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REVIEW ARTICLE

Exploring Information-Gathering Techniques in Medical and Dental Interviews for Child Abuse and Neglect: A Comprehensive Scoping Review of Existing Gaps

Hayley Ko[1,3] · Gunn Astrid Baugerud[3] · Unni-Mette Stamnes Köpp[2] · Miriam S. Johnson[4] · Ewa A. Szyszko Hovden[1]

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Abstract

Healthcare providers may regularly encounter victims of suspected child abuse or neglect. Conversations during medical evaluations and examinations may yield essential information and reliable accounts of a child's experiences of abuse. However, knowledge of appropriate communication skills when interacting with suspected child abuse victims and information gathering techniques have not been well explored in healthcare providers. This scoping review assesses the state of the literature concerning medical interviewing in cases of child abuse and explores the communication and information gathering techniques used by healthcare providers when interacting with suspected child abuse victims. Ten studies were included in the analysis, collectively revealing a limited body of knowledge on information gathering techniques in child abuse cases in healthcare settings. Collecting a comprehensive medical history has emerged as a crucial tool for guiding medical examinations and assessments. The findings also highlight the absence of standardised guidelines for healthcare professionals to gather information from victims of child abuse. This review did not identify any studies that investigated the information gathering skills of oral healthcare providers in the context of child abuse. Further research is needed, and the creation of standardised protocols aimed at improving information gathering techniques within healthcare settings for cases of child abuse could prove beneficial. Improved communication and information gathering techniques can significantly contribute to the management of suspected cases of child abuse, safeguarding the well-being of vulnerable children.

Keywords Child abuse · Interviewing · Medical interviewing · Information gathering · Medical history · Healthcare providers · Dental professionals · Communication skills

Extended author information available on the last page of the article

Introduction

Child abuse and neglect (CAN) is a global issue that negatively affects a child's short- and long-term development (Stoltenborgh et al., 2014). It remains a major public health and social welfare problem across different countries and cultures (Gilbert et al., 2008; Stoltenborgh et al., 2013). The World Health Organization (WHO) estimates that approximately 300 million children experience physical and sexual abuse, underscoring the global scope of this problem (World Health Organization, 2020). Research has shown that victims of CAN are at an increased risk of early death and suffer from cognitive impairment, mental health problems, and physical health problems that may significantly affect them throughout their lifespan (Felitti et al., 2019; Kobulsky et al., 2020). In response to this pervasive issue, governments, organisations, and communities have continued to acknowledge and work to prevent violence and abuse against children.

Suspected CAN victims regularly encounter healthcare systems. Regular medical and dental assessments and visits to emergency departments offer healthcare providers opportunities to identify signs of CAN. As such, healthcare providers not only play a crucial role in recognising and responding to suspicions and cases of CAN but are also well-positioned to advocate for children (Kairys, 2020; Keeshin & Dubowitz, 2013). Although healthcare providers may have reasonable suspicions of CAN during regular medical and dental assessments, studies have shown that many do not act upon them (Brattabø et al., 2018; Dorn et al., 2017; Harris et al., 2009). Some reported barriers to reporting their suspicions were the lack of certainty regarding abuse, lack of awareness of the processes and policies to report suspicions, and the lack of skills to communicate with children and parents.

When CAN is suspected, forensic medical examinations are usually conducted to document physical injuries, assess the child's well-being, and collect forensic evidence for legal proceedings. Recommendations and guidelines for the evaluation of child sexual abuse have been established. In particular, World Health Organization (2017) published evidence-based recommendations for the evaluation of child sexual abuse, integrating only other types of child maltreatment in 2019 (see World Health Organization, 2019). A systematic review found a lack of standardised guidelines for the identification and management of physical abuse in children, calling for an international consensus to produce standardised guidelines to optimise practice (Blangis et al., 2021). Furthermore, it has been found that medical assessments and examinations for sexual abuse in children are inconsistent (Everitt et al., 2012).

Conversations during medical or dental evaluations and examinations may yield vital information and reliable accounts of a child's experience of abuse. Best practice guidelines for interviewing children have been developed and are used by social workers and law enforcement professionals (Lamb, 2016). Although healthcare providers are not conducting formal forensic interviews, they lack the proper skills to communicate with children who they suspect are victims of abuse and would benefit by receiving training in conducting information gathering

interviews and aligning with the current best practice guidelines (e.g. Gubbels et al., 2021; Schols et al., 2013). Using unsuitable interviewing techniques, such as suggestible questions, may confuse the child and create discrepancies between the healthcare provider and investigation. A review by Klemfuss and Olaguez (2020) concluded that the use of closed-ended and misleading questions had an adverse impact on the accuracy and reliability of children's responses. Furthermore, a study investigating the linguistic complexity of defense lawyers' questions revealed that complex questions, akin to suggestive questions, resulted in increased unresponsiveness, greater expression of uncertainty, and more instances of self-contradiction by the child (Andrews & Lamb, 2017). Little is known about the communication and information gathering abilities of healthcare providers when they assess victims suspected of CAN during healthcare examinations.

Research has shown that healthcare providers lack adequate communication with their patients. Patient complaints revealed that doctors demonstrate poor communication skills, lack non-verbal behaviours such as eye contact, and provide insufficient information (Kee et al., 2017). In an early study in this field, Helfer (1970) found that final-year medical students asked more leading questions and obtained less interpersonal information from parents than did first-year medical students. While healthcare providers acknowledge the critical importance of effective communication, many express concerns about inadequate training in this area (Hemmer-Schanze & Füeßl, 2006). They often point to factors such as limited time and an inefficient healthcare system as significant barriers to improving communication skills. To the best of our knowledge, there are no systematic or scoping reviews that examine the communication skills of healthcare providers in the context of child abuse examinations.

Oral Healthcare Providers

Oral diseases are a significant global public health problem as they are among the most prevalent diseases worldwide (Peres et al., 2019). Despite being largely preventable, dental caries are among the most widespread non-communicable diseases (Bernabe et al., 2020). Dental caries are not only linked to tooth pain or infection but also restrict the consumption of essential foods, hindering the growth of children and leading to adverse effects on their learning, communication abilities, and overall quality of life (Pitts et al., 2017). Studies have reported that victims of CAN experience more caries and have poorer oral health than the general paediatric population (Bright et al., 2015; Cairns & Welbury, 2009; Toft et al., 2022). Additionally, research indicates that adults who have experienced child sexual abuse may have an increased risk of developing dental anxiety, which can negatively impact oral health (Dougall & Fiske, 2009; Humphris & King, 2011; Leeners et al., 2007). Thus, it is crucial to acknowledge the significance of dental health and experiences of child abuse when providing care and support to individuals.

Currently, a growing body of literature explores the role of dental practitioners in identifying and safeguarding vulnerable children (Bradbury-Jones et al., 2021; Mele et al., 2023). Given that CAN frequently results in unexplained bruising or

fractures in the facial and oral areas as well as being linked to inadequate oral health, such as untreated cavities and poor oral hygiene, oral healthcare providers are well placed to detect potential indications of physical, sexual abuse, and neglect (Kellogg, 2005; Vadiakas et al., 1991). Furthermore, dental professionals frequently screen children, giving this profession a unique opportunity to detect and respond to CAN (Rønneberg et al., 2019). Specifically, forensic odontologists are well-equipped to educate their clinical counterparts on various aspects related to abuse, encompassing factors such as causes, symptoms, and physical indicators of abuse (Lincoln & Lincoln, 2010). They are also integral members of multidisciplinary teams involved in the investigation of conflict situations, severe crimes, and instances of violent abuse.

Aims of the Current Review

The aim of this study was to explore the existing literature regarding conversation skills or information gathering techniques between healthcare providers and suspected victims of child abuse. In addition, the role of medical and dental examinations in detecting and responding to child abuse was examined. For the purpose of this review, *healthcare providers* included dental professionals. The following research questions were investigated:

1. What techniques do healthcare providers use to gather information from CAN victims?
2. What are the implications of medical and dental examinations for the disclosure of child abuse?

Method

A scoping review was conducted to answer these research questions. A scoping review can be used to map the existing literature and identify research gaps to inform policy and practice (Colquhoun et al., 2014). Thus, this scoping review brings together the scientific literature on information gathering techniques used by healthcare providers in cases of suspected child abuse during healthcare encounters. To ensure the quality and transparency of the review, the Joanna Briggs Institute (JBI) framework for scoping reviews and the Preferred Reported Items in Systematic Reviews and Metanalysis Extension for Scoping Reviews (PRISMA-ScR) checklist were used.

Search Strategy

The initial search was implemented in March 2022 using six electronic databases: Academic Search Ultimate (EBSCO), PubMed Publisher, Web of Science, PsycINFO, and Cochrane Reviews. No limits on the date, subject, or type were applied

Table 1 Search terms (Combined with AND)

Search terms	
1. Child	"child*" OR "juvenile" OR "minor" OR "youth" OR "kid" OR "teen*" OR "adolescen*" OR "young people"
2. Healthcare workers	"doctor" OR "physician" OR "medic*" OR "practitioner" OR "general practitioner" OR "medical practitioner" OR "clinician" OR "nurse" OR "dentist" OR "dental" OR "pedodonist*" OR "dental hygienist*" OR "p?diatri*" OR "health personnel" OR "hospital" OR "medical practice" OR "healthcare professional" OR "healthcare workers" OR "primary care"
3. Abuse	"abuse" OR "maltreatment" OR "mistreatment" OR "violence" OR "assault" OR "neglect" OR "harassment"
4. Examinations	"assessment*" OR "examination*" OR "clinical assessment*" OR "clinical examination*" OR "medical assessment*" OR "medical examination*" OR "health assessment*" OR "health examination*" OR "dental assessment*" OR "dental examination*" OR "oral examination*" OR "mouth examination*" OR "tooth examination*" OR "forensic" OR "forensic examination*" OR "forensic clinical examination*" OR "forensic medical examination*" OR "forensic dental examination*"
5. Communication	"communicat*" OR "interview*" OR "conversat*"

during the database search. Search terms related to children, healthcare workers, abuse, medical examinations, dental examinations, and communication were combined with the Boolean indicator 'AND' to retrieve studies (see Table 1 for details). All the terms were tailored to the thesaurus of each database. All records were imported, organised, and stored in the reference management software Zotero 6.0.4 (Zotero (6.0.4), 2022). Duplicate records and records marked as ineligible were removed manually. The remaining records were imported into the web-based systematic review software Rayyan (Ouzzani et al., 2016) for study screening and selection.

Inclusion and Exclusion Criteria

Eligible studies for inclusion in this review met any of the following criteria: (1) they involved healthcare workers communicating with children who were victims or alleged victims of abuse during medical or dental examinations; (2) the care provider must be a healthcare worker; (3) the recipients of care were children between the ages of 3 and 18 years; and (4) the care recipients were assessed by a healthcare professional. The criteria were broadly defined to avoid a narrow scope and additional descriptors were not included. Peer-reviewed publications and primary research studies of any design were considered for inclusion.

The exclusion criteria were established to guide the selection process. These criteria were as follows: (1) studies that focused on the child's experience of abuse; (2) articles that focused on adults who had experienced abuse as children; (3) case reports or studies of individual children or adolescents who had experienced abuse; (4) studies involving psychologists, psychiatric professionals, and social workers; (5) secondary research,

such as guidelines based on clinical or professional experience; (6) non-evidence-based materials, such as commentaries and editorials; (7) studies that were not in English or Scandinavian (Danish, Norwegian, or Swedish) languages; and (8) full-text articles that were not retrievable. Additionally, systematic and literature reviews were excluded; however, the reference lists of eligible studies were screened and considered.

No quality appraisal of the studies was conducted, and no restrictions were placed on publication dates to maintain a broad scope and identify practical-knowledge gaps in this field.

Screening, Data Extraction, and Analysis

Five researchers conducted initial title and abstract screening. Twenty-five percent of the titles and abstracts were allocated to four reviewers, and one reviewer screened all the titles and abstracts. The full texts of articles that passed through the initial screening were retrieved and screened by a second time by the reviewers. The reviewers discussed the screening process to resolve conflicts and uncertainties related to study selection. The extracted qualitative information included bibliographic information (e.g. author, year of publication), study design (e.g. qualitative, quantitative, and record review), and type of abuse (e.g. physical, sexual, and neglect). Thematic patterns, principal findings, and recommendations relevant to the study aims and objectives were identified.

Findings

The review process, illustrated in Fig. 1, began with 10,805 references retrieved from the electronic databases. After removing duplicate references ($n = 3{,}030$) and ineligible references (retracted by journal, $n = 1$), 7774 studies were screened at the title and abstract levels for relevance. Subsequently, publications with no retrievable full text ($n = 26$) and publications not in English or Scandinavian language ($n = 6$) were removed. The remaining studies were assessed for eligibility, yielding a total of ten articles that met the inclusion criteria and were analysed for this review (Table 2). The studies ranged from 1992 to 2022, with nine of the studies being conducted in the United States and one in Australia.

Types of Abuse

Of the ten included studies, eight examined cases of child sexual abuse. Keenan and Campbell (2015) explored the content of child physical abuse consultation notes. Drummond and Gall (2017) was the only study that examined cases of child neglect, as well as physical and sexual abuse.

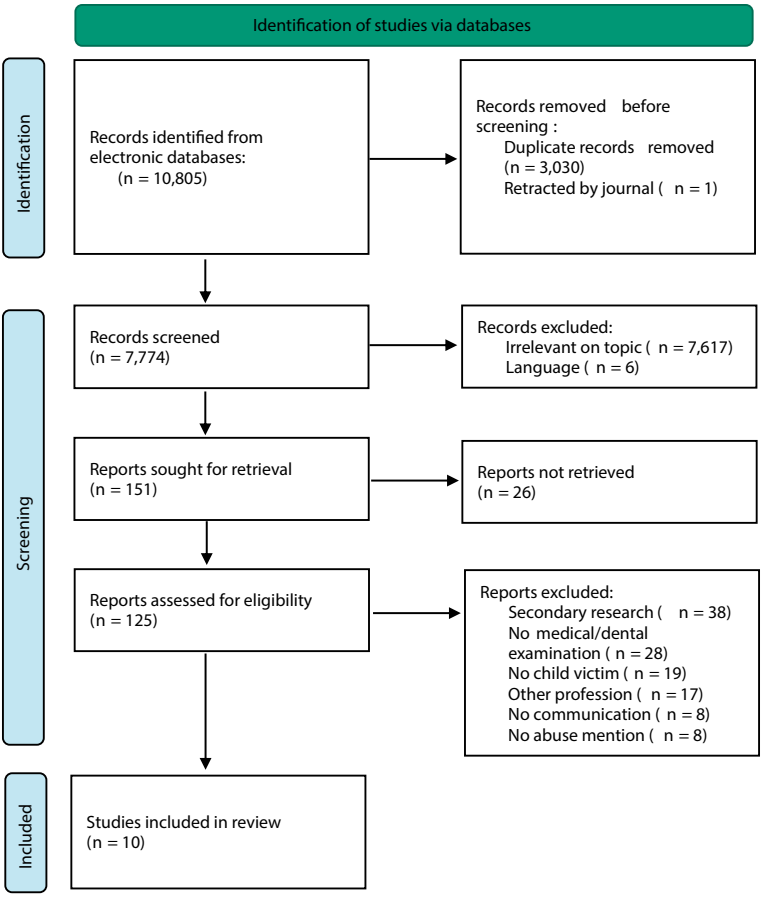

Fig. 1 PRISMA diagram of the literature search and selection process

Healthcare Providers and Settings

Most of the studies were conducted with unspecified medical practitioners or nurses. Three studies (Dubowitz et al., 1992; Heger et al., 2002; Palusci et al., 1999) were conducted with paediatricians, with only two studies (Edinburgh et al., 2014; Keenan & Campbell, 2015) examining paediatricians specialising in child abuse.

Six studies were conducted in a forensic medical setting. Of these, three studies (Edinburgh et al., 2014; Heger et al., 2002; Palusci et al., 2006) examined possible sexual abuse within child advocacy centres. Dubowitz et al. (1992) used a multidisciplinary team of paediatricians, child psychologists, social workers, and nurses.

Gordon and Jaudes (1996) explored the role of emergency department physicians in the evaluation of sexual abuse. In addition to the lack of 24-h availability of experienced child social workers, limitations of using the emergency department for sexual abuse evaluations include time, financial, and resource constraints. Despite these

Table 2 Summary of included studies

Record	Profession	Type of abuse	Method
Diaz et al. (2004)	Female physician	Sexual	Direct physician inquiry during routine medical histories and physical examinations with 146 girls (mean age 16 years)
DePietro et al. (1997)	Physicians & nurses	Sexual	Retrospective record review of 179 children (mean age 7.5 years, 82% girls) seen for evaluation of alleged sexual abuse that received a physical examination and interview
Drummond and Gall (2017)	Medical practitioners	Physical, Sexual, Neglect	Retrospective review of 274 paediatric cases examining the value of forensic medical history
Dubowitz et al. (1992)	Paediatricians	Sexual	Patient series of 132 children (mean age 6 years, 83% girls) examining history, psychological evaluation, medical examination, and child's response to examination contributes to the diagnosis of child sexual abuse
Edinburgh et al. (2014)	Paediatricians specialising in CA, paediatric nurse practitioner, registered nurse	Sexual	Retrospective mixed methods with forensic interviews and physical examinations of multiple perpetrator rape among 32 girls (mean age 14 years)
Gordon and Jaudes (1996)	Emergency department physicians	Sexual	Record review of 141 children who had completed a screening interview by an emergency department physician and an investigative interview by a specialised interdisciplinary team
Heger et al. (2002)	Paediatricians	Sexual	Prospective study of 2,384 children evaluated in a tertiary referral centre determining the rates of medical findings by history and/or reason for the referral
Keenan and Campbell (2015)	Child abuse paediatricians (CAPs)	Physical	Content analysis of 37 child physical abuse consultation notes to explore physicians' approaches to these consultations
Palusci et al. (1999)	Nurses & paediatricians	Sexual	Retrospective case series of 479 children examining the relationship of behavioural symptoms, interview disclosures, and physical examination findings
Palusci et al. (2006)	Physicians	Sexual	Retrospective case review of 190 children referred to a child advocacy centre comparing urgent vs. non-urgent referrals

limitations, it has become the place where many children suspected of being sexually abused enter the medicolegal process.

Younger patients may also be more at ease in sharing their experiences of sexual abuse in medical settings, as they may perceive it to be a safe and comfortable environment to share sensitive information (Diaz et al., 2004). Furthermore, DiPietro et al. (1997) suggested that the healthcare setting, designed to address health concerns, fosters trust and allows children to feel safer in disclosing sensitive information. Moreover, the presence of medical equipment and the routine nature of medical examinations may normalise the interaction with the child, in contrast to the potentially more intimidating setting of an interviewing room.

Information Gathering Techniques

The main information gathering technique between healthcare providers and suspected victims of CAN consisted of gathering medical history from the child through interviews. It is important to note that the focus of obtaining medical history differs from that of forensic interviews. Medical history addresses a child's well-being with a focus on diagnosing and treating the effects of abuse, whereas the main focus of forensic interviews is whether abuse has occurred (Drummond & Gall, 2017).

Obtaining Medical History

Several studies discussed the type of information to ask when obtaining medical history. Questions regarding the nature of abuse (Diaz et al., 2004; Drummond & Gall, 2017; Palusci et al., 1999), symptoms of mental illness (Diaz et al., 2004; Palusci et al., 1999), and alleged perpetrator(s) (Gordon & Jaudes, 1996; Keenan & Campbell, 2015) should be asked. Furthermore, confidentiality laws and mandated reporting regarding the disclosure of abuse should be discussed when obtaining history (Diaz et al., 2004).

Three studies discussed the importance of language and proper questioning (Diaz et al., 2004; Drummond & Gall, 2017; Edinburgh et al., 2014). Diaz et al. (2004) suggest the use *direct inquiry* where clinicians should use a series of concrete questions (e.g. "Has anyone ever touched your body when you did not want them to? Where? If yes, was it your father? Your friend? Stranger?") rather than a single question (e.g. "Have you ever been sexually abused?"). Drummond and Gall (2017) and Edinburgh et al. (2014) stress the importance of not asking leading questions and suggest the use of an evidence-based forensic interview protocol.

Four studies stressed the importance of considering the developmental ability of the child when communicating with them (DiPietro et al., 1997; Drummond & Gall, 2017; Heger et al., 2002; Keenan & Campbell, 2015).

Importance of Medical History

Several studies have discussed the importance of obtaining medical histories from children. Studies state that obtaining medical history from a child is the most

important part of any assessment (Dubowitz et al., 1992; Heger et al., 2002; Palusci et al., 2006), with the information elicited during history gathering often being the only evidence obtained due to inconclusive findings from physical examinations (DiPietro et al., 1997; Gordon & Jaudes, 1996). Additionally, aside from forensic concerns, medical history also allows healthcare providers to identify medical or mental health issues and gather medically relevant information that would otherwise not be available from forensic investigative interviews (Drummond & Gall, 2017; Dubowitz et al., 1992; Palusci et al., 2006).

Issues With Obtaining Medical History

Two studies discussed issues in obtaining forensic medical histories. Drummond and Gall (2017) state that there is no consensus on whether history gathering should be considered as part of the investigation of child abuse and neglect. For example, in South Australia, medical practitioners are restricted from taking forensic medical histories of children under the age of seven years. Furthermore, the authors discuss common concerns, such as exposing the child to multiple interviews and further questioning leading to discrepancies between the first and subsequent interviews. Both Gordon and Jaudes (1996) and Drummond and Gall (2017) discuss that many studies have suggested that interviews should only be collected by an appropriately trained interviewer or an interdisciplinary team who are experienced in child development and child abuse.

Interviewing Skills of Healthcare Professionals

Several studies have discussed the interview skills of healthcare professionals. When comparing medical interviews to investigative interviews, two studies found that the information obtained by healthcare professionals usually agreed with the investigative interview (Drummond & Gall, 2017; Gordon & Jaudes, 1996). However, Drummond and Gall (2017) noted that there were some discrepancies between medical interviews and investigative interviews. The authors suggested that these discrepancies were due to the inability to understand what the child was saying and poor questioning techniques from medical practitioners. In addition, two other studies also state that healthcare providers lack specialised training in conducting forensic interviews with children (Dubowitz et al., 1992; Edinburgh et al., 2014; Gordon & Jaudes, 1996). Gordon and Jaudes (1996) also discuss the lack of standardised interviewing protocol.

Medical Examinations and Disclosure

All studies discussed medical examinations or evaluations with children or adolescents who were suspected victims of sexual or physical abuse. Several studies (Edinburgh et al., 2014; Heger et al., 2002; Keenan & Campbell, 2015) have emphasised the importance of physical examinations, while Palusci et al. (1999) stressed that medical assessments provide a foundation for medical, legal, and social work

interventions on behalf of the child. Studies also support decades of research that have found that physical examinations of sexual abuse are usually inconclusive or yield normal results, emphasising the importance of obtaining a medical history (DiPietro et al., 1997; Dubowitz et al., 1992; Heger et al., 2002; Palusci et al., 2006). Furthermore, two studies suggested that the information gathered from medical histories should be used to guide physical examination (Diaz et al., 2004; Drummond & Gall, 2017). Diaz et al. (2004) suggested that routine physical examinations may be an appropriate setting for healthcare providers to comfortably elicit a positive history of sexual victimization in adolescent females. Interestingly, when examining the predictors of child disclosure, DiPietro et al. (1997) discovered that children were more likely to disclose information to a healthcare professional who conducted both interviews and physical examinations at the same time and in the same location.

Dental Examinations and Dental Personnel

No studies have explored dental examinations or conducted with dental personnel related to the recognition or response to child abuse or neglect. None of the included studies mentioned any examination or identification of oral injuries or dental neglect.

Discussion

The present scoping review summarised the literature on medical interviewing among cases of CAN. Ten studies were included, indicating that the knowledge related to information gathering techniques for cases of CAN in healthcare settings is limited. The included studies investigated instances of child sexual abuse, physical abuse, and neglect involving medical practitioners and nurses. Forensic medical settings and emergency departments were among the healthcare settings identified during this review. The studies included in this analysis revealed that healthcare professionals gather information through the medical history from children; however, there is no standardised set of guidelines regarding the specific inquiries to pose to the child. Nevertheless, the findings from these studies strongly advocate asking questions pertaining to the nature of abuse, symptoms indicative of mental health conditions, and potential perpetrators. These studies underscore the significance of acquiring a comprehensive medical history as it serves as a pivotal tool for guiding medical examinations and assessments. Moreover, it empowers healthcare professionals to fulfil their duties and obligations in reporting findings related to abuse and maltreatment to the appropriate authorities, such as child protective services. It is worth noting that this review did not uncover any studies that investigated the information gathering skills of oral healthcare providers.

The Importance of Obtaining Medical History

Medical histories are vital in patient care, as physicians can gather 60–80% of the necessary information for a diagnosis from this source alone (Keifenheim et al., 2015). Despite this, a lack of adequate communication skills is still one of the most common causes of complaints from patients and their families (Rahman & Tasnim, 2007). Research indicates that fundamental communication skills decline during medical education, and continue to decline without further education and training programs (Fortin et al., 2002; Pfeiffer et al., 1998). However, medical students who have had training in specialised history taking have a good interview structure, are better at responding to patients' verbal and non-verbal indicators, and are able to elicit a greater quantity and quality of information (Evans & Sweet, 1993; Evans et al., 1993, 1996).

Medical history is not only a fundamental aspect of the general healthcare process but also establishes the context of the child's experiences and goes beyond the forensic focus of suspected CAN. Dubowitz et al. (1992) and Heger et al. (2002) emphasised that a thorough medical history is essential for detecting any potential signs of abuse and understanding the context of the child's current health. Palusci et al. (2006) also suggest that discrepancies between the history and the child's injuries may indicate instances of abuse. This review also found that a comprehensive medical history from a child enables physicians to gather medically relevant information that may otherwise not be provided by a forensic interviews (Drummond & Gall, 2017; Dubowitz et al., 1992; Palusci et al., 2006). Thus, detailed documentation of a child's medical history can play a significant role in legal proceedings, as in certain instances it may be the primary source of evidence (DiPietro et al., 1997; Gordon & Jaudes, 1996).

The Information Gathering Skills of Healthcare Providers

The ability to obtain a thorough medical history is a crucial skill for all healthcare providers, yet multiple studies have found that healthcare providers do not meet this standard. Studies have reported that medical students lack the expertise and engagement to take a structured history (Ahmed, 2002; Seitz et al., 2019). Furthermore, Ramsey et al. (1998) found that primary care physicians missed many essential history items in their initial encounters with new patients. A study comparing patient-provided medical histories with those provided by the patient's dentist revealed that medical histories matched only approximately half of the time (Levy & Jakobsen, 1991). This finding underscores that neither patients nor healthcare providers can be solely relied upon as the exclusive source of medical history information. Consequently, it not only highlights the significance of healthcare providers' communication skills, but also underscores the importance of treating the process of obtaining a medical history as a collaborative effort.

Research has shown that information gathering skills significantly impact CAN recognition and reporting. However, this review did not yield any studies that examined the quality of these skills during medical interviews. Research examining the interviewing practices of social workers and child forensic interviewers within the police force has revealed that interview protocols are frequently not adhered to (Lamb, 2016). For instance, a separate study indicated the prevalent use of suggestive questions and limited use of open-ended questions during interviews (Baugerud et al., 2023). No such studies have been conducted in the healthcare context. This review identified studies that highlighted a lack of competence and specialised training among healthcare providers when it comes to communicating with CAN victims (Dubowitz et al., 1992; Edinburgh et al., 2014; Gordon & Jaudes, 1996). Drummond and Gall (2017) demonstrated the minimal proficiency by attributing discrepancies between medical interviews and investigative interviews to poor information gathering techniques and an inability to effectively understand the child. As a result, there has been apprehension regarding the potential influence of medical providers during the process of obtaining a medical history as well as the concern of subjecting the child to multiple interviews (Dubowitz et al., 2014).

Language and Questioning Techniques

The intersection of medical history and forensic interviews presents a compelling domain within the realm of criminal investigations and legal proceedings (Brubacher et al., 2021). Forensic interviewing involves eliciting accurate and comprehensive information, while creating and building trust. However, the information collected is typically utilised as evidence in legal contexts and is conducted with individuals who have experienced traumatic events (Korkman et al., 2017). Integrating a thorough understanding of the information gathering techniques used in forensic interviews into a child's medical history is essential for establishing the context of their experiences and ensuring an accurate interpretation of the information.

The National Institute of Child Health and Human Development (NICHD) Investigative Interview Protocol is an evidence-based guideline for conducting forensic interviews with children (Lamb et al., 2007). Interviewers are encouraged to avoid suggestive questions, use age-appropriate language, and use open-ended prompts which help elicit details about events from children of various ages, including preschool-aged children (Benia et al., 2015; Cyr & Lamb, 2009). This review found four studies that stressed the use of age-appropriate language (DiPietro et al., 1997; Drummond & Gall, 2017; Heger et al., 2002; Keenan & Campbell, 2015). Drummond and Gall (2017) report that doctors are not permitted to take forensic medical histories from the alleged victim. However, doctors are instructed to use open-ended questions to gather relevant information only when the child has not been disclosed to the police. Interestingly, Diaz et al.'s (2004) direct enquiry method describes the use of suggestive questions. Several studies have found that using suggestive questions when interviewing children can negatively impact the reliability of their testimony, and may change their answers based on interviewer feedback (see Saywitz et al., 2019). Although Diaz et al. (2004)

interviewed females aged 12 and above, the overall research emphasises the critical need for interviewers to minimise the use of suggestive or leading questions to gain the most reliable and credible testimony.

Forensic interviews often begin with a rapport-building phase (Earhart et al., 2016). The present review found only one study that described a similar rapport-building phase. Before conducting a routine medical examination of adolescent female patients, Diaz et al. (2004) discussed confidentiality laws and mandated reporting regarding disclosure before taking a patient's history. Research examining investigative interviewers has found that explaining the interview process helps children provide informative interviews (Teoh & Lamb, 2010). Interestingly, none of the included studies discussed building rapport or trust with the child. Hershkowitz et al. (2015) reported that interview protocols which emphasise rapport and support elicited less reluctance and more details from alleged victims of abuse. However, Teoh and Lamb (2010) found that long rapport-building phases did not improve the information obtained from child interviews.

The Role of Dental Practitioners in Child Abuse Investigations

This review did not yield any studies that included dental professionals. Dental practitioners are uniquely positioned to detect signs of child abuse given the frequency of facial and oral injuries (Rønneberg et al., 2019; Stavrianos et al., 2006). Dentists undergo comprehensive training in recognising oral conditions and are skilled at identifying potential cases of non-accidental injuries, making them proficient in the detection of possible abuse (Kellogg, 2005). Nonetheless, studies have indicated that dentists often receive limited training in recognising abuse and may lack comprehensive knowledge about their responsibilities in reporting and responding to child abuse (see Bradbury-Jones et al., 2021). However, it is worth noting that many dentists acknowledge their ethical and legal obligations to report suspected cases of child abuse.

Training and Expertise

Healthcare providers may have varying levels of expertise and training in CAN. Nevertheless, it is important to note that child abuse paediatrics is indeed a recognised subspecialty in some countries. However, it is worth noting that, in most cases, healthcare workers who do not possess this specialisation are typically the first professionals to encounter a child who may have been subjected to abuse or neglect. Research indicates that medical residents typically lack adequate training and understanding of CAN (Heisler et al., 2006; Starling et al., 2009). Unfortunately, it is also common for dental schools to provide minimal instruction on this topic, with many institutions devoting no more than three hours to this subject (Ivanoff & Hottel, 2013).

The challenges associated with obtaining accurate and comprehensive medical histories from vulnerable children, such as the potential for re-traumatisation

through multiple interviews, and the complexities in questioning children, especially of varying developmental stages, are significant. An internationally recognised guide on preventing child maltreatment published by the WHO emphasised the significance of utilising trained experts for interviews in this context (Butchart & Harvey, 2006). Despite this recommendation, it was noted that the responsibility for these interviews falls within the legal or social sector in most countries; therefore, healthcare professionals have not been trained in these specialised techniques. Although the purpose and approach of medical history differs from forensic interviews, interdisciplinary collaboration and training can enhance the response to cases of CAN (Adams et al., 2016).

The development of an evidence-based protocol for clinical interviewing and assessment in cases of child abuse is crucial for both healthcare professionals and children. Current practice and guidelines stress that health professionals should not interview children about their experiences and only focus on obtaining medically relevant information. However, it is still important that healthcare providers have the necessary communication skills to evaluate children and increase confidence in their reporting of abuse and maltreatment. To ensure that children are heard and understood through legal processes, existing evidence-based interview protocols such as the NICHD protocol should be adapted and modified for medical providers. Furthermore, it is essential for healthcare professionals to identify and mitigate the confirmation bias. Although current interview protocols aim to decrease the likelihood of suggestibility, they do not adequately address the confirmation bias before the interviews. Therefore, a hypothesis testing approach has been recommended in numerous interview and assessment guidelines (Korkman et al., 2024). To address this issue, O'Donohue and Cirlugea (2021) suggest enhancing training on how confirmation bias can affect interviews and expanding current interview protocols to explicitly address confirmation bias.

Limitations

This scoping review is not without its limitations. The findings of this review showed that the majority of studies have only dealt with child sexual abuse. Research on CAN is disproportionately focused on sexual abuse, overshadowing other forms of child maltreatment such as neglect, physical abuse, and emotional abuse. Most of the studies were carried out in the United States, which limits the comprehensiveness of the global perspective on healthcare interviews. Additionally, because procedures and approaches to CAN investigations vary among countries (e.g. Otterman et al., 2017), this review may not have adequately considered cultural nuances and differences in protocol. Relevant studies and information may have been lost due to database selection and exclusion of studies published in languages other than Danish, English, Norwegian, and Swedish. Additionally, secondary research, namely government reports, clinical guidelines, and research based on professional opinions, were excluded, which may have also caused an incomplete overview of relevant studies.

Table 3 Implications for practice, policy, and future research

	Implications and recommendations
Practice	Healthcare providers should obtain comprehensive medical history from CAN victims and gather relevant information about the child's physical and psychological well-being
	Healthcare professionals should adopt a child-centred approach that prioritises the safety, emotional well-being, and needs of the child through the interview and medical examination process
	Evidence-based guidelines for conducting interviews and gathering information from victims of CAN in healthcare settings should be developed and implemented
	Healthcare practitioners involved in CAN cases should receive specialised training and education on interviewing techniques that is aligned with best practices in forensic interviewing
Policy	Lack of standardised guidelines for healthcare professionals suggests the need for the development of evidence-based protocols for conducting interviews with CAN victims in healthcare settings
	Policymakers should consider incorporating best practices interviewing techniques into guidelines for healthcare providers to ensure that critical information is gathered during healthcare interviewing
	Policymakers should facilitate interdisciplinary collaborations between the legal system, child welfare system, and the healthcare system
Future Research	Focus research on the quality and dynamics of healthcare interviewing with victims of CAN
	Focus research on the role of healthcare professionals and settings in cases of CAN
	Explore the role of oral healthcare providers and their interviewing practices in identifying and responding to cases of CAN

CAN, child abuse and neglect

Conclusion and Recommendations

In conclusion, this scoping review offers a comprehensive overview of the literature on medical information gathering techniques in CAN. It reveals that while healthcare professionals routinely collect information through medical histories from children in these situations, there is a striking lack of research that delves into the quality of the interview and the training of information gathering skills for healthcare professionals. Additionally, this review highlights a notable gap in the involvement of dental professionals in both the care of child abuse victims and in research endeavours concerning this critical issue. These findings underscore the urgent need for further exploration and collaboration among the healthcare, social work, and legal disciplines to address the complex challenges presented by CAN. The implications for practice, policy, and research are presented in Table 3.

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Declarations

Conflict of Interest The authors declare no competing interests.

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Authors and Affiliations

Hayley Ko[1,3] · Gunn Astrid Baugerud[3] · Unni-Mette Stamnes Köpp[2] · Miriam S. Johnson[4] · Ewa A. Szyszko Hovden[1]

✉ Hayley Ko
hayleyk@ofk.no

[1] Oral Health Centre of Expertise in Eastern Norway, Sørkedalsveien 10A, 0369 Oslo, Norway

[2] Department of Paediatrics, Southern Norway Hospital, Kristiansand, Norway

[3] Faculty of Social Sciences, Oslo Metropolitan University, Oslo, Norway

[4] Faculty of Health Sciences, Oslo Metropolitan University, Oslo, Norway