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RECOGNIZING CHILD ABUSE AND NEGLECT IN THE DENTAL OFFICE

Original scientific paper

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Summary

Dentists in general, and pediatric dentists in particular, can play an important role in detecting and reporting cases of child abuse and neglect (CAN). This article discusses the CAN indicators to which dentists must pay attention. It focuses on the detection of the forms of physical and sexual abuse and dental neglect that dentists most commonly come across in the course of their work.

It also discusses the degree to which dentists in Bosnia and Herzegovina (B&H) are educated about CAN, the legal requirements related to reporting suspected cases of CAN, and the main features of the reporting procedure.

Keywords

child abuse, dental neglect, legal framework and reporting procedure in B&H

Introduction

Child abuse and neglect (CAN) includes every form of physical and/or emotional violence, sexual abuse, neglect and negligent treatment, economic and other exploitation that causes or has the potential to cause damage to a child's health, existence, development and dignity.

Abuse can be physical, sexual, psychological and economic (Table 1). Neglect is the long-term or frequent failure by a parent, guardian or other caregiver to provide for one or more of a child's needs. Neglect can be accidental (passive) or non-accidental (active). Depending on what aspect of a child's life is jeopardized as a result of neglect, one differentiates between physical, psychosocial, educational and medical -- including dental -- neglect (Table 1).

Dental neglect is the willful failure of a parent or guardian to seek and follow through with whatever treatment is necessary to ensure a level of oral health essential for adequate chewing function and freedom from pain and infection (AAPD, 2010).

Table 1. Different types of abuse and neglect

	TYPE	DEFINITION
ABUSE	Physical/non-accidental	Non-accidental physical injury and harming of a child, including as a result of punching, shaking, pushing, throwing, hair pulling and intentional burning.
	Sexual	Any sexual activity between a grown up and a child under 18 years of age, including unwanted and forceful fondling of a child's genitals, sexual intercourse and oral penetration.
	Psychological	Any activity that slows down or otherwise impairs a child's emotional development or self-esteem, including humiliating, ridiculing, socially excluding and excessively and continuously criticizing a child.
	Economic	Forcing a child to work in a manner that jeopardizes his/her normal growth and development, often accompanied by educational and medical neglect.
NEGLECT	Physical	Failure to provide for a child's basic physical needs (food, hygiene, appropriate housing, security, adequate clothing and footwear, health care).
	Psychological	Failure to provide a child with proper upbringing, support, stimulation, love and a sense of security.
	Health	Intentional failure to provide necessary medical treatment and health protection.
	Educational	Inhibiting a child's lack of access to education by the absence of support and assistance from parent/guardian.

International studies stress the role of dentists in detecting CAN for numerous reasons (Cairns, Mok & Welbury, 2005; Jessee, 1995; Naidoo, 2000; Harris, Sidebotham & Welbury 2006).

1. Visible injuries to the head, neck and face occur in 59-67% of cases of physical abuse. Pediatricians and general practitioners are often insufficiently educated for oral cavity examination even though this is where evidence of physical abuse is often, and of sexual abuse is somewhat less often, found.
2. Abusive parents/guardians often avoid visits to medical doctors and tend to change doctors frequently in order not to raise suspicion over repeated cases of child injury, but they seldom apply the same caution when visiting tdentists.
3. Minor trauma to the head and neck is usually seen by a dental doctor.

Dentists are most often in a position to detect cases of physical and sexual abuse (Barton & Schmitt, 1986), although pediatric dentists should also be capable of recognizing the victims of psychological neglect because they are expected to be sensitive to, and capable of recognizing, different psychological types of children,

as well as to notice changes in children's emotional state and behavior. Detecting dental neglect, as an aspect of medical neglect, is primarily a dentist's task, and dental neglect can be the first indicator of other forms of abuse or neglect. Since dental professionals in B&H are not familiar with the subject matter of this article, the aforementioned categories will be described in more detail further in the text. Another problem arising even among dentists educated in recognizing CAN is a gap between recognizing the signs of CAN and responding effectively. The reasons that are most often given for the lack of effective response are a lack of certainty about the diagnosis, fear of the consequences to the child and a lack of knowledge of referral procedures (Harris, Elcock, Sidebotham & Welbury, 2009a). This article provides basic information about the legal requirements for dentists in B&H related to reporting suspected cases of CAN, as well as the main features of referral and record keeping.

The dental aspects of CAN

Dentist should observe the appearance and behavior of children and their parents as they enter the dental practice, specifically focusing on their interaction. Factors leading the dentist to suspect CAN and to examine the child more carefully include different aspects of the child's behavior and appearance, as well as the behavior of the child's parent.

Child's appearance and behavior:

- Discrepancy between the child's age and his/her weight and height.
- Untidy clothing and footwear or clothing and footwear unusual for a particular season (e.g. long sleeve shirts in the summer could be hiding bruises).
- Low level of personal hygiene (dirty hair, dirt under the fingernails etc.).
- Psychosocial indicators of developmental delay.
- Lack of self-respect, poor social skills, extreme behavioral patterns (passive or aggressive), stubbornness, withdrawal, abnormal levels of caution, anxiety, short attention span.
- Signs of extreme tension (self hurting by lip, cheek or nail biting, prolonged finger sucking (Vodanović, 2007/08, Harris, Sidebotham & Welbury, 2006).
- Flinching from touch.
- Avoiding eye contact
- Refusing intraoral examination.
- Stoicism during dental procedure, quiet and passive acceptance of even a painful treatment (Vodanović, 2007/08).

Parent's behavior:

- Cold and dismissive interaction with the child.
- Describing the child in offensive and humiliating terms.

- Lack of interest in the child's condition and planned treatment.
- Attributing frequent injury of the child to clumsiness or a sibling.
- Threatening the child or having unrealistic expectations of the child with regard to his/her cooperation during dental treatment.
- Delaying the seeking of care compared to the severity of the injury.
- Giving an explanation of an injury that is illogical or contradicts the child's explanation or refusing to give an explanation. The accuracy of the parent's explanation should be analyzed in comparison with the clinical picture of the injury and the child's stage of development.

Physical abuse

Physical abuse is the most common type of abuse internationally and, according to available data, in B&H, where it is often accompanied by psychological abuse (BECAN). In terms of severity, physical abuse can be mild (a few bruises, scratches, a single cut), moderate (more bruises, a single bone fracture, smaller burns) or severe (central nervous system and abdominal injury, large burns, multiple bone fractures and any other life threatening injury) (Barton & Schmitt, 1986). Injury to the so-called safety zones is sufficient to raise concerns of abuse. The safety zones include (Harris, Sidebotham & Welbury 2006):

- The facial region (eye region, soft tissues of cheeks, ears).
- The "triangle of safety" (the side of the face and neck with the ear as its top and a horizontal line running through the highest point of the shoulder as its bottom).
- Defensive injuries to the inner aspects of the arms, thighs or forearms.

During examination, special attention should be given to multiple and bilateral injuries, earlier similar injuries in different stages of healing and bizarre-shaped injuries with sharp borders, which are nearly always deliberately inflicted.

Possible non-accidental injuries include bruising, abrasions and lacerations, bite marks, burns and facial bone fracture. Bruises are the most common injury resulting from physical abuse. Bruising in babies or children who are not independently mobile is highly likely to be the result of physical abuse. Bruises on the soft tissues of cheeks and on the neck (from choking or strangling), in the region of ears or periorbital bruises (dark circles around the eyes) should also be looked upon with suspicion. Pinching results in particular patterns of bruises – paired, oval or round bruises separated by a piece of skin without changes. Slapping leaves an imprint of the fingers on one cheek. Forced opening of the mouth leaves a round thumb imprint on one cheek with three or four finger-tip bruises on the other. Attention must be given to bruises of the same shape in different stages of healing. Bruises can be dated according to their color. Fresh bruises are black, they turn purple after three days, and they turn green after five to seven days. After ten days, bruises

turn yellow, and they disappear approximately two to four weeks after being inflicted.

Fingernails or jewelry on the inflicting hand are the most common cause of deliberately inflicted abrasions and lacerations. Deliberately inflicted abrasions and lacerations tend to be located on soft tissue, while ones resulting from accidents tend to be located on the skin overlying bony prominences (nose, knees and elbows) and match information gained from anamnesis.

Acute or healed bite marks may indicate abuse. A bite mark is a skin lesion caused by contact with the teeth (with or without the imprint of the lip and/or tongue) that show the "pattern" of the structure of the oral cavity (Nuzzolese, Lepore, Cukovic-Bagic & Montagna, 2008). The appearance, size, contours and color of bite marks should be evaluated by a forensic odontologist or a forensic pathologist. A saliva sample is also required, along with photographs and an impression of the lesion, which is usually taken in silicone (Nuzzolese, Lepore, Cukovic-Bagic & Montagna, 2008; Kellog, 2005). The size and shape of a bite mark can establish whether it resulted from a bite by an animal, another child or a grown person. Human bite marks are oval in shape. Animal bites tend to tear flesh, while human bites compress flesh and can cause contusions (bruises) and lacerations (Kellog, 2005; Vodanovic 2006).

An inter-canine distance of more than 3.0 cm is suspicious of an adult human bite (AAPD, 2010; Tedeschi-Oliveira, Trigueiro, Oliveira & Melani, 2011), but the inter-canine distances of adult human bites and those from medium sized dogs can be similar, so this measurement taken alone is inconclusive of origin (Tedeschi-Oliveira, Trigueiro, Oliveira & Melani, 2011). The duration of a bite mark is dependent on the force applied and the extent of tissue damage. It can appear as a red mark disappearing within twenty-four hours, but it can also persist as a bruise, abrasion or laceration.

Approximately 10% of physical abuse cases involve burns. Burns inflicted by applying hot solid objects result in the appearance of vesicles of a size and shape similar to that of the implement used to inflict them. Cigarette burns result in circular, punched out lesions of uniform size (up to 1 cm) with clearly visible, smooth edges.

Accidental extremity bone fractures are common in school age children, while accidental facial bone fractures in children are rare. Therefore, any bone fracture in a child under the age of three and facial fractures in a child of any age are indications that a full skeletal radiographic survey is necessary for the purpose of multiple fractures at different stages of healing, which can indicate sustained physical abuse.

Injury assessment must take into account the age of the child, as well as a comparison between clinical findings and the explanation of the circumstances under which the fracture has occurred that is provided by the parent/guardian. Accidental injuries typically involve bony prominences (the parietal bone, occiput, forehead, nose, chin, elbows, palm of the hand, knees and shins).

During intra-oral examination, attention should be given to injuries to soft and hard tissues. Possible soft tissue injuries include:

- Injuries to the palate, vestibule and floor of the mouth, which can occur during forceful feeding and are usually caused by the feeding utensil.
- Intra-oral burns (to the tongue, lips, oral mucosa), which can be the result of forced ingestion of hot food or caustic fluids.
- Injuries to the frenulum of the tongue. Such injuries in children under the age of one are very suspicious. In young children who are learning to walk or in older children engaged in physical activity like bicycle riding or rollerskating, they are not uncommon and might be accidental. However, upper labial frenulum tears resulting from accidental falls are typically accompanied by bruises, as well as perioral lacerations and lacerations on the knees, elbows or other bony prominences, and the appearance of the trauma matches the information given about the circumstances under which the injury was sustained.
- Lip frenulum injuries, which might occur during forceful feeding by a spoon or bottle.
- Possible hard tissue injuries include:
- Tooth fractures and increased teeth mobility without other periodontal pathology.
- Avulsed front teeth.
- Discolored teeth indicating pulpal necrosis.
- Multiple root fractures with or without an alveolar bone fracture.
- Facial bone fractures, which may cause reduced mouth opening or alter occlusion (mandibular condyle fractures, LeFort I maxillary fractures, zygomatic bone fractures).

Sexual abuse

Sexually abused children tend to become withdrawn, appear scared, and avoid touch and any oral cavity examination. Attention should be paid to whether a child has difficulty walking or sitting.

Dental examination findings typical in victims of sexual abuse include:

- Petechiae of the palate, particularly at the junction of the hard and soft palate, which are often due to violent oral penetration.

- Symptoms of sexually transmitted diseases. Such symptoms are rarely found in the oral cavities of children, but, if detected and confirmed by further laboratory testing, they are a reliable proof of sexual abuse (Kellog, 2005). The presence of erythema, ulcerations, vesicular or pustular rashes or pseudo-membrane lesions on the lips, tongue, palate or pharynx might be due to the most common sexually transmitted disease, gonorrhea. A reddened oral or perioral area with a grape-shaped cluster of blisters that rupture and leave behind painful sores is symptomatic of a genital herpes (HSV-2) infection. Conclusions should be drawn carefully when symptoms of human papillomavirus infection (HPV) are found, because, while HPV may be transmitted sexually through oral-genital contact, it can also be transmitted vertically (during birth) or horizontally (from the hands of the caregiver) (Kellog, 2005). Infection is manifested by the presence of individual or multiple soft, pink or white warts, which may grow in size or merge. The warts caused by HPV infection are typically located on the lower lip or tongue in adults and on the palate in sexually abused children.

Dental neglect

Dental neglect is the failure to take precautions to maintain oral health, obtain needed dental care or care for the dentition and associated tissues (McGrath, Sham, Ho & Wong, 2007). It is considered to be a special subgroup of medical neglect since almost every dental problem, such as untreated caries, periodontal disease and other oral diseases, can cause pain, inflammation, sleep disturbance, food intake impairment, non-attendance at school, antibiotic treatment, the repeated need for extractions and severe infections that can lead to life-threatening conditions (Čuković-Bagić, 2010). Failures to seek treatment for visible caries, oral infections and/or pain, as well as the reoccurrence of pain in certain time intervals, constitute dental neglect (Barton & Schmitt, 1986). Indicators that assist dental professionals in the recognition of dental neglect are: untreated, rampant caries; untreated pain; infection; bleeding or trauma in the orofacial region; and delay in seeking dental help after a clear diagnosis (Harris, Sidebotham & Welbury, 2006). Since the most frequent indicator of dental neglect is rampant early childhood caries, the detection of dental neglect is very difficult in B&H. By the standards of countries that have high dental care standards, where the presence of early childhood caries is perceived as a sign of dental neglect, 30% of children in B&H would be considered the victims of dental neglect. In B&H, however, it is necessary to question whether dental neglect is due to parents' ignorance or their financial deprivation. Therefore, dental neglect can only be established if parents continue to avoid dental visits and preventive measures after receiving information about the causes of, and measures to prevent or treat, oral diseases. Even in countries that have high dental care standards, pediatric dentists often overlook dental neglect (Harris, Elcock, Sidebotham & Welbury, 2009b). The laws of B&H do not prescribe any specific steps that must be taken when dental neglect is suspected.

Discussion

Few studies in B&H have analyzed the role of healthcare workers in detecting and reporting CAN. Suspected evidence of child abuse was found in 19% of children who underwent regular medical checkups, a percentage that is not insignificant (Đuderija, 2011). Guidelines for healthcare workers on how to react to suspected cases of domestic violence, including child abuse, have been developed and published in both B&H entities (Đuderija, 2011). The question is how well trained healthcare workers in B&H are in the area of CAN. The degree to which dentists are educated about abuse and neglect is very important, because dentists who are well informed about this issue are more likely to report suspected cases to relevant authorities (Harris, Elcock, Sidebotham & Welbury, 2009a; Kassebaum, Dove & Cottone, 1991). Dentists should be trained to recognize CAN and be made well aware of the procedures for reporting suspected cases. Dentists must take actions to prevent dental neglect, and public and professional awareness of CAN must be continuously improved, including over the course of the graduate and post-graduate education of dentists, but also through relevant life-long learning programs. (Vodanović, 2007/08; Kirankumar, Noorani, Shivprakash & Sinha, 2011). Unfortunately, dentists in B&H are very rarely provided with training related to the recognition and reporting of CAN, and little to no part of B&H Dental Faculties' curriculum is devoted to it. But even in countries in which learning material related to CAN is included in dental and dental hygiene curricula, dentists still lack competency in CAN detection. This might partly be due to the fact that most students learn about CAN in the classroom setting and not in external rotations and community-based clinics (Thomas, Straffon & Inglehart, 2006).

Dental hygienists and forensic odontologists in some countries play an important role in recognizing, recording and reporting CAN. Dental hygienist is listed as an officially recognized occupation in the United States, Norway, Great Britain, Canada, Japan, Nigeria, Denmark, Switzerland, Sweden, Australia, South Africa, Austria, Finland, Israel, Italy, Spain, Germany, New Zealand, Ireland, Slovakia and Latvia (Johonson, 2009). In many countries, dental hygienists/therapists provide a full range of preventive services, prepare and place restorations, perform pulpal therapy and provide basic periodontal therapy. Since they spend more time getting to know the patient, speaking of neutral topics and those of interest to a child in order to get him/her to feel at ease and relaxed, they are in better position to recognize CAN than dentists who devote more time to complex therapy (Nuzzolese, Lepore, Cukovic-Bagic & Montagna, 2008; Nash, Friedeman, Kardos, Schwaez, Satur, Berg, Nasruddin, Mumghamba, Davenport & Nagel, 2008). Forensic dentistry is not a recognized dental specialization, and a standard of competency required to practice in this discipline has yet to be set. Some students received hands-on training; others complete a comprehensive education program; others complete courses that they personally deem to be sufficient to declare themselves forensic odontologists (Bernitz, 2009). The tasks performed by forensic odontologists include the evaluation of bite marks and medico-legal evaluations relating to CAN (Nuzzolese,

Lepore, Cukovic-Bagic & Montagna, 2008). In B&H, forensic odontology is not an officially recognized specialty, so all dentists are required and expected to perform all of the aforementioned tasks.

In B&H, the protection of children from abuse is mostly regulated by the Criminal Law, which includes provisions related to physical, sexual and psychological/emotional abuse, as well as to domestic violence. In the Federation of B&H, CAN are also governed by the Law on Protection from Domestic Violence; the Law on Social Protection, Civilian War and Families with Children, and the Family Law. However, some types of CAN, including dental neglect, are not legally regulated. B&H education and health workers, as well as all other citizens, have a legal obligation to report known or suspected cases of CAN to the relevant authorities (the police, social-service agencies, prosecutors). Dentists do not diagnose CAN, but they do have legal, professional, ethical and moral obligations to report suspected cases, which is why they must be aware of the reporting procedure, including knowing how and to whom to report suspected cases.

When they suspect CAN, dentists should notify officials authorized and educated to deal with such cases or refer suspected victim to such officials, if such officials are available. If such officials are not available, dentists should share their suspicions with their more experienced colleagues and other competent medical or non-medical workers (Tsang & Sweet, 1999). If suspicion remains after such consultations, dentists should initiate the official reporting procedure. Suspected cases should be reported to the local social protection center or police (the Ministry of the Interior), who have the obligation to share between them the information about all received reports of CAN. Suspected cases can also be reported through non-governmental organizations (the "SOS line") dealing with the protection of children and/or victims of abuse and neglect, which have a legal obligation to notify local social service agencies and the police. Dentists should first explain their reasons for suspicion to these authorized officials in these institutions by telephone. Written reports, including relevant documentation, must be submitted to them within the following 24 to 48 hours. Suspected cases can also be reported directly to the judicial authorities (courts or prosecution agencies), but the previously described procedure is more appropriate. If a report is made directly to the judicial authorities, such bodies will initiate procedures for the protection of the rights and interests of the child and notify social protection centers and the police. In addition to the obligation to report suspected cases of CAN, medical workers also have an obligation to conduct a detailed examination of the suspected victim and to provide the victim with appropriate treatment or a referral to another physician who can provide it.

When preparing documentation for legal proceedings, it is useful to engage a forensic dentist or someone experienced in this field (Kellog, 2005). If such person is not available at the time of dental examination, it is necessary to produce materials that can be used to obtain a subsequent expert opinion on forensic matters. Signs

of abuse and neglect must be recorded and documented in a special protocol and in the patient's record, and an injury report form must be issued (Vodanovic, 2006). Detailed written notes must include the location, appearance, morphological characteristics, severity, shape and distribution of the injuries (Tsang & Sweet, 1999, Nuzzolese, Lepore, Cukovic-Bagic & Montagna, 2008). Proper documentation includes photographs and radiographs of the injury. Photographs of the injury must be taken at a 90 degree angle to avoid distortion, using identification tags and a scale marker (e.g., ruler) (Tsang & Sweet, 1999).

Conclusion

There is no doubt that dentists can play an important role in detecting cases of CAN. It is necessary to provide B&H dentists with training related to CAN. Dentists should primarily be trained to recognize signs of CAN, but it is equally important to provide them with instructions on the CAN reporting requirements, specifically the measures that they have to take when they suspect CAN and on how and to whom to report such cases.

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Biography

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