

Dentists' Perceptions, Attitudes, Knowledge, and Experience about Child Abuse and Neglect in Northeast Italy

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Objective: The aim of this study was to analyze dentists' perceptions, attitudes, knowledge and experience about child abuse and neglect (CAN) in an area of northeast Italy and the factors affecting the recognition and reporting of CAN cases.

Material and Methods: One hundred six dentists working in both public and private sectors in the provinces of Padua and Treviso were interviewed by a single operator. Descriptive and assessing association analyses were carried out.

Results: Dentists' perceptions about CAN is low, and these professionals have a poor attitude toward confronting it according to the code of conduct and laws. Available information and education are also poor. Education affects the detection and the reporting of CAN cases in a relevant way. Female gender is another factor that affects the attitude and the perception of CAN.

Conclusions: The results, which are consistent with other studies, show that there is a general lack of knowledge about CAN that prevents dentists from detecting and identifying suspected cases. Despite its frequent occurrence among dental patients, neglect is the least known and identified type of abuse. Education is the critical element in enhancing the ability of professionals to detect cases.

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INTRODUCTION

Child Abuse and Neglect (CAN) is defined by the World Health Organization as:

Every kind of physical, sexual, emotional abuse, neglect or negligent treatment, 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 power¹

This definition consists of 2 meanings: (1) the result of a committed action (physical, sexual, or emotional abuse) or (2) an omission (neglect). The consequence of CAN is real or potential damage to the child's life, health or development, especially for infants (1-4 years), wherein the commission or omission of an action could stake a claim on their future life and health.²

CAN is more widespread than many think.³ In Europe, its prevalence varies from 5 to 30 cases per 1,000 children annually, depending on the social background of the country.⁴⁻¹⁰ In Italy, there are an estimated 42,000 cases and CAN growth forecast is about 8,100 new cases a year.

In the US, where physicians and dentists have the responsibility to report suspected cases of abuse, the American Academy of Pediatrics and the American Academy of Pediatric Dentistry has established guidelines to detect abuse cases.¹¹

In all suspected cases for the detection of both physical and sexual abuse, a careful intraoral and perioral examination is required. In physical abuse, injuries often cause blunt trauma and are inflicted using an instrument (kitchen tools, hands, fingers) or scalding liquids and caustic substances. Abuse may result in contusion of the soft tissues or lacerations of the tongue, buccal mucous membrane, hard and soft palate, gingival mucous membrane, or frenulum. Other clinical evidence includes jaw fracture and avulsed or discolored teeth.¹² In sexual abuse, the presence of oral or perioral gonorrhoea or syphilis in prepubertal children is pathognomonic. Unexplained erythemas or petechiae in the palate, especially

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at the junction of the hard and soft palate, can indicate forced oral sex,¹³ making the mouth the most frequent place where sexual abuse can be detected in children. Bite marks can also be a sign of both sexual and physical abuse.¹⁴⁻¹⁶

Dental neglect can be defined as:

Wilful failure of parent or guardian to seek and follow through with treatment necessary to ensure a level of oral health for adequate function and freedom from pain and infection. The point at which to consider a parent negligent and to begin intervention occurs after the parent has been properly alerted by a health care professional about the nature and extent of the child's condition, the specific treatment needed, and the mechanism of accessing that treatment.¹¹

Among health professionals, dentists are probably in the most favorable position to recognize CAN, because 50% to 75% of reported lesions involve the mouth region, the face, and the neck.¹⁷⁻²⁰ Besides, dentists have a continuing relationship with their pediatric patients and their families, as it is often necessary for a given patient to be seen several times a month. This fact gives the dentist an opportunity to observe not only the physical and the psychological condition of the children, but also their family environment. Often the abuser, usually a parent, delays bringing the child to the hospital, because he or she feels "watched over" by the medical personnel. The same kind of caution is not used with dentists who are expected to provide only a technical service.¹⁹ Despite the opportunities available to dentists in detecting child maltreatment, they seldom report suspected orofacial injuries.^{17,19}

The aims of this study were to analyze dentists' knowledge, perceptions, attitudes, and experience about CAN in an area of northeast Italy (provinces of Treviso and Padua), keeping in mind that, according to the code of conduct and Italian law, dentists must perform their medical role in protecting their patients' health even when they could have been subjected to violence or negligent actions within their

environment; and to identify the factors affecting the recognition and reporting of these cases.

MATERIAL AND METHODS

Participants

The participants were dentists and dental students selected randomly among professional operators working or studying in private and public clinics located as above. Of the 111 dentists who were contacted, 5 refused and 106 were interviewed. Sixty-seven were males and 39 were females. An *ad hoc* questionnaire was submitted to them *via* interviews conducted by a single, on-site operator, having previously made an appointment. Interviews took about 30 minutes.

Among the 106 interviewees, 11 were senior dental students at Padua University and 95 were professionals; 40 graduated in medicine, 54 in dentistry, and 1 in both faculties. Average age was 37. The weekly number of pediatric patients fluctuated from 1 to 150. Most (72%) of the professionals were working both in public and private clinics, while 28% worked only in private clinics. Forty percent of the interviewed dentists were working in private clinics with other colleagues, and more than half (66%) were members of professional associations.

Questionnaire

A 4-section, *ad hoc* questionnaire was used to obtain the data. The questionnaire was anonymous with respect to names of practitioners and the clinics where they worked.

The first section contained information about the practitioner's age, sex, type of degree, year of graduation, number of pediatric patients seen per week and the percentage they represented in the dentist's practice, and whether the clinic was public or private.

The second section consisted of 10 statements regarding the dentist's perception, attitude, knowledge about CAN (Table 1) in which the practitioner had to express his or her opinion as "I agree," "I do not know," or "I do not agree."

The third section consisted of depicting 3 simulated

Table 1. Makeup of the questionnaire (with correct answers) and percentage of respondents answering correctly

Statements	Dentists answering correctly, %
1. CAN is one of the most relevant cause of pediatric mortality (T).	22
2. CAN prevalence is less than Down syndrome prevalence (F).	62
3. Dentists must protect child's health (T).	88
4. Dentists can detect CAN during their clinical practice (T).	58
5. Neglect is not a kind of maltreatment (F).	73
6. CAN is mostly due to a low socio-economical level (F).	50
7. 10% of CAN lesions are on head, face and neck (F).	15
8. Palatal petechiae can be signs of physical and sexual abuse (T).	39
9. The disclosure of a child of being maltreated is false (F).	20
10. Pedodontists are the only professionals who have to report suspect cases of CAN (F).	9
(T) = True (F) = False	

clinical cases using colour photos and clinical descriptions, requiring the practitioner to answer whether the depicted cases were compatible with cases of child abuse or neglect, based on the 3 options described in the second section (Figure 1). The first photo represented a case of physical abuse, as witness the clinical presentation, the casual discovery of old lesions, the delay in seeking help, and the non-empathetic behaviour of the mother toward her child. The second case referred to accidental trauma with obviously precedent lesions, an incongruous history about the accident, or suspect parental behaviour. The third case depicted an episode of dental neglect, wherein the child's rampant caries and repeated infections had prevented him or her from going to school. The parents had neglected the child's oral health by failing for months to make recommended dental appointments.

The fourth section, using both open and closed questions, analyzed practitioners' personal experiences with CAN, their personal skills in confronting it, and their interest in enhancing personal knowledge on the subject.

Statistical analysis

The questionnaire data were collected using Microsoft Access (Microsoft Corporation) software as the database. SAS package (SAS Institute inc.) was used to elaborate the frequency distributions and to assess associations. The database contained 106 records, each consisting of 33 variables.

Between-group differences were tested using the chi-square test for dichotomic variables, (ie, "having experienced CAN cases") and the Wilcoxon and Kuskal-Wallis nonparametric tests for continuous variables (i.e., "% correct answers to the questionnaire" and "% correct answers to the clinical cases") because of the abnormal distribution of frequencies. To study the possible predictors of the correct answers and of the probability of having experienced CAN cases, a stepwise regression and logistic analysis, respectively, were carried out. The considered explicative factors were: sex, age, number of pediatric patients seen in a week, type of clinic (public or private), associated private practice, affiliation with a professional association, and having attended CAN classes. Statistical significance was set at 5%.

RESULTS

Descriptive analysis

Attitudes, perceptions, and information about CAN.

Table 1 illustrates the results gathered through the questionnaires and the descriptions of clinical cases. Only 22% considered CAN to be one of the most prevalent causes of pediatric mortality. Sixty-two percent thought that CAN cases were more frequent than Down syndrome cases, which it is. Eighty-eight percent agreed that protection of the child's health is a dentist's duty, as stated in the code of conduct and

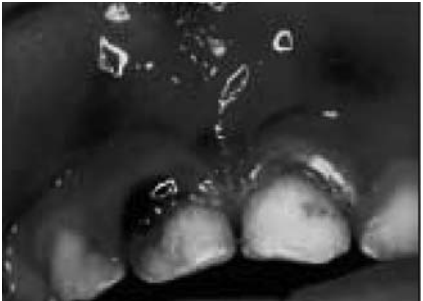

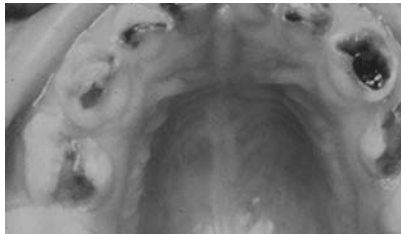
<p>Case 1. A 5-year-old male presents with his mother after an accident, with laceration of upper lip and upper superior labial frenum, contusions of oral cavity, and subluxation of maxillary right central incisor. Radiographs show ankylosis of mandibular right central incisor and pulpal calcification of maxillary left central incisor. His mother states that the accident happened at the playground the day before, and the child declines to speak about it. (Suspected physical abuse. Correct answers: 72%.)</p>	
<p>Case 2. A 10-year-old male, referred by the emergency room, with his parents, to be seen for fracture of maxillary left central incisor and laceration of labial frenulum due to a bicycle fall one hour before. Parents are alarmed by the considerable hemorrhage. The child is crying and wants his parents to stand near him. (No Abuse. Correct answers: 90%.)</p>	
<p>Case 3. A 6-year-old female is being treated for rampant caries and recurring infections. Her oral condition has been diagnosed 4 months previously and her parents were informed of the need for restorative care. They failed to keep their last appointments and they finally showed up at the clinic because the child had such severe toothaches that she could not go to school. (Suspected dental neglect. Correct answers: 40%.)</p>	

Figure 1. The 3 clinical cases presented to the interviewed dentists

the law. More than half the dentists (58%) believed that they could detect CAN cases (all types of abuse—not only the physical ones) thanks to their job. Seventy-three percent agreed that neglect is a type of abuse. For half the professionals, CAN was related mainly to a low social and cultural family environment. Only 15% did consider the face, head, or neck as regions of frequent injury manifestation, while actually they are involved in 50% to 75% of physical abuse cases. Only 39% knew that palatal spots can be a sign of sexual abuse. Most of those interviewed admitted that, if they were to witness a child's confession about suffering abuse, they would at first think it a possible lie. Ninety-one percent did not agree that the reporting of suspected cases is a duty of pediatric dentists only; ethical duties and responsibilities to confront CAN are recognized as the domain of any dental practitioner.

Clinical cases:

Considering the first case (Figure 1), which appeared to be one of abuse, a high percentage of dentists (72%) answered correctly, while a small percentage answered "I do not know," or "I do not agree" (12% and 16%, respectively). In the second case, the non abuse one, almost all practitioners answered correctly (90%), 5% answered "I do not know," and 5%, "I do not agree." In the third case, likely dental neglect, only 40% answered correctly, 12% did not know, and about half (48%) failed to recognize the case.

Experience with CAN:

Twenty professionals out of 106 (19%) reported having suspected some cases of abuse during their practice; 3 of these were undergraduate students. Thirteen out of 20 claimed to have suspected not more than 1 or 2 cases, 4 claimed to have seen no more than 5, and 3 dentists claimed to have seen abused children many times. Answering the question analyzing the mode of action and behavior in facing suspected cases, 11 dentists admitted to have limited themselves only to technical services without probing their suspicions, 2 did not act because of the presence of the child's parents and the fear of their interfering in carrying out a more precise anamnesis, and 3 tried to speak with the child's parents without declaring their suspicions or reporting it. Only 3 professionals indicated having contacted social workers for the sake of the child's health and security and reported their suspicions to authorities. As to the question of how they would behave in the presence of a suspected case, 20% revealed that they do not know how to act or that they do not consider themselves able to act; 38% said they would turn to social workers, the police, the child's pediatrician or other colleagues such as physicians or psychologists; and 17% claimed that they would speak with the parents regarding the family background. While 4% have knowledge of medico legal procedures, 5% would reappoint the child to see how the situation evolved. Most (16%) of the remaining answers to this question were either imprecise, vague, or wrong; for example:

Table 2. Distribution frequency of 3 dependent variables according to different variables and P-values

Independent variables	Modalities	Questionnaire correct answers*		Correct answers about clinical cases*		Having experienced CAN during clinical practice*	
		%	P	%	P	%	P
Sex	Male (n = 67)	38	.02†	63	.3†	21	.4§
	Female (n = 39)	43		69		15	
Age	<25 (n = 11)	38	.7‡	76	.6‡	9	.07§
	25-30 (n = 32)	41		69		6	
	30-40 (n = 19)	40		67		32	
	40-50 (n = 30)	39		65		30	
	>50 (n = 14)	39		60		14	
No. pediatric patients/week	<5 (n = 39)	41	.7‡	68	.6‡	20	.8§
	5-10 (n = 26)	38		69		15	
	10-30 (n = 24)	38		63		25	
	30-60 (n = 8)	37		59		12	
	>60 (n = 9)	43		74		11	
Kind of workplace	Private (n = 30)	40	.9†	67	.9†	17	.7§
	Public (n = 76)	39		67		20	
Associate study	Yes (n = 36)	41	.1†	70	.9†	19	.9§
	No (n = 70)	39		65		19	
Professional assoc. affiliate	Yes (n = 70)	41	.1†	68	.5†	17	.5§
	No (n = 36)	37		64		22	
Exp. in CAN education	Yes (n = 8)	43	.3†	83	.04†	44	.02§
	No (n = 97)	39		65		16	

* Frequency distribution is not normal (Shapiro-Wilk statistic); nonparametric tests have been used.

† Wilcoxon test.

‡ Kuskal-Wallis test.

§ Chi-square test.

|| 1 missing value.

Table 3. Results of the 2 stepwise regression analyses*

Dependent variables	Explicative variables	Estimated parameter	P-value
% Correct answers to questionnaire*	Male gender	-5.7	0.02
	Professional association affiliate	4.7	0.05
% Correct answers to clinical cases*	Year of degree	0.5	0.03
	CAN education classes	15.6	0.09

*Dependent variables considered were age, sex, kind of degree, year of degree, professional association affiliate, associate study, CAN education classes, kind of clinic (public, private), having experienced CAN cases. Statistical significance at 5% parameters are illustrated in the table.

"In a private clinic, I would not do anything," "I cannot breach the privacy of my patient," or "I would call the dental society to report the case."

It is significant that almost all dentists (91%) have never attended CAN classes. Three reported to have taken some lectures on the subject during their medical studies, while 5 acquired information about CAN while in their master's programs of specialty training, congresses, private classes, or attending classes at a non-medical university. Eighty-three percent of professionals admitted the need to improve their knowledge of CAN.

Association analysis

Table 2 shows the preliminary study of the factors that might be associated with the probability of answering the questionnaire correctly, recognizing the clinical cases, and of experiencing cases of abuse during clinical practice. Females did better than males in correctly answering the questionnaire ($P = 0.02$). The other independent variables show some trends, but the differences are not significant, except for "education about CAN". Dentists who had received some education about CAN (8 out of 106) answered more correctly the vignettes showing the 3 suspected CAN cases (83% vs 65%, with a significance of 0.04) and had more likely seen 1 or more cases of CAN during their clinical practice (44% vs 16%, with a significance of 0.02).

In Table 3, results of the second stepwise regression analysis, net influence of the variables show that education

increased the likelihood of properly answering the clinical questions more than 15 times, which is in accord with the year of graduation (estimated parameter = 0.5). This parameter is strictly related to the probability of having received education about CAN because classes about CAN, although not common in the pre- and postdoctoral dental curriculum, have become more commonplace during the last few years at the university.

Table 4 supports this finding by showing that dentists who have attended classes in CAN are 7 times more likely to recognize cases of CAN ($P = 0.03$).

DISCUSSION

The results of this study show that most interviewed professionals are aware of their duty to protect child's physical and psychological health. Considering how damaging abuse and neglect can be to child's health, life, and development,^{30,31} dentists must act to detect, treat, and prevent it. Unfortunately, attitude and lack of knowledge present obstacles to reach this goal. In fact, about 80% of the interviewed dentists undervalue the entity of CAN and half of them consider it a unique determinant of a low socio-cultural position. Moreover, 40% do not consider their duty to detect types of abuse other than physical. The lack of clinical knowledge of CAN is also attested to by the fact that only a few dentists knew that the highest occurrence of lesions due to physical abuse is found in the head, face, and neck.^{17-20,32} A low percentage recognize petechiae on the palate as a possible sign

Table 4. Results of logistic analysis based on dependent variable, "Having experienced CAN cases"

Dependent variables	Explicative variables	Odd ratios	95% CI		P-value
			min	max	
Having experienced CAN cases	Undergraduate student	2.3	0.3	15.2	.4
	Age	1.1	1.0	1.2	.01
	Male gender	0.6	0.2	2.5	.5
	Private work place	0.4	0.1	1.7	.2
	Associate study	1.9	0.6	6.5	.3
	Professional association affiliate	0.7	0.2	2.9	.6
	CAN education classes	7.2	1.2	42.2	.03
	% Pediatric patients/total patients	1.0	1.0	1.0	.4
	% Correct answers to the questionnaire	1.0	1.0	1.0	.7
	% Correct answers to the clinical cases	1.0	1.0	1.0	.1

*= 75.5% concordant.

of abuse. If dentists who consider a child's confession of abuse a product of the child's fantasy (76%) knew that such confessions are usually true, they would probably spend more time conducting a proper medical evaluation. Child confession is a further reason to legitimize the suspicion of abuse. Even though 73% of professionals consider neglect a kind of abuse, 60% do not consider dental neglect in this way, despite its being the most frequent type of abuse seen by dentists.^{22,26,27} However, the high frequency with which dental neglect presents itself does not seem to influence the importance ascribed to it. Considering the importance of a healthy dentition in digestion, knowing the role of the primary dentition in tooth exchange, and being aware of the consequences of infections and toothaches in the child's social life, we should feel it our duty to detect and treat cases of neglect. An awareness campaign, designed to awaken not only physicians and dentists, but parents and society in general, could reduce the frequency of dental abuse and expose it as a real type of abuse.

Only 20 dentists out of 106 have occasionally dealt with suspected cases of abuse, showing how much this offence is underestimated compared with the population prevalence of 0.5 for every 1000 and the number of pediatric patients (321) seen every week by the interviewed dentists. Ninety-one percent of the answers indicate that most interviewed dentists are aware of their responsibility to take legal action once they suspect abuse. Despite this, the study confirms what other researchers have learned about dentists' poor knowledge of child protection.^{21,22} Of the 20 professionals who suspected abuse, only 4 confronted it.

In the second part of the study, we tried to determine which factors influence the ability to recognize and report CAN. There is widespread disagreement in the literature about what plays a greater part in influencing the way health and social operators deal with CAN, including such wide-ranging factors as character of reporter (age, sex, degree, specialist training, percentage of pediatric patients in the practice, knowledge of, experience with CAN, fear of litigation, patient confidentiality, trust of child protection services, type of maltreatment, and victim). Some investigators consider the characteristics of the professional as the major determinant in his or her predisposition to identify or report such cases^{33,34}; others consider the typology of the case or of the victim as the most important ones.^{21,35-37}

Only by considering CAN identification and reporting the result of a complex of different factors interacting with one another can we appreciate the differing results of previous research. Also, the same risk factors that lead to CAN could shed light on other problems seen by dentists (dental anxiety, injuries, etc.).³⁸⁻⁴¹ The influencing factors may be both background factors (community wealth, role of children, etc.)⁴² and personal characteristics of the professional—all interacting with each other. From this study, it comes out that the most important determinants are education and the female gender of the professional. There is a general lack of education: only 9% of dentists attended specific classes about CAN, and only 3% at the university level.

Education turns out to be crucial in raising the ability of the dental professional to recognize CAN.

Yet, the variables influencing the correct answers to the questionnaire are different from education, because the questionnaire explores something more complex than experience alone. It also considers perception, attitudes, and knowledge about CAN. These factors are additional dimensions influencing behavior, which arises not only from a stratification of different experiences, but also from other characteristics, such as gender. Female gender appears to be the most relevant determinant to correctly answer the questionnaire, as other studies have indicated.^{24,43-45} This might be explained by the bond women have toward children during both pregnancy and child maturation and their natural attitude toward child protection.

As in other studies, most dentists revealed their desire to obtain more knowledge about child abuse.^{22,46-48} As far as educating future professionals is concerned, this could be a good omen.

CONCLUSIONS

From this study, we have concluded that:

1. CAN is underestimated by dentists.
2. Dentists have a poor attitude in perceiving CAN as pathology.
3. Most dentists are unable to confront suspected cases, even though they may be aware of the medico-legal responsibilities of their job.
4. Neglect and dental neglect are the least known and detected types of abuse, even though they are the most frequent ones.
5. Education is key to increasing the ability of dentists to recognize and report CAN.

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ERRATA **THE MANUSCRIPT**

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Author’s name was written as Dislah GOGULU and should read as Dilsah COGULU.