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Literature Review Article

Oral health status of children and adolescents victims of abuse: a literature review

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Abstract

Introduction: Violence against minors can manifest in many forms and is considered a public health problem due to the physical and emotional consequences it produces. The dentist has a fundamental role in detecting victims of violence, as the face is often the most affected region. **Objective:** To review the national and international literature concerning injuries and most common oral conditions of children and adolescents victims of abuse. **Literature review:** The descriptors used were “child abuse”, “child violence”, “physical violence”, “psychological violence”, “dental caries”, and “oral health” for international databases and the corresponding terms in Portuguese for Brazilian databases, with no restriction of year of publication and language. Through the articles included in this review, it appears that children with maltreatment history presents not only high prevalence of head injuries and dental traumas, but may also have poor oral hygiene and low search for dental services and consequently higher rates of untreated caries compared with children who lived in contexts without violence. **Conclusion:** Although the literature suggested that children and adolescents who have suffered abuse may have worse oral health status than those who were not victims of violence, more studies are needed to understand whether there are actually significant differences in the prevalence trauma, soft tissue injuries, tooth decay, and periodontal disease among types of child abuse.

Introduction

Violence against minors occurs in different cultures, regardless of race, ethnicity and income, and is manifested in various forms such as physical, sexual, psychological and neglect [21]. This type of violence is also known as abuse and, when it has an intra-familial character, i.e. when the aggressor is known or belonging to the familial nucleus family, this can be called domestic violence [2].

The children and adolescents abuse is something perennial in the history of civilization. From the earliest times, the children rights to be treated under special conditions of growth and development have been denied [21]. Violence is considered a public health problem because of the physical and emotional consequences it produces, in addition to the high prevalence [22].

The United Nations Children's Fund found that 6 out of 10 children in the world (almost one billion), between 2 and 14 years old, are subjected to physical punishment for their legal guardians [29] and 120 million girls in the world have experienced some form of sexual violence [32].

In Brazil, according to the Notifiable Diseases Information System (SINAN), in 2011, it was registered 39,281 calls for violence in the Unified Health System (SUS) in the range of <1 year to 19 years-old. The records of the Violence Map show that 63% of the cases of violence against children happen in the own residence of the victim [32].

The Statute of Children and Adolescents (ECA), with regard to cases of violence, defined in Article no. 245 the mandatory reporting of suspected or confirmed cases of child abuse to the competent authorities by healthcare professionals [5]. The dentist specifically presents fundamental role in detecting victims of violence [9, 10], since the face is often the most affected region [7, 31]. Despite this important role, a study showed that most professional claims to have received enough information on this subject during graduation [18]. Another study conducted with dentists in the city of São Paulo showed that 73.7% of them never received guidance in relation to child abuse [12].

Some authors have suggested that the lack of motivation and interest of parents in maintaining oral health of children victims of abuse and low self-esteem of them, can take them to have high prevalence of caries and also less untreated teeth [13, 15, 25, 28, 30], in addition to high levels of gingivitis [18] when compared to children with no history of violence.

Starting from the idea that adversity in childhood can affect all aspects of health [16], This

study aimed to review the national and international literature about the injuries and most common oral conditions of children and adolescents victims of abuse. The literature search was performed using the following descriptors "child abuse", "child violence", "physical violence", "psychological violence", "dental caries", and "oral health" for the following databases: Pubmed, LILACS, and Google Scholar. The corresponding terms in Portuguese were used for the Brazilian database Scielo, without restriction of publication year or language.

Literature review and Discussion

The child abuse are common issues that permeates all ethnic, cultural and socioeconomic segments [27]. Although prevalent, it is important to note that there may be an underestimation of data reporting of violence, as there is a cultural issue involved, in which it makes use of power and discrimination within the home environment, causing the child and often the mother (when this is not the aggressor) be silent for many years, what is called pact of silence [21].

Regarding the oral cavity is discussed that there is also an underestimation of lesions in this area, since, due to the high prevalence of head injuries, the coroner often does not prioritize the examination of the oral cavity or are not familiar with this area, not possibly notifying some findings [24].

Among the studies reviewed on the location of the lesions in children victims of violence, all showed that the head and neck region was the most affected. A study conducted in northeastern Brazil showed that 60.9% of children had injuries in the region and 18.9% in the oral cavity [7], corroborating what was found in a capital of southern Brazil, 322 cases of intra-familial physical abuse to children and adolescents between 0 and 17 years of age, 58% had lesions in the head and neck [31]. In Minneapolis, USA, of 1,248 abused children, 75.5% had orofacial injuries [11].

Concerning to intraoral lesions, Naidoo [24], conducted a study with a sample of children and adolescents aged from 0-14 years and reported that lip lesions were often found, as well as lesions of the oral mucosa, teeth and gums, corroborating the study of Fonseca *et al.* [11], who assessed children and adolescents up to 17 years old. Lacerations, burns, and bruises are the oral findings more often found in the soft tissues of the mouth [20].

Other common injuries to be found in children and adolescents victims of abuse are those related to sexual abuse. The orofacial signs, if present, may appear ranging from erythema to ulceration and

from vesicle-pustular to pseudomembranous lesions on the tongue, palate, cheek, and mainly on the pharynx, and HPV lesions, erythema and petechiae at the junction of the hard and soft palate or floor of the mouth, suggesting forced oral sex. There is another pathognomonic sign of sexual abuse that is the presence of oral and perioral gonorrhea in prepubertal children, which although not very often can be diagnosed by laboratory tests [20]. It is important to note that sexual abuse indicators are difficult to observe, since many children do not have physical signs suggestive of such abuse, and behavioral indicators are easier to observe in this kind of child abuse.

Dental trauma showed very similar prevalence between studies that assessed children victims of abuse in various parts of the world. In South Africa, clinical aspects such as tooth mobility and missing teeth were observed [24]. In a study conducted in Canada, Valencia-Rojas *et al.* [30] found a prevalence of 6.1% of dental trauma among children victims of abuse, corroborating a Brazilian study, in which 1,070 forensic reports of children and adolescents physically abused, dental trauma was found in 5.2% of the sample; of these, all showed crown fractures (100%) and the upper incisors were the most affected teeth (84.6%) [8].

The literature has suggested that differences between the stories told by the family and the child and the lack of consistency between the severity of the trauma and the story reported by parents or caregivers can indicate abuse. Although trauma in the primary dentition of children aged 3 years of age is common due to the lack of motor coordination, if multiple dental trauma is associated with other trauma to the body, this should be considered abuse [10].

It is known that violence against children and adolescents creates social, character, emotional, psychological, and cognitive problems throughout life and may have both immediate and late consequences. Often the victim present behaviors that are harmful to health, such as abuse of alcohol, other drugs, and early initiation of sexual life [6]. Detrimental health behaviors may also be related to lack of self-care with their oral hygiene, reflecting the worsening of plaque-dependent diseases such as caries and periodontal disease. Regarding dental caries and periodontal disease, some studies found association of these diseases with children abused in various parts of the world. In a study in Italy, child victims of abuse had increased dental plaque index, increased gingival inflammation, and more untreated decayed teeth than the group of children who were not abused, and are less cooperative during the dental visit [23].

Valencia-Rojas *et al.* [30], by assessing the presence of caries in early childhood among 66 abused children in Toronto, Canada, found that the prevalence of this condition was 58%, and higher compared to children of the same age who lived in the same city (30%). Regarding severe caries, considered when the decayed/missing/filled tooth index, (DMFT/dmft) was greater than or equal to four teeth, 21 of the 66 children had this condition.

Greene *et al.* [13] observed that children, daughters of US military, with a history of abuse, had 5.2 to 8 times more likely to have untreated decayed teeth than children not abused.

Another study conducted in Spain showed that there was a caries prevalence of 50.4% among abused children under 12 years of age, higher than the prevalence in children who have not been victims of violence; moreover, the former were more likely to have untreated carious teeth when compared with the latter [25]. Among 65 children of a protective institution in Japan, 54% needed treatment for tooth decay and, of these, 69% were victims of child abuse [28].

Among child victims of abuse in UK, a statistically significant difference with respect to dental caries in the primary dentition occurred compared with the control children, but for the permanent dentition there was no statistically significant difference between the two groups [15].

Disagreeing with these aforementioned studies, Badger [3] found no statistically significant differences between the DMFT/dmft of children members of military families abused and not abused in the United States.

Children with high rates of decay and untreated caries can be diagnosed as negligence victims. Depriving or neglecting children and adolescents of basic survival needs, both from a physical and emotional point of view, it is also a kind of violence [2, 21]. Dental neglect is considered an intentional error by the parents or guardians of the child to seek or follow the dental treatment that would be necessary to ensure good oral health status or even treat pain and infection [1], as in cases of severe trauma and dental caries. Moreover, it is necessary to evaluate the social determinants and characteristics of parents or caregivers to reach a diagnosis of dental neglect [1, 4, 26].

To have several untreated carious lesions cannot set negligence, especially in countries with high socioeconomic inequality, as often, the access of the lower socioeconomic classes to the health service is low, and what appears to be negligence actually it is related to poverty.

Lourenço *et al.* [19] conducted a study in a city in the state of Ceara, northeastern Brazil, where

there is a functioning system of public oral health. Thus, according to the authors, it was possible to correlate more accurately the dental neglect. Of the 174 children of the city, they assessed 149 children. Only 32.2% of children were free of tooth decay and 16 (10.7%) of them showed dmft index greater than or equal to 7, which is considered extremely high. According to the authors, the parents recognized the poor oral health of their children and did not report having difficulty accessing the public dental service, two factors that may be related to dental neglect, but the study failed to assess whether the parents were alerted enough about the damage that caries could cause to the child. Failure detection by parents is a very difficult task, more studies are needed to elucidate the subject.

Although most of the studies included in this review point out to a higher prevalence of dental caries in children victims of abuse, the literature is not conclusive for this association. Therefore, it is suggested that poor oral hygiene and tooth decay are not, by themselves, indicators of neglect or other abusive behaviors, but are associated with other dental and non-dental factors, such as socioeconomic status [14].

The caries was related to the type of suffered abuse by a single study of our review [30]. The results showed that children who suffered physical and sexual abuse had a higher prevalence of caries in early childhood than children who are victims of neglect, but without statistically difference.

In general, based on the studies included in this review, it appears that children with abuse history may have poor oral hygiene [23], lower search for dental services [19] and consequently high rates of untreated decayed teeth compared to children who lived in contexts without violence [13, 25, 28, 30]. The reason for this might be the emotional and self-esteem shock of the victims, causing them to neglect the general and oral health care [28]. Also, the fact that they most fear dental treatment [23] can lead to major faults in returns and even rejection of the proposed treatment plan, as well as the parents of these children and adolescents may be less willing to take care of the oral health of their children [30]. Leeners *et al.* [17] observed in a sample of 111 women who have experienced sexual abuse in childhood, that such violence can increase psychological stress during dental treatment. Also, the stress, the preference for female dentist and, as a result of fear for professional dental care, the impairment of oral health.

Studies involving child abuse in dentistry are limited from a methodological point of view, with no representative samples of the population, hindering any inference regarding the factors possibly associated with the different types of abuse and

neglect, as well as a more established assessment regarding the oral condition of the victims. Other studies have data collected from forensic reports, which increases the risk of underestimation of oral health indices, creating gaps in this subject.

Conclusion

The literature suggests that children and adolescents who have suffered abuse may have worse oral health status than those who were not victims of violence, however most epidemiological studies of oral health in abused children and adolescents are needed to understand whether there are actually significant differences in the prevalence of traumas, soft tissue injuries, dental caries, and periodontal disease among the types of child abuse.

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