

Evolving Trends in Child Abuse Cases and the Efficacy of Forensic Interview Techniques A Longitudinal Study

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Abstract

Background: Child abuse is a pervasive issue with severe consequences for children's well-being. This longitudinal study aimed to investigate the evolving trends in child abuse cases and evaluate the efficacy of forensic interview techniques.

Methods: A sample of 150 children (mean age = 9.6 years, SD = 3.8; 50% male) who were referred to child protection services due to suspected abuse participated in the study. The NICHD Protocol was used for forensic interviews, and various outcomes were assessed at baseline, 6-month, and 12-month follow-ups.

Results: Disclosure rates were highest for sexual abuse (90%), followed by physical abuse (75%) and emotional abuse (70%). Younger children had a lower disclosure rate (65%) compared to older children (85%; $\chi^2(1) = 8.33, p = 0.004$). Children who experienced sexual abuse provided more details during interviews compared to those who experienced physical or emotional abuse ($F(2, 147) = 14.6, p < 0.001$). Trauma symptoms, cognitive functioning, and social-emotional well-being improved significantly from baseline to follow-ups (all $p < 0.001$). Child age ($\beta = 0.24$), type of abuse ($\beta = 0.21$), interviewer experience ($\beta = 0.19$), and interviewer training ($\beta = 0.16$) were significant predictors of interview effectiveness (all $p < 0.05$).

Conclusions: The findings highlight the importance of considering child characteristics, interviewer factors, and abuse type when conducting forensic interviews. The use of evidence-based interview protocols and comprehensive support services is crucial for improving outcomes for child abuse victims.

Keywords: child abuse, forensic interviews, NICHD Protocol, disclosure, trauma symptoms, longitudinal study

Introduction

Child abuse is a pervasive global issue that has severe consequences for the physical, psychological, and social well-being of children. The World Health Organization (WHO) defines child abuse as "all forms of physical and/or emotional ill-treatment, sexual abuse, neglect or negligent treatment or commercial or other exploitation, resulting in actual or potential harm to the child's health, survival, development or dignity in the context of a relationship of responsibility, trust or power" [1]. The prevalence of child abuse is alarming, with estimates suggesting that up to 1 billion children aged 2–17 years have experienced physical, sexual, or emotional violence or neglect in the past year [2].

The identification and assessment of child abuse cases have evolved significantly over the past few decades. Forensic interviews have emerged as a crucial tool in gathering information from children who have experienced or witnessed abuse [3]. These interviews aim to elicit accurate and detailed accounts of the abuse while minimizing the potential for further traumatization of the child. The efficacy of forensic interview techniques has been the subject of extensive research, with studies examining various approaches and their impact on the quality and reliability of the information obtained [4].

One of the most widely used forensic interview protocols is the National Institute of Child Health and Human Development (NICHD) Protocol [5]. Developed in the 1990s, the NICHD

Protocol provides a structured, evidence-based approach to interviewing children. It emphasizes the use of open-ended questions, avoids leading or suggestive questions, and allows the child to provide a free narrative account of their experiences [6]. Studies have demonstrated that the NICHD Protocol enhances the quality and quantity of information obtained from children, reduces the risk of false allegations, and improves the overall accuracy of the interview process [7].

However, the field of forensic interviewing continues to evolve, with researchers and practitioners seeking to refine and improve existing techniques. One area of focus has been the adaptation of forensic interview protocols to meet the needs of specific populations, such as very young children, children with developmental disabilities, or those from diverse cultural backgrounds [8]. For example, the use of anatomical dolls and other props has been a topic of debate, with some studies suggesting that they may improve the accuracy of young children's reports, while others caution against their potential to elicit false or misleading information [9].

Another trend in the field of forensic interviewing is the increasing use of technology. Video-recorded interviews have become standard practice in many jurisdictions, allowing for greater transparency and accountability in the interview process [10]. Additionally, the use of computer-assisted interviewing techniques, such as the use of avatars or virtual reality environments, has been explored as a means of reducing the stress and anxiety experienced by children during the interview process.

Despite advances in forensic interviewing techniques, the assessment of child abuse cases remains a complex and challenging task. Factors such as the child's age, developmental level, and relationship to the perpetrator can influence the accuracy and completeness of their

disclosure. Moreover, the emotional and psychological impact of abuse can lead to delayed disclosure, recantation, or inconsistencies in the child's account.

To address these challenges, ongoing research is essential to further refine and validate forensic interview techniques. Longitudinal studies, in particular, can provide valuable insights into the long-term impact of different interview approaches on the well-being and outcomes of child abuse victims. Such studies can also help identify factors that may influence the effectiveness of forensic interviews, such as interviewer training and experience, the use of specific questioning strategies, and the child's individual characteristics.

Child abuse is a serious and pervasive issue that requires a multifaceted approach to prevention, identification, and intervention. Forensic interviews play a critical role in the assessment of child abuse cases, and the field has seen significant advances in recent years. However, ongoing research is needed to further refine and validate interview techniques, with a particular focus on adapting approaches to meet the needs of specific populations and incorporating emerging technologies. Longitudinal studies can provide valuable insights into the long-term impact of different interview approaches and inform best practices in the field. By continually striving to improve the efficacy of forensic interview techniques, we can better serve and protect the most vulnerable members of our society.

Aims and Objectives

The primary aim of this longitudinal study, conducted from March 2023 to April 2024, was to investigate the evolving trends in child abuse cases and evaluate the efficacy of forensic interview techniques. The study sought to examine the impact of various interview approaches on the quality and reliability of information obtained from child abuse victims, with a particular focus on adapting techniques to meet the needs of specific populations.

Additionally, the study aimed to identify factors that may influence the effectiveness of forensic interviews, such as interviewer training and experience, questioning strategies, and individual child characteristics.

Materials and Methods

Study Design and Sample

This longitudinal study employed a mixed-methods approach, combining both quantitative and qualitative data collection and analysis. The study sample consisted of 150 children, aged 4 to 17 years, who were referred to child protection services due to suspected abuse. The sample size was determined based on power calculations and previous studies in the field, ensuring adequate representation of different age groups, genders, and types of abuse.

Inclusion and Exclusion Criteria

Children were included in the study if they met the following criteria: (1) aged between 4 and 17 years; (2) referred to child protection services due to suspected physical, sexual, or emotional abuse; and (3) had no prior history of diagnosed developmental disabilities or severe mental health conditions. Children were excluded if they (1) did not provide assent to participate in the study; (2) had a primary caregiver who did not provide consent; or (3) were unable to communicate in the primary language of the study (English).

Data Collection

Data were collected through a combination of forensic interviews, standardized assessments, and caregiver reports. The forensic interviews were conducted by trained professionals using the National Institute of Child Health and Human Development (NICHD) Protocol, with adaptations made for specific age groups and cultural backgrounds as needed. All interviews were video-recorded and transcribed verbatim for analysis. Children also completed

standardized assessments of trauma symptoms, cognitive functioning, and social-emotional well-being at multiple time points throughout the study. Caregivers provided demographic information and completed measures of parenting stress and family functioning.

Data Analysis

Quantitative data were analyzed using descriptive statistics, t-tests, and repeated-measures ANOVAs to examine changes in child outcomes and the efficacy of different interview techniques over time. Qualitative data from the forensic interviews were analyzed using thematic analysis to identify common themes and patterns in children's disclosures of abuse. Regression analyses were conducted to identify factors that predicted the effectiveness of forensic interviews, such as child age, type of abuse, and interviewer characteristics.

Ethical Considerations

The study protocol was approved by the institutional review board of the participating university and the child protection agency. Informed consent was obtained from the primary caregivers of all participants, and assent was obtained from the children themselves. All data were kept confidential and stored in a secure database, with access limited to authorized study personnel. Referrals for mental health services and support were provided to all participants as needed throughout the study.

Results

Demographic Characteristics

The study sample consisted of 150 children, with a mean age of 9.6 years ($SD = 3.8$). The sample was evenly distributed by gender, with 75 (50%) males and 75 (50%) females. The majority of participants were Caucasian ($n = 90, 60\%$), followed by African American ($n =$

30, 20%), Hispanic (n = 22, 15%), and Asian (n = 8, 5%). Among the participants, 60 (40%) were referred for suspected physical abuse, 52 (35%) for suspected sexual abuse, and 38 (25%) for suspected emotional abuse (Table 1).

Abuse Characteristics

Of the 150 children in the study, 60 (40%) were alleged victims of physical abuse, 52 (35%) of sexual abuse, and 38 (25%) of emotional abuse. In 68 (45%) cases, the alleged perpetrator was a parent or guardian, while in 45 (30%) cases, it was a relative, and in 37 (25%) cases, it was a non-family member (Table 2).

Forensic Interview Techniques

All participants (n = 150, 100%) were interviewed using the NICHD Protocol. Adaptations were made for 45 (30%) children under 7 years of age and for 30 (20%) children from diverse cultural backgrounds. The average length of interviews was 45 minutes (SD = 15) (Table 3).

Disclosure Rates

During the initial forensic interviews, 120 (80%) children disclosed abuse. Disclosure rates were highest for sexual abuse (n = 47, 90%), followed by physical abuse (n = 45, 75%) and emotional abuse (n = 28, 70%). Younger children (age 4-7) had a lower disclosure rate (n = 29, 65%) compared to older children (age 8-17) (n = 91, 85%), and this difference was statistically significant ($\chi^2(1) = 8.33, p = 0.004$) (Table 4).

Disclosure Quality

The average number of details provided by children during the forensic interviews was 25 (SD = 12). A one-way ANOVA revealed significant differences in the number of details

provided based on the type of abuse experienced ($F(2, 147) = 14.6, p < 0.001$). Post-hoc comparisons using the Bonferroni correction indicated that children who experienced sexual abuse provided significantly more details ($M = 32, SD = 14$) compared to those who experienced physical abuse ($M = 22, SD = 10, p < 0.001$) or emotional abuse ($M = 18, SD = 8, p < 0.001$). Additionally, children who experienced physical abuse provided significantly more details than those who experienced emotional abuse ($p = 0.047$) (Table 5).

Trauma Symptoms

Repeated-measures ANOVAs were conducted to examine changes in trauma symptoms over time, with separate analyses for younger (age 4-7) and older (age 8-17) children. For both age groups, there was a significant main effect of time on trauma symptoms (younger: $F(2, 88) = 10.8, p < 0.001$; older: $F(2, 178) = 15.3, p < 0.001$). Trauma symptom scores decreased significantly from baseline to the 6-month and 12-month follow-ups for all types of abuse (Table 6).

Cognitive Functioning

Repeated-measures ANOVAs revealed significant improvements in cognitive functioning over time for both younger ($F(2, 88) = 6.2, p = 0.003$) and older ($F(2, 178) = 8.5, p < 0.001$) children. Cognitive functioning scores increased significantly from baseline to the 6-month and 12-month follow-ups for all types of abuse (Table 7).

Social-Emotional Well-being

Repeated-measures ANOVAs showed significant improvements in social-emotional well-being over time for both younger ($F(2, 88) = 11.4, p < 0.001$) and older ($F(2, 178) = 13.7, p < 0.001$) children. Social-emotional well-being scores increased significantly from baseline to the 6-month and 12-month follow-ups for all types of abuse (Table 8).

Parenting Stress and Family Functioning

Paired-samples t-tests were conducted to compare parenting stress and family functioning scores for each type of abuse. For physical and emotional abuse, there were significant differences between parenting stress and family functioning scores (physical: $t(59) = -4.8$, $p < 0.001$; emotional: $t(37) = -6.1$, $p < 0.001$), with higher scores for family functioning. For sexual abuse, there was no significant difference between parenting stress and family functioning scores ($t(51) = -1.2$, $p = 0.234$) (Table 9).

Factors Influencing Interview Effectiveness

A multiple regression analysis was conducted to identify factors that predicted the effectiveness of forensic interviews. The results indicated that child age ($\beta = 0.24$, $p = 0.002$), type of abuse (sexual) ($\beta = 0.21$, $p = 0.004$), interviewer experience ($\beta = 0.19$, $p = 0.010$), and interviewer training ($\beta = 0.16$, $p = 0.031$) were significant predictors of interview effectiveness (Table 10).

Longitudinal Changes in Outcomes

Repeated-measures ANOVAs were conducted to examine longitudinal changes in trauma symptoms, cognitive functioning, and social-emotional well-being. There were significant main effects of time on trauma symptoms ($F(2, 298) = 28.6$, $p < 0.001$), cognitive functioning ($F(2, 298) = 12.1$, $p < 0.001$), and social-emotional well-being ($F(2, 298) = 24.5$, $p < 0.001$). All outcomes improved significantly from baseline to the 6-month and 12-month follow-ups (Table 11).

Thematic Analysis of Disclosures

Thematic analysis of the forensic interviews revealed five main themes in children's disclosures of abuse. The most common theme was a detailed description of the abuse ($n =$

105, 70%), followed by the emotional impact of the abuse (n = 98, 65%), the relationship with the perpetrator (n = 83, 55%), disclosure of abuse to others (n = 68, 45%), and coping strategies and resilience (n = 45, 30%) (Table 12).

Table 1. Demographic Characteristics

Characteristic	Mean (SD) or n (%)
Age (years)	9.6 (3.8)
Gender	
Male	75 (50%)
Female	75 (50%)
Ethnicity	
Caucasian	90 (60%)
African American	30 (20%)
Hispanic	22 (15%)
Asian	8 (5%)
Type of Alleged Abuse	
Physical	60 (40%)
Sexual	52 (35%)
Emotional	38 (25%)

Table 2. Abuse Characteristics

Characteristic	n (%)
Type of Abuse	
Physical	60 (40%)
Sexual	52 (35%)
Emotional	38 (25%)
Alleged Perpetrator	
Parent/Guardian	68 (45%)
Relative	45 (30%)
Non-family member	37 (25%)

Table 3. Forensic Interview Techniques

Technique	n (%) or Mean (SD)
NICHHD Protocol	150 (100%)
Adaptations	
Age < 7 years	45 (30%)

Technique	n (%) or Mean (SD)
Diverse cultural background	30 (20%)
Interview Length (minutes)	45 (15)

Table 4. Disclosure Rates

Type of Abuse	Disclosure Rate, n (%)	χ^2	p-value
Sexual	47 (90%)	8.33	0.004
Physical	45 (75%)		
Emotional	28 (70%)		
Age Group			
4-7 years	29 (65%)		
8-17 years	91 (85%)		

Table 5. Disclosure Quality

Type of Abuse	Mean Details (SD)	F	p-value	Post-hoc Comparisons (Bonferroni corrected)
Sexual	32 (14)	14.6	< 0.001	Sexual > Physical, p < 0.001
Physical	22 (10)			Sexual > Emotional, p < 0.001
Emotional	18 (8)			Physical > Emotional, p = 0.047

Table 6. Trauma Symptoms

Age Group	Type of Abuse	Baseline Mean (SD)	6-month Mean (SD)	12-month Mean (SD)	F	p-value
4-7 years	Physical	18.5 (6.2)	15.3 (5.8)	12.1 (4.9)	10.8	< 0.001
	Sexual	22.3 (7.1)	19.6 (6.5)	16.4 (5.7)		
	Emotional	16.9 (5.5)	14.2 (5.1)	11.8 (4.6)		
8-17 years	Physical	24.2 (8.3)	20.5 (7.6)	17.1 (6.8)	15.3	< 0.001
	Sexual	28.7 (9.2)	25.4 (8.5)	22.0 (7.9)		
	Emotional	22.1 (7.4)	19.3 (6.9)	16.5 (6.2)		

Table 7. Cognitive Functioning

Age Group	Type of Abuse	Baseline Mean (SD)	6-month Mean (SD)	12-month Mean (SD)	F	p-value
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Age Group	Type of Abuse	Baseline Mean (SD)	6-month Mean (SD)	12-month Mean (SD)	F	p-value
4-7 years	Physical	92.4 (10.6)	95.1 (11.2)	97.8 (11.5)	6.2	0.003
	Sexual	90.1 (9.8)	92.5 (10.3)	95.0 (10.7)		
	Emotional	94.7 (11.1)	97.2 (11.6)	99.6 (11.9)		
8-17 years	Physical	96.3 (12.4)	98.9 (12.8)	101.4 (13.1)	8.5	< 0.001
	Sexual	94.2 (11.7)	96.5 (12.1)	98.8 (12.4)		
	Emotional	98.6 (13.0)	100.8 (13.3)	103.1 (13.6)		

Table 8. Social-Emotional Well-being

Age Group	Type of Abuse	Baseline Mean (SD)	6-month Mean (SD)	12-month Mean (SD)	F	p-value
4-7 years	Physical	65.3 (8.4)	69.5 (9.1)	73.2 (9.6)	11.4	< 0.001
	Sexual	62.1 (7.9)	66.8 (8.7)	70.9 (9.2)		
	Emotional	67.8 (8.9)	71.6 (9.4)	75.1 (9.9)		
8-17 years	Physical	61.5 (7.2)	65.3 (7.8)	68.7 (8.3)	13.7	< 0.001
	Sexual	58.9 (6.7)	62.4 (7.3)	65.6 (7.8)		
	Emotional	64.2 (7.6)	67.9 (8.2)	71.1 (8.7)		

Table 9. Parenting Stress and Family Functioning

Type of Abuse	Parenting Stress Mean (SD)	Family Functioning Mean (SD)	t	p-value
Physical	45.6 (10.2)	52.3 (11.5)	-4.8	< 0.001
Sexual	48.2 (11.1)	49.7 (10.8)	-1.2	0.234
Emotional	43.9 (9.8)	54.6 (12.1)	-6.1	< 0.001

Table 10. Factors Influencing Interview Effectiveness

Predictor	B	SE	β	t	p-value
Child Age	0.18	0.06	0.24	3.12	0.002
Type of Abuse (Sexual)	0.32	0.11	0.21	2.89	0.004
Interviewer Experience	0.09	0.03	0.19	2.61	0.010
Interviewer Training	0.15	0.07	0.16	2.18	0.031

Table 11. Longitudinal Changes in Outcomes

Outcome	Baseline Mean (SD)	6-month Mean (SD)	12-month Mean (SD)	F	p-value
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Outcome	Baseline Mean (SD)	6-month Mean (SD)	12-month Mean (SD)	F	p-value
Trauma Symptoms	22.1 (8.6)	19.2 (8.0)	16.4 (7.3)	28.6	<0.001
Cognitive Functioning	94.5 (11.3)	96.8 (11.7)	99.1 (12.0)	12.1	<0.001
Social-Emotional Well-being	63.3 (8.2)	67.2 (8.7)	70.6 (9.1)	24.5	<0.001

Table 12. Thematic Analysis of Disclosures

Theme	n (%)
Detailed description of abuse	105 (70%)
Emotional impact of abuse	98 (65%)
Relationship with the perpetrator	83 (55%)
Disclosure of abuse to others	68 (45%)
Coping strategies and resilience	45 (30%)

Discussion

The current longitudinal study aimed to investigate the evolving trends in child abuse cases and evaluate the efficacy of forensic interview techniques. The findings provide valuable insights into the characteristics of child abuse, disclosure patterns, and the impact of forensic interviews on various outcomes.

The demographic characteristics of the study sample were consistent with previous research, which has shown that child abuse affects children across all age groups, genders, and ethnicities [11]. The even distribution of gender in the current study is in line with a meta-analysis by Stoltenborgh et al. (2011), which found no significant gender differences in the global prevalence of child sexual abuse [12].

The disclosure rates in the current study (80%) were higher than those reported in some previous studies. For example, a study by Hershkowitz et al. (2005) found that only 58% of children disclosed abuse during forensic interviews [13]. The higher disclosure rates in the

current study may be attributed to the use of the NICHD Protocol, which has been shown to improve the quality and quantity of information obtained from children [14]. The finding that younger children had lower disclosure rates compared to older children is consistent with previous research [15], highlighting the need for age-appropriate interview techniques.

The current study found significant differences in disclosure quality based on the type of abuse experienced, with children who experienced sexual abuse providing more details than those who experienced physical or emotional abuse. This finding is consistent with a study by Lamb et al. (2003), which found that children who experienced sexual abuse provided more details and longer responses during forensic interviews compared to those who experienced physical abuse [16]. However, a study by Katz et al. (2012) found no significant differences in disclosure quality between sexual and physical abuse [17], suggesting that further research is needed to clarify these relationships.

The significant improvements in trauma symptoms, cognitive functioning, and social-emotional well-being over time are consistent with previous research demonstrating the positive impact of forensic interviews and subsequent interventions on children's mental health outcomes [18, 19]. A study by Daignault et al. (2017) found that children who received a forensic interview and subsequent mental health treatment showed significant reductions in PTSD symptoms and internalizing problems compared to those who did not receive an interview [20].

The finding that parenting stress and family functioning differed based on the type of abuse is noteworthy. The lack of significant differences between parenting stress and family functioning scores for sexual abuse cases may suggest that these families face unique challenges and require targeted interventions [21]. A study by van Toledo and Seymour

(2013) emphasized the importance of providing support and resources to non-offending caregivers in cases of child sexual abuse [22].

The identification of child age, type of abuse, interviewer experience, and interviewer training as significant predictors of interview effectiveness is consistent with previous research [23, 24]. These findings underscore the importance of considering child characteristics and interviewer factors when conducting forensic interviews. A meta-analysis by Benia et al. (2015) found that interviewer training and experience were associated with improved interview quality and child disclosure rates [25].

The thematic analysis of children's disclosures revealed common themes, such as detailed descriptions of the abuse, emotional impact, and relationships with perpetrators. These themes are consistent with previous qualitative studies of child abuse disclosures [26, 27]. A study by McElvaney (2015) found that children's disclosures often included descriptions of the abusive acts, the impact on their lives, and their relationships with the perpetrators [28].

Strengths of the current study include the longitudinal design, the use of a standardized interview protocol (NICHD), and the inclusion of multiple outcomes (e.g., trauma symptoms, cognitive functioning, social-emotional well-being). However, the study also has some limitations. The sample size, although adequate for the analyses conducted, may limit the generalizability of the findings. Additionally, the study relied on child self-reports and did not include corroborating evidence from other sources (e.g., medical examinations, witness statements).

Conclusion

In conclusion, the current study provides valuable insights into the evolving trends in child abuse cases and the efficacy of forensic interview techniques. The findings highlight the importance of considering child characteristics, interviewer factors, and the type of abuse

when conducting forensic interviews and providing subsequent interventions. Future research should aim to replicate these findings with larger and more diverse samples, and to examine the long-term impact of forensic interviews on child outcomes. Practitioners should continue to utilize evidence-based interview protocols and provide comprehensive support services to child abuse victims and their families.

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