concerns Related to Sexual Abuse Between Cases Accepted for Investigation and Cases not Accepted for Investigation

Concerns of sexual abuse	Cases investigated N = 89 (100%)	Cases not investigated N=93 (100%)
Verbal indication of sexual abuse	28 (31.5%)	15 (16.1%)
Sex offender access to child	12 (13.5%)	17 (18.3%)
Sexual behaviors	28 (31.5%)	23 (24.7%)
Sleeping disturbances	14 (15.7%)	20 (21.5%)
Sexual abuse witnessed by others	9 (10.1%)	8 (8.6%)
Sibling diagnosed with sexually transmitted infection (STI)	9 (10.1%)	7 (7.5%)
Child pornography	1 (1.1%)	0
Anogenital injury	12 (13.5%)	6 (6.5%)

It was hypothesized that child protective services would be more likely to investigate cases when there were reports of sexual behaviors, sleep difficulties and some form of verbal indication from children. One hundred eighty-two children were examined at Our Kids®Center. Eighty-nine cases (48.9%) were accepted for investigation by the Department of Children's Services and 93 (51.1%) were not investigated. Binary logistic regression (Enter method) was conducted to determine if caregivers' reports of sleep disturbance (yes/no), sexual behavior (yes/no) and some form of verbal indication from a child (yes/no) would predict DCS investigation (yes/no). The sexual behaviors that caregivers reported ranged from their children exhibiting developmentally age appropriate sexualized behaviors that caregivers did not know were normal for children to engage in to concerns that their children were exhibiting increased frequency and developmentally inappropriate sexualized behaviors. Verbal indications of abuse reported by caregivers were not analyzed in terms of context or how the disclosure was elicited.

Regression results indicated that the overall model of three predictors was not significant (Table 15). Thus the null hypothesis could not be rejected. However, while Wald statistics indicated that caregivers' observations of sexual behaviors and difficulty sleeping were not predictors for DCS to accept a case for investigation, a child giving so

Table 15

Logistic Regression Analysis: Variables in the Equation

	B	S.E.	Wald	df	Sig.	Exp(B)
Sex.behav (1)	.155	.358	.188	1	.665	1.168
Sleep prob (1)	-.380	.404	.883	1	.347	.684
Verbal indication (1)	.835	.376	4.933	1	.026	2.305
Constant	-.187	.203	.848	1	.357	.829

some form of verbal indication increased the odds ratio for investigation by a factor of 2.305, $p<.026$. Thus "verbal indication" appears to be an important factor for DCS in deciding whether or not to investigate a case.

The next section provides comparisons between sexual abuse cases of children less than 3 years old that were substantiated (cases where it was determined that sexual abuse occurred) and those that were not substantiated by DCS.

Comparisons Between Substantiated Cases and Cases not Substantiated

Twenty-four (29.3%) of the 89 cases investigated by the Tennessee Department of Children's Services were substantiated for sexual abuse and 58 (70.7%) were not substantiated. Seven (7.9%) of the cases were listed as having no finding, typically because the case was still in an active investigation phase, and these cases were not included in the analyses. Of the cases that were substantiated, 20 (83%) were females and 4 (16%) were males. Fifteen (62.5%) of the children were White and 9 children (37.5%) were African-American. Sixteen (66.6%) of the children were on Medicaid (Table 16).

Table 16

Comparison of Demographics Between Cases Substantiated For Sexual Abuse and Cases not Substantiated

	Cases substantiated $N = 24$ (100%)	Cases not substantiated $N = 58$ (100%)
Children's Gender		
Female	20 (83.0%)	51 (88.0%)
Male	4 (16.0%)	7 (12.0%)
Children's Race		
White	15 (62.5%)	30 (52.0%)
African American	9 (37.5%)	20 (34.5%)
Biracial	0	6 (10.3%)
Asian	0	0
Missing	0	2 (3.4%)
Children's Ethnicity		
Hispanic	1 (4.2%)	3 (5.2%)
TN-Care (Medicaid)	16 (66.6%)	42 (72.4%)

In comparison, of the cases that were not substantiated, 51 (88%) were female and seven (12%) were male. Thirty (52%) of the children were White, 20 (34.5%) were African-American, 6 (10.3%) were Biracial. In addition, 3 (5.2%) were identified as being of Hispanic descent. Forty-two (72.4%) of the children were receiving Medicaid. Chi-square tests were used to determine if there were significant demographic differences between the cases that were substantiated for child sexual abuse and cases that were not. Two cases with missing information regarding race were excluded from the analysis. Chi-square results were not significant for gender (X^2= .309, p=.578); for race (X^2 = .544, p=.461); or for socioeconomic status (X^2= .271, p=.603). Thus, it does not appear that gender, race, or being a Medicaid recipient were factors in determining whether or not a case was substantiated.

Of the 24 cases that were substantiated, 19 (79.1%) of the alleged offenders were male and three (12.5%) were female. No cases that were substantiated involved circumstances in which investigators were not able to identify a suspect of the abuse. One substantiated case (4.1%) consisted of a male and female couple who were sexually abusing the child together. Of the 42 cases that were not substantiated, 40 (95.2%) of the alleged sexual offenders were male and two (4.7) were female (Table 17).

Table 17

Gender Characteristics of Identified Alleged Offenders for Cases Substantiated for Sexual Abuse and Cases not Substantiated

Alleged Offender's Gender	Cases substantiated N = 24 (100%)	Cases not substantiated N = 58 (100%)
Male	19 (79.1%)	40 (95.2%)
Female	3 (12.5%)	2 (4.7%)
Male and female couple	1 (4.1%)	0

Known age frames of alleged offenders for cases that were substantiated included 11 adults (45.8%); two 16-17 year olds (8.3%); six 13-15 year olds (25%); and three 9-12 year olds (12.5%). Data regarding ages for two substantiated cases were missing. In comparison, cases not substantiated included 36 adults (62%); one 16-17 year old (1.7%); two 13-15 year olds (5.4%); and one 9-12 year olds (1.7%). Eighteen (31%) of the cases did not specify the age of the alleged offender (Table 18).

For substantiated cases, the relationships that the identified alleged sexual abuse offenders had with the children they abused included one biological parent (4.1%) and one case (4.1%) case that involved both biological parents. Two (8.3%) of the sexual offenders were dating the children's parents, five (20.8%) were siblings, one (4.1%) was a household member who was not related to the family and one (4.1%) was a neighbor. Three (12.5%) of the sexual offenders were identified as cousins and another three (12.5%) were uncles. Five (20.8%) of the sexual offenders were daycare providers/babysitters while two (8.3%) were classified as "other" (Table 19).

In contrast, alleged offenders in cases that were not substantiated included 16 biological parents (37.2%), two stepparents (4.6%) and two dating partners (4.6%) of the biological parents. There were three cases (6.9%) involving siblings, two (4.6%) involving cousins, two (4.6%) involving uncles and three (6.9%) involving grandparents. Six (13.9%) of the alleged sexual offenders were daycare providers/babysitters and two (4.6%) were members of a daycare provider or babysitter's family. Four (9.3%) of the alleged sexual offenders were categorized as "other" (Table 19).

In cases that were substantiated, seven children (29.1%) provided some form of verbal indication of sexual abuse as compared to 18 (31%) of the cases that were not

Table 18

Age Comparison of Identified Alleged Offenders Between Cases Substantiated for Sexual Abuse and Cases not Substantiated

	Cases substantiated $N = 24$ (100%)	Cases not substantiated $N = 58$ (100%)
Alleged adult sexual offenders	11 (45.8%)	36 (62.0%)
Alleged juvenile sexual offenders		
16-17	2 (8.3%)	1 (1.7%)
13-15	6 (25.0%)	2 (5.4%)
9-12	3 (12.5%)	1 (1.7%)
Missing data	2 (8.3%)	18 (31.0%)

Table 19

Comparison of Relationships of Identified Alleged Offenders to Children Between Cases Substantiated for Sexual Abuse and Cases not Substantiated

Relationship of alleged offender to child	Cases substantiated $N = 24$ (100%)	Cases not substantiated $N = 43$ (100%)
Biological parent	1(4.1%)	16 (37.2%)
Both biological parents	1(4.1%)	0
Stepparent	0	2 (4.6%)
Parent's dating partner	2 (8.3%)	2 (4.6%)
Siblings	5 (20.8%)	3 (6.9%)
Nonrelative household member	1 (4.1%)	0
Cousin	3 (12.5%)	2 (4.6%)
Uncle	3 (12.5%)	2 (4.6%)
Grandparent	0	3 (6.9%)
Neighbor	1 (4.1%)	1 (2.3%)
Daycare/babysitter	5 (20.8%)	6 (13.9%)
Member of daycare's family	0	2 (4.6%)
Other	2 (8.3%)	4 (9.3%)

substantiated. A chi-square test showed there was no significant difference in children providing a verbal indication between cases that were substantiated and those that were not (X^2=.028, *p=.867).* A child giving a verbal indication of sexual abuse does not appear related to whether or not a case is substantiated for sexual abuse.

Four (16.6%) of the substantiated cases involved sexual offenders having had access to the child, compared to 8 (13.7%) of the cases that were not substantiated. Ten cases (41.6%) that were substantiated involved children exhibiting sexualized behavior, seven cases (29.1%) involved sleeping disturbances and nine cases (37.5%) involved someone reportedly witnessing the sexual abuse act. There were two cases (8.3%) in which a sibling or a child in the family was diagnosed with a sexually transmitted infection and one case (4.1%) in which the child was the subject of pornography. Six (25%) substantiated cases involved anogenital injury (Table 20).

Of the 58 cases that were not substantiated, there were 17 cases (29.3%) of reported sexual behavior, 18 cases (31%) of sleeping disturbances, one case (1.7%) in which the sexual abuse was reportedly witnessed by another, five cases (9%) in which a sibling was diagnosed with a sexually transmitted infection and seven cases (12%) of anogenital injury (Table 20).

Table 20

A Comparison of Concerns Related to Sexual Abuse Between Cases that were Substantiated for Sexual Abuse and Cases not Substantiated

Concerns of sexual abuse	Cases substantiated *N*=24 (100%)	Cases not substantiated *N*=58 (100%)
Verbal indication of sexual abuse	7 (29.1%)	18 (31.0%)
Sex offender access to child	4 (16.6%)	8 (13.7%)
Sexual behaviors	10 (41.6%)	17 (29.3%)
Sleeping disturbances	7 (29.1%)	18 (31.0%)
Sexual abuse witnessed by others	9 (37.5%)	1 (1.7%)
Child pornography	1 (4.1%)	0
Anogenital injury	6 (25.0%)	7 (12.0%)

Predictors of Child Protection Investigative Cases being Substantiated

This section addresses the question, "Are the presence of anogenital injury, sexually transmitted infections (STI), sexual behaviors and having a witness to the abuse predictors of child protection investigative cases being substantiated?" It was hypothesized that the presence of anogenital injury, sexually transmitted infections, sexual behaviors and a witness who reported seeing the sexual abuse act would be the strongest predictors of substantiation of sexual abuse allegations by investigators.

As previously mentioned, out of the 182 children evaluated at the Our Kids®Center, 89 cases were investigated by the Tennessee Department of Children's Services and 93 (51.1%) were not. Of the 89 cases investigated by DCS, 24 (27%) were indicated for sexual abuse while 58 (65%) were unfounded. Seven (7.9%) of the cases were listed as having no finding, typically because the case was still in an active investigation phase, and these cases were not included in the analyses.

For purposes of this study, anogenital injury encompassed any case in which a child examined at Our Kids®Center was diagnosed with internal and/or external injuries associated with the genital and/or anal areas. There were no children diagnosed with sexually transmitted infections (e.g., gonorrhea, chlamydia, herpes, human immunodeficiency virus (HIV) and syphilis) other than human papilomous virus (HPV). While HPV is a nonspecific diagnosis (a virus that may or may not be transmitted as a result of sexual abuse), the diagnosis was included in this study since lesions are likely to be reported and investigated by child protective services for children under the age of 3. Sexual behaviors included caregivers' reports of their children exhibiting sexualized behaviors they were concerned about and growing concerns of caregivers whose children

were exhibiting an increase of sexual behaviors. Witnesses encompassed reports from caregivers and/or referents who noted someone actually seeing the act of sexual abuse occur.

Binary logistic regression (Enter method) was conducted on 82 valid cases investigated by DCS to determine if the presence of anogenital injury (yes/no), sexually transmitted infections (STI) (yes/no), sexual behaviors (yes/no), and having a witness (yes/no) were predictors of a case being substantiated for sexual abuse or not substantiated (yes/no). Results indicated that the overall model of four predictors was statistically significant in distinguishing between cases that were substantiated by DCS and those cases that were not ($X^2(4) = 22.72, p<.001$). The model correctly classified 80.5% of the cases. Cox & Snell R Square and Nagelkerke R square tests show that 24-35% of the variance is explained by the independent variables. Wald statistics indicate that having a witness to sexual abuse significantly predicts substantiation ($p < .01$). The odds ratio for the witness variable indicates that the odds of a case being substantiated for sexual abuse increases by a factor of 33.73 when there is a witness to the abuse.

As for anogenital injury, the Wald statistics failed to indicate that having anogenital injury is a significant predictor of substantiation ($p = .12$). However, the odds ratio indicated that the odds of a case being substantiated increases by a factor of 3.04 when there is an anogenital injury. The insufficient sample size may have been the reason for the nonsignificant result. Therefore, we should not regard the existence of anogenital injury as irrelevant. Sexual behavior ($p = .97$) and HPV ($p = .99$) were not significant predictors of case substantiation (Table 21).

Table 21

Logistic Regression Analysis: Variables in the Equation

	B	S.E.	Wald	df	Sig.	Exp(B)	Lower	Upper
Witness (1)	3.519	1.119	9.879	1	.002	33.734	3.760	302.637
Sexual beh. (1)	.023	.618	.001	1	.971	1.023	.305	3.436
Anogen. inj.(1)	1.111	.712	2.434	1	.119	3.038	.752	12.270
Anogen.hpv(1)	-20.186	22674.525	.000	1	.999	.000	.000	
Constant	-1.489	.385	14.988	1	.000	.225		

Note. Confidence Interval 95%.

Juvenile Sexual Offenders

In order to examine whether being an alleged juvenile sexual offender of children less than 3 years old (yes/no) is a predictor of substantiation (yes/no), alleged sexual offenders less than 18 years old were collapsed into one variable labeled "juvenile." Sixty-two out of 82 cases were analyzed. The ages of alleged sexual offenders for 20 cases were not provided. Logistic regression (Enter method) results indicated that the overall model was statistically significant for predicting substantiation of sexual abuse by child protective services, $X^2(1) = 12.104$, $p<.001$. The model correctly classified 64.5% of the cases. Cox & Snell R Square and Nagelkerke R square tests show that .17-.24% of the variance is explained by the independent variable. Wald statistics indicate that being a juvenile sexual offender significantly predicts substantiation of sexual abuse by child protective services ($p< .01$). The odds ratio indicated that the odds of the case being substantiated for sexual abuse increases by a factor of 9 when the sexual offender is a juvenile (Table 22).

Table 22

Logistic Regression Analysis: Variables in the Equation

	B	S.E.	Wald	Df	Sig.	Exp(B)	Lower	Upper
Juv.offender	2.197	.678	10.504	1	.001	9.000	2.383	33.986
Constant	-1.186	.345	11.844	1	.001	.306		

Note. Confidence Interval 95%.

In summary, "verbal indication" increased the odds ratio for investigation by a factor of 2.3, thus revealing that "verbal indication" was an important factor in triggering a DCS investigation. As for predicting DCS substantiation of sexual abuse, two variables were found to be significant. Having someone witness the sexual abuse act ($p < .01$) increased the odds of substantiation by 33.73 and being a juvenile sexual offender ($p < .01$) increased the odds of substantiation by a factor of 9. Although anogenital injury was not a significant predictor, the odds of a case being substantiated increased by a factor of 3.04 when an anogenital injury was present.

Concordance Rates Between Medical Findings

This section examines the concordance between the physical exam findings reported by general medical providers and those reported by forensic exam specialists at Our Kids®Center. Of the 182 preverbal children evaluated at Our Kids®Center, only 27 were specifically referred to Our Kids® by a general medical provider due to concerns of injury. The exam results documented by the forensic exam specialists regarding specific types of injury were compared to the injuries reported by the general medical providers at the time of referral, as well as any additional medical reports that were made available to the Our Kids® providers.

Upon comparing the overall accuracy of injuries that medical providers were reporting and OurKids® specialist examiners noted during their exams, of 27 cases 11 (40.7%) were in agreement and 16 (59.3%) were in disagreement. While the sample size of 27 is too small for generalization, there is concern regarding the low rate of agreement and the consequences that these types of disagreements can bring. For example, of the 16 cases that were in disagreement, two children presented at Our Kids® as a result of their medical providers' concerns of acute hymnal injury. Of these two cases, both children were examined within 24 hours. One of the children's exams was normal (no injury or symptoms noted), while the second child was diagnosed with a labial adhesion, which is considered a nonspecific finding (may or may not be related to abuse) and is commonly found with very young children.

Five of the 16 cases were referred with concerns of acute injury to the perineum. Upon examination, three of these five cases had no injury to the perineum but instead had acute hymeneal injuries and had been examined within 24 hours. In contrast, the other two of the five cases referred due to perineum injuries (one examined in less than 24 hours and the other in less then 48 hours) were both normal exams. Of the four children referred for unusual discharge, none was noted to have unusual discharge at the time of their forensic medical evaluation and their exams were normal.

Two cases were referred to Our Kids®Center due to medical providers' concerns that the children's vaginal openings were too big. Of these two children, one child who was examined at Our Kids®Center had a normal exam, while the other child actually had a hymeneal injury. In addition, another child was referred to Our Kids®Center with a misdiagnosis of genital warts.

Although only 16 of 79 cases presented at Our Kids®Center with a medical provider indicating a specific injury and/or symptoms, it is of interest to note that 13 (16.4%) of these 79 general medical providers verbally acknowledged concern that they were unsure about their exam and wanted confirmation by an expert. Seven (8.9%) general medical providers who were not reporting any specific type of anogenital injury indicated they were unsure of what they actually saw during the exam. Finally, 26 medical providers (32.9%) who referred children to Our Kids®Center wanted to confirm that they were not missing anything since they did not see any injury or other physical evidence of sexual abuse and wanted to make sure the exam was in fact normal.

CHAPTER 5

CONCLUSION

The purpose of this study was to aid investigative and medical professionals in their deciphering and decision-making processes when serving children less than 3 years old with concerns of sexual abuse. Study findings raised several concerns. First, data showed "verbal indication" as the only significant factor for the Department of Children's Services acceptance of child sexual abuse reports concerning children less than 3 years old for investigations even though previous studies show that sexualized behaviors, anogenital injury, and sleep difficulties are markers of sexual abuse. Consequently, such decision-making may elevate the risk of valid abuse cases getting screened out rather than being investigated. Training DCS investigators to use evidence identified as sexual abuse markers in previous research studies is highly recommended.

The second concern raised by the current study was that "having a witness" was the only significant factor for DCS investigators to substantiate sexual abuse while previous studies have shown that there are other important factors that should be considered. Once again, it is recommended that DCS investigators receive training to use evidence identified as sexual abuse markers by prior research.

The third concern that was raised involved the high disagreement rate between general medical providers and sexual abuse exam specialists. Training is recommended to

help general medical providers assist caregivers when they present with their children for concerns of sexual abuse.

After presenting primary research results, this chapter will address findings and interpretations related to the descriptive data. Finally, recommendations for future research will be presented.

Primary Research Results

Predictors of DCS Investigation of Sexual Abuse Reports of Children Less than 3 Years Old

The study hypothesized that child protective services would more likely accept sexual abuse reports for investigation when the report encompassed factors of sexualized behaviors, sleep difficulties, and some form of verbal indication by the child that sexual abuse had occurred. Binary logistic regression found that the overall model of three predictors was not significant and therefore the null hypothesis could not be rejected. However, while Wald statistics indicated caregivers' observations of sexual behaviors and difficulty sleeping were not factors in DCS' decision to accept a case for investigation, a child giving some form of verbal indication of sexual abuse increased the odds for investigation by 2.3, which made "verbal indication" an important factor for prompting a DCS investigation. Chi-square tests were also conducted to examine the relationship between child protective services accepting sexual abuse reports for investigation when there was a report of anogenital injury. Results were not significant, revealing no association between anogenital injury and investigation.

Although previous studies provide evidence for inappropriate sexual behaviors as a marker for sexual abuse (Friedrich et al., 2001; Hewitt & Friedrich, 1991), sexual

behavior was not significant as a predictor in this study. Thus, sexual behavior was not an important factor in DCS' decision to accept cases for investigation. Considering that investigators had not had assessed whether or not the sexual behaviors that caregivers were reporting fell within a developmentally appropriate range raises concerns that some child protective service professionals may not have the knowledge or skills necessary to identify sexual behaviors as a sexual abuse marker for this population. Providing them with additional training about sexualized behaviors for this vulnerable population will allow them to incorporate evidence-based practice in their decision-making for accepting cases for investigation.

Predictors of Child Protection Investigative Cases Being Substantiated

The study's second hypothesis was that the presence of anogenital injury, sexually transmitted infections (specifically HPV since no other sexually transmitted infections were diagnosed), sexual behavior, and having a witness would be the strongest predictors of DCS substantiation. Binary logistic regression results indicated that the overall model of four predictors was statistically significant in distinguishing between cases that were substantiated by child protective services and those cases that were not substantiated. However, anogenital injury (p =.12), HPV (p =.99), and sexual behavior (p =.97) did not contribute significantly to the model. The only significant predictor of substantiation was having a witness of the abuse (p<.01). In fact, Wald statistics revealed that having a witness of the abuse increases the odds of substantiation by as much as 33.73 times.

In light of these findings, it would be wise for child protection investigators to include interviewing children who may have possibly witnessed the sexual abuse of nonverbal children within their investigation protocol. If a child acknowledges that he or

she actually witnessed abuse then investigators should further explore if the child was ever asked or told to participate in the sexual abuse act. This recommendation is particularly emphasized for cases that involve nonverbal children who have anogenital injury.

Although anogenital injury was not found to be a significant predictor in this study, the existence of anogenital injury should not be considered irrelevant for three reasons. First, Palusci, Cox, Cyrus, Heartwell, Vandervort, and Pott (1999) found that anogenital injury related to sexual abuse was a predictor of alleged sexual offenders being found guilty of abuse. Second, this study's finding may be a result of an insufficient sample size; Wald statistics showed that the odds of substantiation increased by a factor of three when there was anogenital injury present. Finally, this study found that 75% of substantiated cases involved children who had not experienced anogenital injury. This finding suggests that investigators are becoming more aware that an absence of medical evidence does not necessarily mean sexual abuse did not occur (Muram, 2003).

Special attention must also be paid to the fact that previous studies have identified sexualized behaviors as a marker of abuse for this population. To ensure that DCS is not missing cases of abuse, investigators must be careful not to reject cases where sexualized behaviors are a major concern. Investigators need to take a detailed history regarding the sexualized behaviors that caregivers are describing in order to properly differentiate between what is developmentally normal and what is not.

Conducting a detailed history regarding sexualized behaviors will not only help address parents' concerns about their observations, but it will also help investigators

make informed decisions and educate caregivers about normal sexual development. Educating caregivers who are unknowledgeable regarding normal sexual behaviors of young children can help alleviate fears and prevent unnecessary trips to medical providers for anogenital exams.

However, if a child is exhibiting sexualized behaviors that are not developmentally normal, investigators could once again consider widening the investigation protocol to include interviewing children who have been around the nonverbal child as possible witnesses. These potential witnesses could be asked not just if they had seen an act of sexual abuse but also what possible patterns or dynamics they may have observed. For example, a 6-year-old child may have been told not to go somewhere or come into the bedroom where the abuser normally takes the infant and locks the door.

Regarding the fourth possible predictor of substantiation, the only sexually transmitted infection that children within this age group presented with was Human Papilomous Virus (HPV). Wald statistics did not find HPV a significant predictor of case substantiation. This finding may suggest that investigators are aware of the multiple modes of transmission (e.g., vertical transmission where a mother passes the HPV to her child during pregnancy and/or delivery; physical contact with someone who has HPV through means of diapering or sexual abuse; autoinoculation where a wart can be passed from one body part to another body part on the same person) as well as the inherent complexities associated with if and how long it would take a lesion (wart) to appear (Hornor, 2004; Sinclair, Woods, Kirse, & Sinal, 2005).

Concordance Rates Between Medical Findings

This section examines the concordance between the physical exam findings reported by general medical providers and those reported by forensic exam specialists at Our Kids®Center on 27 cases that were examined by both professionals. As previously noted, 41% of the exams conducted by medical providers that reported physical symptoms (e.g., discharge) and/or anogenital injuries were in agreement while 59% of the exams were in disagreement.

While the sample size of 27 is too small for generalization, there is a heightened concern regarding the low rate of agreement and the consequences that being wrong can create. Cases such as the two children who presented to Our Kids® and were previously misdiagnosed with acute hymeneal injuries; the two children who did not have acute injuries to their perineum as previously diagnosed by their medical providers but instead had normal exams; and the child who was misdiagnosed with genital warts can create immense fear and confusion for caregivers, retraumatize caregivers who may have had their own histories of sexual abuse, and possibly compromise the caregivers' ability to be there for their child. Furthermore, inaccurate diagnoses can overwhelm the already overstrained child protection system and legal agencies by taking away time from cases where children really are in danger and need their help and protection.

In contrast, a case such as the child who was diagnosed with a perineum injury but instead had acute hymeneal injuries creates significant problems for prosecutors who have to make decisions about bringing such cases to trial. Bearing in mind the level of proof that prosecutors are required to have to bring a case to trial and that some injuries

are more likely to occur accidently than others, prosecutors need accurate information so they can determine which cases to move forward.

Furthermore, if a prosecutor does bring the case to trial, it is not unforeseeable that a doctor who incorrectly identified an anogenital structure as being injured would be discredited as an expert witness. Indeed, the price for such mistakes is way too high. Taking into account that statistics typically suggest "one out of four girls and one out of six boys are reportedly sexually abused before they turn 18" years old (National Traumatic Stress Network, n.d.), the odds are likely that a large number of medical providers will have caregivers seeking their services to help them when they are concerned about sexual abuse. In order to be adequately prepared, medical providers serving children should be educated about pre-pubertal anogenital anatomy, medical problems that appear as abuse, and the common social dynamics associated with sexual abuse cases.

Juvenile Sexual Offenders

The third study hypothesis stated that child protective services would be more likely to substantiate sexual abuse of children less than 3 years old in cases involving juvenile sexual offenders. Binary logistic regression results indicated that the odds of substantiation increased by nine times when the sexual offender is a juvenile.

Considering that juvenile offenders account for about a third to one-half of all child sexual abuse cases in the United States (Shi & Nicol, 2007) and that many sexual offenders acknowledge beginning to fantasize about abusing someone prior to becoming an adult (Murphy, Paige, & Hoffman, 2004), one positive effect of the higher

substantiation rate for juveniles is the opportunity it creates for young sex offenders to receive early intervention.

Referents of Children Less Than 3 Years Old to Our Kids®Center

Medical Providers

Many of the medical referrals (47.3%) were provided by community and emergency medical providers. This high percentage may indicate that caregivers are much more likely to seek a medical provider's assistance before calling authorities with children under 3 years old. Studies documenting the inability of many medical providers to appropriately identify anatomical genital structures of pre-pubertal girls (Botash, 2003; Lentsch & Johnson, 2000; Muram, 2001; Starling & Boos, 2003) raise concern for geographical areas that do not have specialized examiners readily available to assist.

Prompts for Concerns of Sexual Abuse

Two chief physical concerns that prompted referrals to Our Kids®Center involved children's complaints of anogenital pain and/or bleeding. Nonphysical concerns that tended to prompt referrals included reports of some form of verbal indication from the child that he or she had been sexually abused; exhibition of sexualized behaviors; witnesses reporting that they had seen sexual abuse take place; and children having been subjected to previously known sex offenders.

Notably, once Our Kids® providers were able to gather a comprehensive history, the number of sexual abuse concerns caregivers conveyed increased in multiple areas. Caregivers' reports that their child had anogenital injury and/or unusual discharge rose by more than half. Cases involving children being subjected to past sexual offenders rose by

6%, reports concerning sexualized behaviors rose by almost 20%, and cases involving someone having witnessed the sexual abuse rose more than 3%. Since caregivers who have concerns their child may have been sexually abused are more likely to go to their trusted health care provider first, these medical providers are in a unique position to be able to gather important information. Moreover, since talking to someone you trust can help to reduce anxiety and improve recall by lowering cortisol levels (Neuroscience, 2006), medical providers may be able to elicit a more detailed, comprehensive medical history that encompasses questions related to common sexual abuse dynamics.

Consequently, medical providers would be able to provide more thorough reports that would help decision-makers make better choices about what cases need to be investigated and if a case should or should not be substantiated if the case is investigated. These findings reinforce the importance of medical providers taking time to conduct thorough, comprehensive histories with caregivers in order to obtain the most complete information on which to base medical and investigative decision-making.

Investigative Agents

Thirty-five preverbal children (37.6%) were referred for forensic sexual abuse evaluations at Our Kids® by assigned investigators from the Tennessee Department of Children's Services, Police Department, and District Attorney's office. Yet, even though investigators were assigned, DCS had no records indicating that child protective services had investigated these cases. One plausible explanation for these cases not being documented may be related to investigators having a high number of responsibilities competing with one another for time. Like many other states and counties, DCS

investigators in Tennessee have high case loads and scarce resources (Child Welfare League of America, 2009; Reid, 2003).

Building in protected time for investigators to complete paperwork during their workdays would help assure that DCS investigators have time to file the required paperwork needed to accurately reflect the actual number of cases that are being investigated. Accurate statistics may give decision-makers some leverage for both advocating for and allocating the needed resources and extra hires to support and aid frontline professionals.

One way to help reduce the amount of protected time investigators would need for paperwork would be to take advantage of technological advances that incorporate safety mechanisms to ensure confidentiality. Laptops would allow investigators who are out in the field to complete and sign electronic records and then immediately send the forms to the appropriate database via the internet from the field. This strategy would reduce the time child protection workers need to input the information from the paper forms they completed in the field to their computers once they return to their office. Additionally, this strategy would minimize human error from having to enter the handwritten information into electronic form, reduce the amount of paper being used, and reduce the storage areas needed for paper files.

Behavioral Concerns Identified by Caregivers

During the Our Kids® evaluation, caregivers tended to report their children exhibiting more externalizing behaviors than internalizing behaviors. Of the caregivers who reported, over half described their child as being increasingly clingy, irritable/angry, and oppositional when it came to following rules, being aggressive with other children,

and acting out sexually. Slightly less than half of the caregivers described their child as sad, having increasing problems with sleeping, being more fearful of new situations, and being distracted. Less commonly reported behaviors included problems with hyperactivity, difficulty concentrating, age regression, and excessive worrying. While behaviors by themselves are not diagnostic of sexual abuse (Drach, Wientzen, & Ricci, 2000), behavior is the one means children with limited verbal skills have to communicate with others.

Alleged Sexual Offenders

One-third of the cases referred to Our Kids®Center did not have a suspected alleged offender at the time of the children's appointment. Of the remaining cases, the majority of alleged sexual offenders tended to be adult males. Only half of these cases were accepted for investigation and less than a fourth of the cases accepted were substantiated. There were 10 cases that involved adult female suspects. Of these 10 cases, seven were investigated and three out of those seven cases were substantiated. These findings suggest that child protection investigators are not overlooking the possibility of females committing a sexual offense. Unlike investigations involving adult suspects, 68% of alleged sexual abuse cases that involved juvenile suspects were substantiated.

In regard to relationships between the children and alleged sexual offenders, the highest number of referred cases (20%) tended to involve biological parents as the alleged suspect. Only one case, however, was substantiated from 19 investigations. The highest numbers of substantiated cases were evenly divided between siblings (20.8%) and daycare/babysitter providers (20.8%). Together, these types of relationships made up over one-third of all the substantiated cases (41.6%). Cousins and uncles made up the

next highest at 12.5% each. These data are congruent with findings by Greenberg, Bradford, and Curry (1995), who reported that sexual offenders of toddlers and infants are typically family members or daycare providers. The authors further highlighted the importance of carefully screening and interviewing care providers before allowing them access to one's children.

Additionally, caregivers should be educated about the importance of talking to their children in developmentally appropriate ways about personal boundaries and telling someone if anyone touches them inappropriately. Discussions regarding boundaries and consequences for both the person being touched and for the one doing the touching are particularly essential for older children who care for young siblings or children.

Summary of Recommendations for Practice

Medical Providers

In light of the evidence, medical providers need training for addressing sexual abuse cases for several reasons. First, caregivers are seeking their assistance. Training should include preparation in becoming knowledgeable about pre-pubertal anogenital anatomy, medical problems that can sometimes appear as abuse, common social dynamics related to sexual abuse cases and the limitations of sexual abuse examinations.

The second reason for medical provider training, as indicated in this study, is that caregivers' reports on child behaviors and physical symptoms increased through professional consultations at Our Kids®Center. Consequently, this skilled consultation helped caregivers understand their child's behaviors. Therefore, medical providers should also have these skills to talk to caregivers and to gather a comprehensive history.

The third reason for training is that the number of medical providers who feel unprepared to address sexual abuse concerns can no longer be ignored. Leaders in the medical education field should consider providing lectures and relevant materials in their classes about pre-pubertal anogenital anatomy and information related to sexual abuse.

Finally, data from this research show a high disagreement rate in diagnoses between medical providers and specialists. Leaders of medical conferences should actively seek out specialists to provide foundational training to assist medical providers attending their conferences. Such training will help reduce errors that can lead to harming innocent individuals accused of sexual abuse and contribute to false beliefs that the child was a victim.

Investigative Agents

Behavioral Symptoms

Since behavior is one way children less than 3 years old have to communicate, more consideration needs to be given when behaviors of concern present themselves without any explainable reason. A high reliance on verbal indication to trigger investigations for children less than 3 years old creates missed opportunities for protecting a particularly vulnerable population of children. Research findings continue to call attention to the need for variables such as developmentally inappropriate sexualized behaviors to be weighted more heavily for this age group when considering investigation. There is no question that conducting sexual abuse investigations is a difficult process that includes gathering information about a variety of variables from multiple sources. Through the process of sorting through information and applying inductive and deductive reasoning, investigators are required to make a determination about whether or not abuse

has occurred. Accordingly, these decisions are not made lightly as investigators consider all the complex variables and dynamics. While developmentally inappropriate sexualized behavior should not be a reason in itself for substantiation of sexual abuse, cases involving children exhibiting such behavior should be carefully evaluated for an explanation as to why they are displaying these behaviors.

Consequently, investigators should be specifically trained about the differences between normal sexual development and concerning sexual behaviors. Investigators also need to be trained on how to take a detailed history regarding the sexualized behaviors that caregivers are describing in order to be able to properly differentiate between sexual behaviors that are developmentally normal and those that are not. Gathering detailed histories of the sexualized behaviors will allow investigators to address parental concerns, educate caregivers about normal sexual development if they need it and facilitate their own ability to make informed decisions as they consider their cases in totality. Additionally, if the sexual behaviors are outside of the normal developmental scope, investigators should consider widening the investigation protocol to include interviewing children who have been around the nonverbal child.

Children Witnesses

In this study, having a witness reinforced the importance of having a voice for substantiation of sexual abuse. Considering the weight put on having a voice and the inability of children in this age group to verbalize their experience, child protection investigators should expand investigative protocols to include interviewing verbal children as possible witnesses when a nonverbal child could have been at risk. Questions related to witnessing the sexual abuse of nonverbal children as well as being forced to

watch and/or participate if they had witnessed the act should not be avoided. Widening the investigative process to include interviewing children as possible witnesses when there are concerns of sexual abuse involving preverbal children or cases in which preverbal children are at risk (e.g., because of abuse to a sibling or cousin) in a developmentally appropriate manner provides an extra safety net for protection.

Investigations

Education

Caregivers should be educated about talking to their children who provide care for younger siblings and/or other children about boundaries and the consequences of sexual abuse for both the person being touched and the one doing the touching. Other strategies that may help caregivers who are seeking ways to be proactive include censoring media that contains sexual content and supervising what children are viewing online. Caregivers whose older children tend to socially isolate themselves and/or have personal perceptions of social inadequacies, anxiety, and difficulty regulating anger (Murphy, Paige, & Hoffman, 2004) may also want to seek opportunities for decreasing their child's isolation by helping them become involved in other activities that do not involve caring for young children.

Macro Level Changes

Specialized Guidelines for Investigating Sexual Abuse Cases Involving Preverbal Children

The vulnerability of pre and limited verbal children cannot be ignored. Any reliance on "verbal indication" of abuse for triggering an investigation by child protective services can only result in missing cases where children less than 3 years old are being

sexual abused. Specialized guidelines for prompting DCS investigations that incorporate evidence-based practice for this population need to be considered. While sexualized behaviors and anogential injuries may not mean a child was sexually abused, an investigation would be the one way to make an informed determination.

Increasing Opportunities for Evaluating Preverbal Children

In some states there are opportunities for preverbal children to be referred to licensed clinical social workers and psychologists who conduct psychosocial evaluations that consist of multiple visits with the children. In other states like Tennessee, however, this option is not always available. Many agencies like Our Kids® Center depend on fundraising, private donations, and grants to pay for such evaluations due to child sexual abuse being listed as a V code in the *International Classification of Diseases*, Ninth Revision, Clinical Modification (ICD-9), which is the United States' official coding system used for billing. Since these types of evaluations can take extensive periods of time (10-20 hours) and insurance companies refuse to pay for V codes, specialized agencies may struggle with just how much they are able to donate their clinicians' skills and resources towards providing these services. From a macro perspective, social workers should work closely with legislators to change policies that affect the ability of agencies to be paid for providing such important services to the most vulnerable population.

Increasing Efficiency for Child Protective Services

Taking advantages of technological advances and integrating electronic records would help reduce the time child protection workers need to input the information from

the paper forms they completed in the field to their computers once they return to their office. Utilizing technology can also minimize human error, reduce the amount of paper being used, and reduce the amount of storage areas needed for housing paper files.

Future Research

Research on the practice of investigating cases of sexual abuse of children less than 3 years old is lacking. While retrospective studies have limitations, they can be a good place to start examining dynamics of practice when agencies work together and facilitate opportunities to make improvements. The small sample size and data taken from only one evaluation center prevent the conclusions of this study from being generalized, and it is recommended that this study be replicated on a larger scale.

The need for evaluating intervention with this vulnerable population is underscored by neurological research that reveals how the interaction of nature and environment plays a formidable role in the development of one's neural, physiologic, emotional, and social development. Replicated studies have revealed that the younger a child is when abuse occurs and the greater the amount of time the child is subjected to maltreatment can negatively affect the brain's growth and functioning (Putnam, 2006). Positive early intervention will only serve to prevent the ongoing costs associated with negative effects and outcomes.

Researchers should also continue examining possible sexual abuse dynamics with this population that may be different from other age ranges. Investigations regarding how behavioral symptoms may differ under varying circumstances should also be conducted. For example, are symptoms different when a primary caregiver abuses a child within this

age range than when someone who is not a primary caregiver perpetrates the sexual abuse?

Additionally, systematic research of sexual conduct of children less than 2 years old is a necessary step for moving forward. Barclay and Murata (2005) noted that childhood masturbation typically begins around 2 months old and is exhibited through various postures and movements that do not involve genital manipulation. Systematic research would be helpful for developing reliable and valid clinical instruments to help assess sexualized behavior in the youngest of children and would aid investigators. Exploring why some children within this age range exhibit sexualized behaviors and others do not could help uncover the dynamics associated with this phenomenon and inform evidence-based practice.

Research on sexual dynamics also requires more studies on sexual offenders who abuse preverbal children; research regarding male, female, and juvenile sexual offenders who target preverbal children is virtually nonexistent. While this type of research has its own limitations (e.g., self-reporting, concern on the part of the offender for possible later convictions and rationalizations) the need for more studies on this subject can no longer be ignored. The willingness of sexual offenders to share their experiences may help professionals develop effective prevention programs and improve professional protocols and practice.

Conclusion

This study described characteristics of a sample of preverbal children referred for forensic medical examinations. Identification of common characteristics between children who are abused and those who are not may help to better inform investigators'

and medical providers' decision-making processes. The more we learn about how preverbal children are affected by sexual abuse the more professionals can educate caregivers on recognizing possible responses and intervening effectively.

APPENDIX

PEDIATRIC SYMPTOM CHECKLIST (PSC)

Directions - Please mark under the heading that best describes your child:

	Never (0)	Sometimes (1)	Often (2)
1. Complains of aches and pains	1.		
2. Spends more time alone	2.		
3. Tires easily, has little energy	3.		
4. Fidgety, unable to sit still	4.		
5. Has trouble with teacher	5.		
6. Less interested in school	6.		
7. Acts as if driven by a motor	7.		
8. Daydreams too much	8.		
9. Distracted easily	9.		
10. Is afraid of new situations	10.		
11. Feels sad, unhappy	11.		
12. Is irritable, angry	12.		
13. Feels hopeless	13.		
14. Has trouble concentrating	14.		
15. Less interested in friends	15.		
16. Fights with other children	16.		
17. Absent from school	17.		
18. School grades dropping	18.		
19. Is down on him or herself	19.		

20. Visits the doctor with doctor finding nothing wrong	20._____	_____	_____
21. Has trouble sleeping	21._____	_____	_____
22. Worries a lot	22._____	_____	_____
23. Wants to be with you more than before	23._____	_____	_____
24. Feels he or she is bad	24._____	_____	_____
25. Takes unnecessary risks	25._____	_____	_____
26. Gets hurt frequently	26._____	_____	_____
27. Seems to be having less fun	27._____	_____	_____
28. Acts younger than children his or her age	28._____	_____	_____
29. Does not listen to rules	29._____	_____	_____
30. Does not show feelings	30._____	_____	_____
31. Does not understand other people's feelings	31._____	_____	_____
32. Teases others	32._____	_____	_____
33. Blames others for troubles	33._____	_____	_____
34. Takes things that do not belong to him or her	34._____	_____	_____
35. Refuses to share	35._____	_____	_____

Adapted from Jellinek & Murphy (2003). Pediatric Symptom Checklist. (In Public Domain).

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