

Awareness and Experience regarding Child Abuse and Neglect Among Dentists in Turkey

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Objectives: This study assessed the level of knowledge, attitudes, and awareness of child abuse and neglect (CAN) among dentists. **Study design:** The sample, consisted of 20,298 Turkish Dental Association (TDA) members, which comprise about two thirds of all dentists, specialists, academics and dental PhD students in Turkey. Among the 20,298 emails sent, 1,020 responses were obtained. Descriptive analysis was performed and correlations were tested using the Chi-square and Fischer's Exact tests. A *p* value of <0.05 was considered statistically significant. **Results:** Of the participating dentists, 32.7% were able to identify cases of CAN cases, while 17.1% had suspected cases of child abuse and only 1% of them, reported these, to the authorities. The most frequently cited reasons for hesitation to report CAN cases were lack of adequate history (45%), lack of knowledge about the healthcare worker's role in reporting CAN (18.3%), and considerations of the possible consequences against the child (18.8%). Only 11.6% of the participants had received undergraduate level training on the topic of CAN; The majority (86.5%) expressed the need for further education on this issue, and, also, 84.3% believed that it should be a part of postgraduate education. **Conclusions:** Improvements in CAN education and continuing education courses are necessary to equip dentistry professionals with adequate knowledge about the physical and behavioral indicators of possible abuse, the current legislation regarding mandated reporting and the procedures for reporting suspected cases.

Keywords: Awareness, child abuse, child neglect, dentistry

INTRODUCTION

The 1999 World Health Organization (WHO) Report of the Consultation on Child Abuse Prevention describes child abuse and neglect (CAN) as behaviors that harm or can result in harming a child's health and life by the individuals responsible for children who misuse their physical strength or the trust given to them.¹ Child abuse is the realization, by adults or the institutions responsible for children, of the behaviours that can harm the child's physical, emotional, social, and cognitive development.

Healthcare professionals often play an important role in the identification and prevention of CAN.² Since teeth and the oral space of children strongly evince CAN,³ dentists' role in identifying CAN is even more critical. Therefore, dentists' knowledge, awareness and attitude regarding CAN are extremely important for correct diagnosis and, accurate and timely reporting of these cases. In turn, effective reporting is critical for the child's well-being and welfare.

Although dentists can play a critical role, in preventing CAN, various studies around the world have indicated dentists' level of knowledge and, awareness of CAN, as well as their attitudes towards reporting CAN cases do not reflect the ideal role dentists should play in addressing this issue.⁴⁻¹⁰ Turkey is no exception to this trend; a limited number of studies on CAN indicate that healthcare professionals lack training on this issue.¹¹⁻¹⁴ Studies on Turkish dentists are even more limited; in the only study done to date, Bodrumlu et al. (2018) found that the level of knowledge and training for dentistry

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students is remarkably low.¹⁵ This finding on Turkish dentistry students echoes similar findings from other countries.^{5,16-25}

Our study makes two main contributions to the current body of literature. First, it constitutes the first study to gauge the level of knowledge and attitudes of Turkish dentists about CAN, covering general dentists as well as all types of specialists, allowing Turkey to be compared vis-à-vis other countries. Second, our study provides the first set of data and analysis on rates of reporting for CAN cases in Turkey. Data on this issue do not exist for other Turkish health-care professionals. Despite a 2005 amendment in Article 280 of the Turkish penal code, which provisions up to one year in jail for any health professional who ignores or delays reporting indications of child abuse to relevant authorities²⁶, studies have shown that health-care professionals remain reluctant to report these cases, either due to unfamiliarity with the legal reporting process, concerns regarding further harm to the child, or fear of retribution from the child's family.^{12,13,27,28} Therefore our study provides the first benchmark for the CAN reporting rates in Turkey. Finally, we also provide insights about the reasons for dentists' decisions not to report the CAN cases they encounter.

MATERIAL AND METHOD

The Marmara University Health Sciences Institute Non-interventional Clinical Research Ethical Committee approved this research, (dated July 16, 2013, no. 88), prior to data collection.

Sampling Frame and Sample

The sampling frame consisted of 20,298 members of the Turkish Dental Association (TDA). TDA members make up about two-thirds of all dentists, specialists, academics and dental PhD students in Turkey. Among the 20,298 emails sent, 1,020 responses were obtained (response rate 5.1%). We do not have any apriori reasons as to why we should have a response bias regarding to our research question.

Data Acquisition

Circulation of a questionnaire was selected as the data collection technique. The Higher Education Committee Documentation Center in Turkey and the EBCOHOST database were used to assess the theses written on the subject in and outside of Turkey, respectively, in order to prepare the appropriate questionnaire.^{4,5,6,16,29,30}

The research questionnaire consisted of four sections :

- a. The first nine items collected demographic details about the participants;
- b. Items 10–14 queried the participants' experience of suspicious CAN cases;
- c. Items 15–21 queried the participants about their level of training for detecting and reporting suspicious CAN cases and whether they felt the need for further education on the subject;
- d. Items 31–38 aimed to determine the participants' knowledge of diagnostic data on CAN.

Statistical analysis

The Cronbach's alpha coefficient of the questionnaire on the dentists' knowledge on CAN was 0.732. Statistical analyses of the collected data were conducted using the IBM SPSS Statistics 22.0 (IBM 2013) software program. Categorical data were compared using the Chi-Square and the Fisher's Exact tests. A p value of <0.05 was accepted as statistically significant.

RESULTS

Our sample of 1020 dentists consisted 453 (44.7%) males and 560 (55.3%) females. Of those, 503 (50.2%) were born in 1978 or later, 275 (27.5%) were born between 1968–1977, 160 (16%) were born between 1958–1967, 57 (5.7%) were born between 1948–1957, and 6 (0.6%) were born in 1947 or before. Table 1 presents the specialties (if any) of the dentists that participated in the study. Of the 44.5% of the dentists with a specialty, 35.6% were pediatric dentists, 15.1% were orthodontists, 10.9% were oral and maxillofacial surgeons, 7.8% were periodontologists, and 5.9% were endodontists. The information presented in Table 2 demonstrates the effect of training on the CAN behavior of the dentists. Receiving education about being aware of CAN and reporting it either during or after dental school, significantly increases the chances of a dentist suspecting CAN ($p < 0.013$ and $p < 0.001$, respectively). However, receiving that kind of education during or after dental school has no effect on the likelihood of dentists reporting CAN cases ($p < 0.609$ and $p < 0.148$, respectively). Table 3 presents details about the ways in which Turkish dentists acquire information about CAN. Written material seems to be the most common channel; 47.1% of the participants reported reading an article, journal or other literature on CAN, 11.6% and 7.1% reported receiving formal training during or after dental school, respectively, and 10.1% received practical instruction about CAN.

Table 1: Distribution of dental specialties

		n	%
Specialization	No	562	55.5
	Yes	450	44.5
	Total	1012	
Specialization	Maxillofacial surgery	49	10.9
	Pediatric dentistry	160	35.6
	Radiology-OralDiagnosis	17	3.8
	Periodontology	35	7.8
	Orthodontics	68	15.1
	Conservative dentistry	26	5.8
	Endodontics	31	5.9
	Prosthodontics	64	14.2
	Total	450	

Table 2: Assessment of receiving education on CAN during dental school and after dental school according to suspecting and reporting a child abuse case in the last 5 years

		Did you receive training on awareness and reporting of CAN during dental school?		p	Did you receive training on awareness and reporting of CAN after dental school?		p
		Yes	No		Yes	No	
		n (%)	n (%)		n (%)	n (%)	
Have you ever suspected a child abuse in the last 5 years?	No	29 (25.4%)	140 (16.1%)	¹ 0.013*	34 (50%)	134 (14.9%)	¹ 0.001
	Yes	85 (74.6%)	729 (83.9%)		34 (50%)	768 (85.1%)	
Have you ever reported a child abuse case in the last 5 years?	Yes	0 (0%)	9 (1%)	² 0.609	2 (2.9%)	8 (0.9%)	² 0.148
	No	116 (100%)	871 (99%)		66(97.1%)	906 (99.1%)	

¹Chi-Square test ²Fisher's Exact test **p<0.01

Table 3: Distribution of answers about different ways of acquiring CAN knowledge

	Yes n(%)	No n(%)
Received training on CAN during dental school (n:999)	116(11.6%)	883(88.4%)
Received training on CAN after dental school (n:986)	70(7.1%)	916(92.9%)
Read an article, journal or other literature on CAN (n:995)	469(47.1%)	526(52.9%)
Received practical instruction on diagnosing and reporting suspicious cases of CAN (n:1003)	101(10.1%)	902(89.9%)

Table 4 highlights the interesting results regarding Turkish dentists' attitudes towards CAN education. The majority, (86.5%) of the participants believed in the necessity of further education on child abuse and 84.3% indicated that the training should also be given at the post graduate level as well (Table 4). A statistically significant variation was found for having received postgraduate training in CAN based on professional branch specialization (p<0.01). Significantly more participants specialising in pediatric dentistry had received education on CAN; and significantly more participants in this group expressed the need for the training to be included at the postgraduate level.

The information presented in Table 5 ties the variance in attitudes by specialty, to behavior in the field. Suspicion of child abuse seems to vary significantly with respect to professional specialization, with the percentage of pediatric dentists was significantly higher than the rest (p<0.01). However, the rate of reporting CAN cases (in the 5 years prior to this study) did not significantly change with respect to the participants' field of specialization (p>0.05).

The percentages of the participants who reported having the capacity to diagnose child abuse, having suspected child abuse and having reported suspected cases in the 5 years prior to this study, were, 32.7%, 17.1%, and 1% respectively (Table 6). The reasons given for not reporting suspected CAN cases included "not being able to obtain the history to report"(45%); "worrying about the child being further hurt" (18.8%); "not having known about the legal responsibility of reporting" (18.3%); "mistrust of the child

Table 4: Prevalence of CAN training after dental school and attitudes towards the necessity of CAN training during postgraduate dental education (by dental specialty)

Dental Specialties	Did you receive training on awareness and reporting of CAN after dental school?		Do you think that CAN education should be offered during postgraduate dental education?	
	Yes	No	Yes	No
	n (%)	n (%)	n (%)	n (%)
General dentistry	18 (3.3%)	522 (96.7%)	455 (84.3%)	85 (15.7%)
Maxillofacial surgery	1 (2%)	48 (98%)	38 (77.6%)	11 (22.4%)
Pediatric dentistry	44 (28%)	113 (72%)	157 (98.1%)	3 (1.9%)
Radiologyandoral diagnosis	0 (0%)	17 (100%)	14 (82.4%)	3 (17.6%)
Periodontology	0 (0%)	35 (100%)	27 (79.4%)	7 (20.6%)
Orthodontics	2 (3%)	64 (97%)	57 (86.4%)	9 (13.6%)
Conservative Dentistry	1 (3.8%)	25 (96.2%)	22 (84.6%)	4 (15.4%)
Endodontics	1 (3.3%)	29 (96.7%)	19 (63.3%)	11 (36.7%)
Prosthodontics	2 (3.2%)	61 (96.8%)	40 (65.6%)	21 (34.4%)
p	0.001**		0.001**	
Chi-Square test	**p<0.01			

protection service agencies" (9.4%); "anticipating being harmed by the child's family" (4.2%); "not wanting to report and get involved" (2.5%); "not having the required time" (1.2%); and, "thinking that the child's family would be harmed" (Table 7).

The results showed in Table 8 gauge the level of knowledge Turkish dentists have about CAN. The statements in the questionnaire that "Repeatedly avulsed and discolored teeth can be regarded as resulting from child abuse"; "Burns are generally related to child abuse and generally have the shape of hot objects"; and, "Dental

Table 5: Assessment of suspecting and reporting child abuse in the last 5 years by dental specialty

	Have you ever suspected a child abuse in the last 5 years?		Have you ever reported a child abuse case in the last 5 years?	
	Yes	No	Yes	No
	n (%)	n (%)	n (%)	n (%)
General dentistry	74 (13.4%)	478 (86.6%)	6 (1.1%)	551 (98.9%)
Maxillofacial surgery	10 (20.8%)	38 (79.2%)	0 (0%)	48 (100%)
Pediatric dentistry	60 (38.2%)	97 (61.8%)	4 (2.5%)	156 (97.5%)
Radiology-Oral Diagnosis	0 (0%)	16 (100%)	0 (0%)	17 (100%)
Periodontology	6 (17.6%)	28 (82.4%)	0 (0%)	35 (100%)
Orthodontics	11 (16.7%)	55 (83.3%)	0 (0%)	67 (100%)
Conservative dentistry	2 (7.7%)	24 (92.3%)	0 (0%)	26 (100%)
Endodontics	4 (12.9%)	27 (87.1%)	0 (0%)	31 (100%)
Prosthodontics	2 (3.2%)	60 (96.8%)	0 (0%)	64 (100%)
p	0.001**		0.579	

Table 6: Distribution of answers about CAN cases in the last 5 years

	Yes n(%)	No n(%)
Have suspected child abuse cases in the last 5 years (n:995)	170(17.1%)	825(82.9%)
Have the capacity to diagnose child abuse (n:1002)	328(32.7%)	674(67.3%)
Have reported suspected child abuse cases in the last 5 years (n:1008)	10 (1%)	998 (99%)

Table 7: Distribution of the reasons given for not reporting suspected CAN cases

The reasons given for not reporting suspected CAN cases (n:915)	n	%
Not having known about the legal responsibility of reporting	167	18.3
Not being able to obtain the patient's history to report	412	45
Anticipating being harmed by the child's family	38	4.2
Mistrust of the child protection service agencies	86	9.4
Worrying about the child being further abused	172	18.8
Thinking that the child's family would be harmed	6	0.7
Not wanting to report or get involved	23	2.5
Not having the required time to report the case	11	1.2

neglect and physical neglect are directly related”- were correctly confirmed by 67.5%, 48.3% and 42.2%, of the participants respectively. Moreover, the statements in the questionnaire—“Also, the statements that “Bruises around the neck are generally caused accidentally” and “Bite scars observed during the routine dental examination of the child should be investigated as results of child abuse”—were correctly *not* confirmed by 65.7% and 4.6% of the participants respectively.

Table 8: Distribution of answers about dental and physical neglect

	Correct n(%)	False n(%)	I don't know n(%)
Dental neglect and physical neglect are directly related (n:990)	418 (42.2%)	248 (25.1%)	324 (32.7%)
Repeatedly avulsed and discolored teeth can be regarded as resulting from child abuse	668 (67.5%)	105 (10.6%)	217 (21.9%)
Bruises around the neck are generally caused accidentally (n:995)	81 (8.1%)	654 (65.7%)	260 (26.1%)
Burns are generally related to child abuse and generally have the shape of hot objects (n:992)	479 (48.3%)	202 (20.4%)	311 (31.4%)
Bite scars observed during the routine dental examination of the child should be investigated as resulting from child abuse (n:995)	774 (77.8%)	46 (4.6%)	175 (17.6%)

DISCUSSION

Healthcare workers bear important responsibilities with respect to issues of CAN, such as informing the public, diagnosing neglect and abuse and reporting cases to the legal authorities. To fulfill these responsibilities, healthcare workers must have adequate knowledge of the symptoms, manifestations and risks of CAN.¹³ Research conducted in the United States (US), Canada, and Jordan, has confirmed that dentists that receive education on CAN have a greater awareness of this issue than those that do not receive education, and they are more likely to have reported the problems to the authorities.^{6,31-35} Our study partially replicates these findings in the Turkish context. We found that dentists that have received training on CAN at the graduate level are more likely to suspect CAN cases in comparison to those that have not received such training ($p < 0.05$). The comparison on the same basis between dentists with and without postgraduate training on CAN was even more significant ($p < 0.01$). Therefore, our findings support the proposition that CAN should be an important element of dental education, and it should be included in the graduate, postgraduate and PhD curricula.³⁶ However, we were unable to find a significant correlation between that training and the reporting rates for cases of CAN.

Proper education and additional training, when available, of dentists are crucial for effective diagnosis of CAN. According to Sonbol et al., (2012), 34% and 41% of dentists in Jordan have received training on CAN, respectively, at the graduate level and postgraduate level.⁶ A 2018 study conducted in Sri Lanka reported that although 99.5% of the dentists emphasized the importance of education in CAN by 99.5% of the included dentists, only 22.1% had been educated on the subject.³⁷ Our numbers for Turkey seem to be lower: training on CAN had been given to only 11.6% and 7.1% of the participants at, respectively, has received CAN training at the graduate and post graduate levels in Turkey. In our study, 47.1% of the sample admitted to having read publications about CAN and 10.1% reported having been given information, instruction or practical training on this issue. Like their colleagues in Sri Lanka, 86.5% of our respondents emphasized the need for education on CAN, and 84.3% proposed this education to be given also at the postgraduate level.

The rate of identifying CAN cases appears to vary based on the field of professional specialization and experience. A 2003 questionnaire-based study conducted with 383 dentists in the Texas, USA showed that 50% of the participants had suspected cases of CAN; 95% of those were pediatric dentists.⁴ Similar studies conducted in Brazil and Australia also showed that pediatric dentists were the highest percentage of the dentists who suspected child abuse.^{9,38} Despite the difference observed between pediatric dentists and other dentists on the basis of experience, Marengo et al. demonstrated that the level of knowledge was not notably higher in pediatric dentists than the other dentists.³⁹ Our findings are in line with previous studies; of the 1020 participants in our study, pediatric dentists (38.2%) and specialists on maxillofacial surgery specialists (20.8%) suspected more cases of CAN in comparison to other specialists. We believe that this finding can be explained by the greater number of juvenile patients consulting with pediatric dentists and that more cases of chin and temporomandibular fractures are treated by these surgeons.

Various studies conducted across the world have indicated a persistent differential between rates of suspicion of CAN and reporting of CAN cases.^{4,20,40-43} A 2012 study in Jordan found that 50% of the physicians to have suspected CAN cases, but only 12% have reported these cases.⁸ Our study highlights this differential even more. In our study, 17.1% of the participating dentists reported having suspected cases of CAN, but only 1% reported the cases.

There are many reasons for not reporting suspected cases of CAN. In 2012, Sonbol et al. reported that the main reason for not reporting was the possibility of the child being further harmed by the family.⁶ In a 2013 study conducted in Greece, the main reasons given for not reporting CAN were not being sure of the diagnosis, and worries about further harming of the child.²¹ The reasons given for not reporting suspected CAN cases in studies conducted in the United Kingdom, and Croatia were the inability to diagnose the cases with certainty and not being able to obtain adequate history of the patient.^{5,36} In our study, the most prevalent reasons for not reporting were “not being able to obtain an adequate history” (45%), “worrying that the child might further be harmed” (18.8%), and “not being aware of the responsibility of reporting” (18.3%). Furthermore, the information presented in Table 3 suggests that, for the Turkish dentists, the lack of or inadequate training on CAN for Turkish dentists could also cause low levels of case suspecting CAN and reporting CAN cases. Finally, we believe that, in Turkey, the prevalence of the view that physically beating children is a way of educating them rather than abusing them decreases the number of reported cases.^{44,45} Proverbs such as “beating has come out of heaven” and “roses grow on the spots of a child’s body where beaten by his/her own mother” are often used phrases in Turkish society.⁴⁵

The level of knowledge of the dentists about specific indicators of CAN is another important factor for diagnosing CAN. Our study gauged the level of knowledge Turkish dentists have with respect to these specific indicators. The results we obtained fall reasonably within the range of the results reported in studies conducted elsewhere around the world. In our study, 42.2% of the participants demonstrated correct awareness about the link between physical and dental neglect, similar to the reported results of 44.9% and 48%, reported by Jordan et al. for Croatia and Ramos-Gomez et al. for California.^{5,30} In our study, the correct confirmation by 67.5% of the participants of our study that avulsion or discoloring of teeth after repeated trauma can be considered to be the result of child abuse, was also expressed by 84.7%, 83%, 63% and 60% of the participants in the studies by, respectively, Ramos-Gomez et al., (1998), Owais et al., (2009), Jordan et al., (2012) and Sonbol et al., (2012).^{5,6,30,46} In our study, 65.7% of the participants correctly disagreed with the statement that bruises around the neck can, in general, arise accidentally, and are not necessarily due to CAN, was correctly disagreed by 65.7% of the participants of our study. The same response was given by 60.2%, 81% and 49% of the participants in the studies by, respectively Ramos-Gomez et al., (1998), Owais et al., (2009) and Jordan et al., (2012).^{5,30,46}

The statements that burns are generally related to child abuse, and that these burns generally resemble the shape of hot objects was confirmed by 8.1% of the undergraduate and 8.6% of graduated dental students²⁹; by 60.7% of the students⁵; and by 67% of the dentists in Jordan.⁶ However, 4% of the participants in the study

by Ramos-Gomez et al., (1998)³⁰, respectively, correctly disagreed with these statements. In our study, this questionnaire item was altered and the statement that burns generally are not related to child abuse, but burn scars in the shape of hot objects should be evaluated as child abuse, was expected to be confirmed by the participants of our study.

The statement that bite scars detected during the routine dental examination of a child should be investigated an outcome of possible child abuse was correctly marked by only 4.6% of the participants of our study. Bite scars on children are made by sexual abuse or during fighting, and although the scars seen during routine dental examination can be due to abuse, they are generally due to fights between children. Scars suspected to be due to sexual abuse are generally located on the chest, lower abdomen and the genital areas. This statement is also misclassified by other studies as well: only 4% of the participants in the study by Ramos-Gomez et al. (1998) and 6.5% of the undergraduates and 3.4% of the graduate students in the study by Al-Jundi et al. (2010) gave correct answers to the same question.^{29,30}

CONCLUSION

As the first study to investigate the reporting rates of CAN cases in Turkey, this research establishes an important benchmark for studying CAN in a developing country context. In line with global findings, formal education seems to increase levels of awareness of CAN. In line with our expectations, pediatric dentists and oral and maxillofacial surgeons seem to encounter more instances of CAN. Future policies to combat CAN may specifically target these groups to optimize resources and maximize impact.

This study was conducted approximately a decade after a significant legal change in Turkish penal code, which requires healthcare professionals to take necessary action when they suspect CAN. While one may expect institutional procedures to play an important role in increasing the level of CAN reporting, this legal change seems to not have produced tangible results. Further research is needed to understand how legal provisions can produce effective change in healthcare professionals' behavior in relation to CAN reporting.

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