Assessing the Level of Knowledge and Attitude of Dentists and Increasing Awareness About Child Abuse and Neglect

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Abstract

Objective: This study aims to assess the knowledge level and attitude of dentists in Turkey about child abuse and neglect (CAN) and to increase the awareness of dentists with the informative booklet issued at the end of the assessment.
Methodology: An electronic survey consisting of three sections and 45 questions was taken to the dentists. The first section included the personal data of the dentists, the second section consisted of their level of knowledge about CAN, and the third section included the questions to assess their attitudes about CAN.
Results: The dentists taking part in the study were asked 27 questions in order to assess their knowledge level about CAN, and the mean score was determined 20,51 (64%), while the maximum score the participants could get was 32. The mean values for knowledge level about CAN were found to be significantly higher for women than men, for university hospital employees than private clinic employees, for attending physicians than non-attending, for pediatric dentistry than oral diagnosis and radiology, periodontology, prosthodontics, orthodontics, and endodontics specialists, for those with undergraduate and postgraduate education than those without education, and finally for those having received postgraduate education in vocational continuing training than those educated in PhD/career education.
Conclusion: Dentistry is of the utmost importance to detect, prevent, and report this issue. As can be realized in the results of our study, this issue is not addressed strongly enough. Therefore, it is suggested that CAN should be included in the dentistry undergraduate, career, and doctorate educations, as well as in the continuing vocational educations.

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Introduction

It is essential that children grow up and develop in a healthy way to form healthy, productive, contemporary, and successful societies (1). The term ‘childhood’ has always born different meanings not only in different societies in different times, but also in different parts of the same society. The UN Convention on the Rights of the Child, on the other hand, defines every individual under 18 as ‘child’, except for the case of ‘early adulthood’(2) .

The World Health Organization (WHO) defines child abuse and neglect (CAN) as any behaviour that causes potential or actual harm to a child’s health, development or honour commited intentionally or unintentionally by an adult, public or the State in the

form of physical or emotional misbehaviour, sexual harassment, neglect, and exploitation (3). Being a serious problem both in Turkey and in the world, CAN might negatively affect children's current and future lives. In Turkey, where every individual under the age of 18 is accepted as child, CAN poses a severe public health issue with medical, judicial, and social aspects that might cause fatal injuries, disabilities, and even deaths (4).

The first and the most important step for a CAN diagnosis is approaching the case without ignoring the probability of child's exposure to it. If the symptoms caused by CAN can not be identified, recurrent and more severe abuse will be inevitable, and more dramatic results, even death, might occur. Therefore, all findings and symptoms of CAN must be known by the healthcare workers.

50-77% of CAN-related injuries are involved in orofacial zone (5). It is a high probability that the dentists might be the first healthcare workers to realize CAN-related orofacial injuries (6). Sexually transmissible diseases can also cause symptoms in this zone. Moreover, since the dentists are in constant touch with the patients and their parents, they can also observe the relationship between the children and their parents as well as the physical and psychological state of the children (7). Therefore, the dentists have a significant role in terms of defining and informing child abuse.

In Turkey, healthcare workers are legally, morally, and ethically responsible for informing the authorities about probable CAN cases (4). Nevertheless, when compared to the other healthcare workers, the dentists are passive in diagnosing and reporting the CAN cases. In many studies, it is seen that the dentists think they are undereducated about the diagnosis and reporting of the CAN cases, and that although they suspect some CAN cases, they do not report them to the authorities (8-10).

Our study differs vastly from the other dentistry researches conducted in Turkey. Firstly, our study covers both the general dentists and the specialist dentists. Secondly, the research questions are related to all types of CAN. Thirdly, while the knowledge level of the dentists is not evaluated based on the questions, the mean score for the level of knowledge is determined using the evaluative questions. The last difference is the informative brochure attached to the end of the survey to raise awareness about CAN.

The first aim of this study is to assess and to see how much the dentists know about CAN, whether they are capable of diagnosing CAN, what they do in the face of CAN cases, where they report these cases -if not, why they do not report-, whether they need further education on this issue, and the second aim is to raise awareness.

Materıal And Method

The ethical approval of this study was obtained from the Ethical Committee of Dicle University Faculty of Dentistry (dated 29.04.2020 and with the protocol number of 2020-11).

Electronic survey was used as a means of collecting data. The survey was prepared using Google Forms, and was offcially posted to the Deanships of the Faculties of Dentistry and to the Dentistry Associations, and was emailed to the members of the Turkish Dental Association. Besides, social media was utilized to reach out as many dentists as possible. The study covers the time period between August and November 2020, and a total of 1.000 dentists participated in it.

Similar study written in Turkey were obtained from the Documentation Center of the Council of Higher Education, while the EBSCOHOST database was used to get the foreign study. As a means of data collecting, a survey was prepared using the questions validated and approved in similar studies both in and out of Turkey (8,9,11-17).

The survey consists of 45 questions and 3 sections. Section 1, consisting of the first 11 questions, includes the personal information of the participating dentists; Section 2, consisting of the questions between 12 and 39, assesses the knowledge level of the dentists on CAN; and Section 3 with the questions between 40 and 45 determines the attitudes and the behaviours of the dentists about CAN. While the questions 26, 27, and 28 in Section 2 have more than one answers, all the other questions have only one answer.

A link for a brochure was added to the end of the electronic survey, which gives definitions on CAN, and simply explains the oral findings of the different types of CAN, the responsibility for reporting CAN, what a dentist should do and where he needs to report the CAN cases.

The data acquired in this study was analyzed with the IBM SPSS 21 package program. Results were accepted as statistically significant for $p<0,05$. Normal distribution of variables was examined with Shapiro-Wilk test and/or Kolmogorov-Smirnov test due to

number of units. To examine the differences among the groups, since the variables were normally distributed, Independent T test and One-Way ANOVA were used depending on the numbers of the groups. In case there was statistically significant difference in One-Way ANOVA, Tukey's HSD test was used in homogeneous groups variances, and Tamhane's test was conducted when the variances were not homogeneous.

Results

The data about the personal information of the participants acquired from the 1st Section of the survey is presented in Table 1.

The data assessing the knowledge level of the dentists on CAN in Section 2 is presented in Table 2 and Table 3. The correct answers are marked bold.

A total of 27 questions in Section 2 were asked to the participating dentists to assess their level of knowledge on CAN, and they were given 1 point for every correct answer to determine a mean score for knowledge level. While the maximum score for 27 questions was 32, the mean score in our study was 20,51 (64%).

The personal information of the participants was compared to their level of knowledge on CAN. The mean values for knowledge level about CAN were found to be significantly higher for women than men, for university hospital employees than private clinic employees, for attending physicians than non-attending, for pediatric dentists than oral diagnosis and radiology, periodontology, prosthodontic dentistry, orthodontics and endodontics specialists, for those with undergraduate and postgraduate education than those without education, and finally for those having received postgraduate education in vocational continuing training than those educated in PhD/career education ($p<0,05$) (Table 4). There was no statistically significant correlation between the level of knowledge on CAN and the marital status, having children, or period of professional service ($p>0,05$) (Table 4).

The data acquired from the 3rd Section of the survey, where the participants' attitude and behaviour about CAN were assessed, was presented in Table 5.

Table 1. Frequency distribution table for the personal information of the participants

		n	%
Gender?	Female	709	70,9
	Male	291	29,1
	Total	1000	100
Marital status?	Married	432	43,2
	Single	568	56,8
	Total	1000	100
Children?	Yes	294	29,4
	No	706	70,6
	Total	1000	100
Period of service?	1-5 years	610	61
	6-10 years	204	20,4
	11 years and above	186	18,6
	Total	1000	100
Institution?	State Hospital/ Center for Oral and Dental Health	204	20,4
	University Hospital	387	38,7
	Private Hospital/Polyclinic	157	15,7
	Private Clinic	138	13,8
	Not working	114	11,4
	Total	1000	100
Specialty?	Yes	454	45,4

	No	546	54,6
	Total	1000	100
If yes, what is your specialty?	Oral Diagnosis and Radiology	13	2,86
	Oral and Maxillofacial Surgery	49	10,79
	Periodontology	31	6,83
	Prosthodontic Dentistry	57	12,56
	Pediatric Dentistry	195	42,95
	Orthodontics	44	9,69
	Restorative Dentistry	26	5,73
	Endodontics	39	8,59
	Total	454	100
Did you get any training on child abuse and neglect during your undergraduate	Yes	223	22,3
	No	777	77,7
	Total	1000	100
Did you get any training on child abuse and neglect after graduation?	Yes	105	10,5
	No	895	89,5
	Total	1000	100
If yes, where did you get it?	Specialty/Doctorate education	57	54,29
	Vocational continuing training	48	45,71
	Total	105	100

Table 2. Frequency distribution table for the questions 1-24 to measure the dentists' level of knowledge

	No idea		Yes		No		Total	
	n	%	n	%	n	%	n	%
1. Discrepancies between the child's and the family's versions of statements of the posttraumatic history, frequent change of the medical history, and lack of detailed information from the family should indicate child abuse and neglect.	33	3,3	**957**	**95,7**	10	1	1000	100
2. Frequent injuries of the child and bruises at different healing periods should indicate child abuse and neglect.	32	3,2	**950**	**95**	18	1,8	1000	100
3. A delay in the child's medical assistance after the trauma should indicate child abuse and neglect.	102	10,2	**846**	**84,6**	52	5,2	1000	100
4. Bruises and soft tissue injuries on the cheeks might indicate physical abuse.	45	4,5	**935**	**93,5**	20	2	1000	100
5. Traumas causing teeth to change colour, be broken or avulsed, and fractures in the jaw or in related body parts should indicate physical abuse.	102	10,2	**758**	**75,8**	140	14	1000	100
6. Tears and hematoma in the inner lips should indicate physical abuse.	125	12,5	**747**	**74,7**	128	12,8	1000	100
7. Bruises around the neck are related to accidental injuries.	228	22,8	271	27,1	**501**	**50,1**	1000	100
8. Petechial bleeding or erythema in the oral mucosa of the child should indicate sexual abuse.	370	37	**465**	**46,5**	165	16,5	1000	100
9. Symptoms of sexually transmitted diseases in the oral cavity of the children between the ages of 2-10 should indicate sexual abuse.	70	7	**916**	**91,6**	14	1,4	1000	100
10. Bite marks on the neck or on the less accessible parts of the child might indicate sexual abuse.	43	4,3	**947**	**94,7**	10	1	1000	100
11. If the distance between the canine teeth in a bite mark is longer than 3 cm, that should indicate that the bite was made by an adult.	141	14,1	**842**	**84,2**	17	1,7	1000	100
12. Superior labial frenulum laceration and bruises in the inner part of the upper lips of the children younger than 1 year old do not indicate sexual abuse.	470	47	205	20,5	**325**	**32,5**	1000	100
13. While children between the ages 16 and 18 can get married with a court decision or with the permission of the legal representative, children under 15 years old can not get married.	310	31	**606**	**60,6**	84	8,4	1000	100
14. Emotional abuse of a child consists of psychological traumas such as continual insult, giving names, and ridiculing in public.	43	4,3	**939**	**93,9**	18	1,8	1000	100
15. Bruxism, joint problems, and thumbsucking in children might indicate emotional abuse.	124	12,4	**828**	**82,8**	48	4,8	1000	100
16. Visible tooth decays, infected and aching teeth, and the delayed dental treatment of the child despite the medical advice of the dentist should indicate dental neglect.	31	3,1	**940**	**94**	29	2,9	1000	100
17. Cases of child abuse and neglect are usually associated with low income, and rarely occur in high income families.	157	15,7	164	16,4	**679**	**67,9**	1000	100
18. Abused child usually tell it to somebody shortly after the abuse.	203	20,3	58	5,8	**739**	**73,9**	1000	100
19. In abuse cases, the abuser is usually someone the child does not know intimately.	140	14	56	5,6	**804**	**80,4**	1000	100
20. Sexually abused children usually abstain from eye contact and display a relatively more obedient attitude.	221	22,1	**754**	**75,4**	25	2,5	1000	100
21. Child abuse and neglect are among the most common causes of child deaths.	432	43,2	**496**	**49,6**	72	7,2	1000	100
22. Dentists can reveal child abuse and neglect during their clinical applications.	69	6,9	**918**	**91,8**	13	1,3	1000	100
23. Do you have a child abuse and neglect management protocol in your institution?	-	-	**163**	**16,3**	837	83,7	1000	100
24. Would you report if you are suspicious of a child abuse and neglect case?	-	-	**933**	**93,3**	67	6,7	1000	100

Table 3. Frequency distribution table for the questions 25-28 to measure the dentists' level of knowledge

		n	%
25. Which of the below are the dentists in Turkey legally responsible to report?	Do not know	344	34,4
	Child abuse and neglect	**577**	**57,7**
	None	8	0,8
	Only child neglect	7	0,7
	Only child abuse	64	6,4
	Total	1000	100
*26. Where are you supposed to report for the child abuse and neglect cases?	Do not know	250	25
	A higher position in the same institution	**461**	**46,1**
	Nearest Hospital	78	7,8
	Police Station	**533**	**53,3**
	Center for Child Development	217	21,7
	Social Services and Child Protection Agency	257	25,7
	Ministry of Family Labor and Social Services (Alo 183)	**519**	**51,9**

	Public Prosecution Office	**209**	**20,9**
*27. If your answer is 'no' for the 24th question, what are your reasons for not reporting?	Did not know about the responsibility for reporting	17	25,37
	Did not know about the reporting protocol	36	53,73
	Failed to accurately diagnose	35	52,24
	Got anxious about the reaction of the family/parents	14	20,90
	Got scared that the child would be hurt further	23	34,33
	Did not wish to be involved in legal procedure	13	19,40
	Got concerned for my professional career	6	8,96
	Did not believe that the Social Services could solve it	15	22,39
	Did not have enough time to report	5	7,46
* 28. According to the Turkish Criminal Law, which of the sanctions below is applied to the dentists who fail to report the child abuse and neglect cases?	No legal sanction	68	6,8
	Reprimand	56	5,6
	Dismissing from profession	20	2
	Pecuniary fine	23	2,3
	Those who fail to report a crime will face imprisonment up to 1 year	**71**	**7,1**
	If those who fail to report a crime are public officials, they will face imprisonment from 6 months to 2 years	**88**	**8,8**
	If those who fail to report a crime are healthcare workers, they will face imprisonment up to 1 year	**66**	**6,6**
	Do not know	796	79,6

* Participants are allowed to choose more than one option.

Table 4. Results of the analysis for the correlation between the level of knowledge and the personal information of the dentists

		Level of Knowledge						Test Statistics	p
		n	Mean	Median	Min	Max	sd		
Gender	Female	709	21,14	21	0	31	4,21	7,165	**0,001**
	Male	291	18,98	19	1	32	4,66		
	Total	1000	20,51	21	0	32	4,45		
Marital status	Married	432	20,66	21	2	31	4,4	0,944	0,345
	Single	568	20,4	21	0	32	4,49		
	Total	100	20,5	21	0	32	4,45		

		0	1						
Children	Yes	294	20,64	21	6	31	4,48	0,569	0,57
	No	706	20,46	21	0	32	4,44		
	Total	1000	20,51	21	0	32	4,45		
Period of service	1-5 years	610	20,54	21	0	31	4,34	0,058	0,943
	6-10 years	204	20,42	21	2	32	4,7		
	11 years and above	186	20,51	21	6	31	4,57		
	Total	1000	20,51	21	0	32	4,45		
Institution	State Hospital/ Center for Oral and Dental Health	204	20,55	21	6	30	4,15	3,862	**0,004**
	University Hospital	387	21,13	21	1	32	4,6		
	Private Hospital/ Polyclinic	157	20,03	20	3	26	4,08		
	Private Clinic	138	19,74	20	6	30	4,05		
	Not working	114	19,95	20,5	0	31	5,15		
	Total	1000	20,51	21	0	32	4,45		
Specialty	Yes	454	21,2	22	1	32	4,23	4,473	**0,001**
	No	546	19,94	20	0	31	4,55		
	Total	1000	20,51	21	0	32	4,45		
If yes, what is your specialty?	Oral Diagnosis and Radiology	13	18,69	17	13	25	3,86	5,752	**0,001**
	Oral and Maxillofacial Surgery	49	21,65	22	12	29	3,79		
	Periodontology	31	19,9	20	8	29	4,4		
	Prosthodontic Dentistry	57	20,16	20	1	29	4,84		
	Pediatric Dentistry	195	22,37	23	3	31	4,04		
	Orthodontics	44	20,02	20	11	29	3,55		
	Restorative Dentistry	26	21,35	22	13	32	4,72		
	Endodontics	39	19,33	19	12	25	3,29		
	Total	454	21,2	22	1	32	4,23		

Did you get any training on child abuse and neglect during your undergraduate education?	Yes	223	22,04	22	11	32	3,72	6,604	**0,001**
	No	777	20,07	20	0	31	4,55		
	Total	1000	20,51	21	0	32	4,45		
Did you get any training on child abuse and neglect after graduation?	Yes	105	23	23	3	32	4,76	6,165	**0,001**
	No	895	20,22	21	0	31	4,32		
	Total	1000	20,51	21	0	32	4,45		
If yes, where did you get it?	Specialty/Doctorate education	57	21,75	23	3	29	5,26	-3,036	**0,003**
	Vocational continuing training	48	24,48	24	16	32	3,62		
	Total	105	23	23	3	32	4,76		

Table 5. Frequency distribution table for the questions related to the attitude and the behaviour of the dentists

		n	%
Have you ever been suspicious of child abuse and neglect during your career?	Yes	194	19,4
	No	806	80,6
	Total	1000	100
What was the child abuse and neglect case that you were suspicious of?	Physical abuse	88	45,36
	Sexual abusechild abuse and neglect case	22	11,34
	Emotional abuse	30	15,46
	Neglect	54	27,84
	Total	194	100
Did you report the child abuse and neglect case when you got suspicious?	Yes	106	54,63
	No	88	45,37
	Total	194	100
Where did you report to?	Ministry of Family Labor and Social Services	10	9,43
	A higher position in the same institution	47	44,34
	Public Prosecution Office	5	4,72
	Police Station	33	31,13
	Center for Child Development	6	5,66
	Other	5	4,71
	Total	106	100
When you get suspicious of a child abuse and neglect, do you believe that you are equipped with the appropriate knowledge to identify the	Yes	204	20,4
	No	796	79,6
	Total	1000	100

case?			
Would you like to receive more information and training on child abuse and neglect?	Yes	973	97,3
	No	27	2,7
	Total	1000	100

Discussion

The WHO emphasizes that it is among the responsibilities of healthcare workers to determine the child victims of CAN, to protect those children with a comprehensive approach and multidisciplinary cooperation, and finally to provide them with the appropriate treatment environment (18). Being healthcare professionals, due to their specific position and vocational training, and as a result of their professional sensitivity and awareness, the dentists are eligible to diagnose, to prevent, and to report any CAN cases (19). The awareness, the knowledge, the experience, and the motivation of the dentists are of paramount importance for the diagnosis and the prevention of dramatic consequences because the CAN cases are liable to be covered and there is no specific symptom or test for the accurate diagnosis.

This study, in terms of the number of the participants and the results, has produced data related to the dentists' awareness about CAN to make some generalizations. In our study, the mean score for the level of knowledge is compared to the personal information of the participants, and their attitude and behaviour are assessed.

According to study data, male dentists' level of knowledge about CAN is significantly lower than that of female colleagues. In Şanyüz's (2009) research conducted with the medical doctors, it was stated that 73% of the doctors who came up with a diagnosis of abuse were female, and was suggested that women's ratio to detect child abuse is higher than that of men (20). In Kara's (2010) thesis research conducted with 550 medical doctors in Ankara, the correlation between doctors' level of knowledge about CAN and their genders was assessed, and it was stated that women's level is significantly higher than men's (21). The results of these studies overlap with our results. Women's relatively higher level of awareness can be explained with the fact that they spend more time with children taking care of them.

The correlation between the level of knowledge of the participating dentists about CAN and their marital status is not statistically significant. Likewise, in Solak's (2018) thesis research conducted with the family physicians in Adana, there was no significant correlation between detecting CAN cases and marital status (22).

In this study, no statistically significant difference was determined between the knowledge levels of dentists with and without child. Similarly, in Kara's (2010) thesis research conducted with 550 medical doctors in Ankara, no statistically significant correlation was suggested between the knowledge levels of dentists with and without child (21). Contrary to these studies, in Şanyüz's (2009) thesis study with medical doctors, it was stated that the participants' level of sensitivity about CAN proved different depending on their having children (20). In our study, however, it might be concluded that although having children would not affect the level of knowledge about CAN, it increases the sensitivity about children.

When compared to the period of service in the profession, the level of knowledge of the participants on CAN does not show any statistically significant difference. It was suggested that, in Garrusi et al.'s (2007) research with the medical doctors in Iran, the elapsed time period after the graduation does not have any implications on the level of knowledge about CAN (23). The results of this study show similarity with our study's findings. According to the results of Dalledone et al.'s (2012) research conducted with the dentists and the oral health technicians, after spending 20 years and above in the profession, the participants' ratio of suspicion of the CAN cases was found to be significantly high (24). Although our study showed that the period of service does not affect the level of knowledge, it can not be ignored that working as a dentist for long years provides a vast amount of theoretical and practical experience.

In this study, it was concluded that the level of knowledge of the dentists on CAN working at private clinics is significantly lower than that of those working at the Faculty of Dentistry Dental Hospitals, but no significant difference between the other parameters. Besides, although there was no statistically significant difference, the dentists who work at the State Hospitals and at the Faculty of Dentistry Dental Hospitals ranked first in terms of their level of knowledge on CAN. According to Uldum et al.'s (2010) research conducted on 1145 dentists and dental hygienists in Denmark, it was

stated that those working at state institutions report at a significantly higher ratio than those working at private ones (25). The study conducted by Sonbol et al. (2012) with 256 dentists in Jordan suggested that dentists at the state hospitals had a significantly higher level of knowledge than the private sector dentists (15). The reasons for this awareness might be that university and state hospitals are extensive healthcare institutions, the dentists at these institutions examine more patients, those working at the university hospitals are either assistant professor or doctoral student, and it is more likely for them to know more about the issue.

When the level of knowledge of the participating dentists on CAN is compared to their having professional specialty or not, the knowledge level of dentists without specialty was determined to be significantly lower than those with specialty. According to the conclusion of Kilpatrick et al.'s (1997) research conducted with 122 dentists in Australia, 58% of the pediatric dentists and 24% of the others got suspicious of CAN; 36% of the pediatric dentists and 10% of the others reported these cases (26). During the specialty training, it is possible to contribute to the handling of this significant public health problem by defining the CAN issue and the reporting protocol. It is also feasible to raise awareness of the other dentists by educating them during their vocational continuing training.

In this study, the knowledge level of dentists specialized in oral diagnosis and radiology, periodontology, prosthodontic dentistry, orthodontics, and endodontics was found to be significantly lower than that of the pediatric dentists. Nevertheless, the knowledge level of dentists specialized in oral and maxillofacial surgery and restorative dentistry was not significantly different from that of the pediatric dentists. In a research conducted by Bsoul et al. (2003) with 383 dentists in Texas, it was stated that 96% of the dentists getting suspicious of CAN were pediatric dentists (14). According to Azevedo et al.'s research conducted with 187 dentists in Brazil, it was suggested that pediatric dentists form the highest percentage among the dentists getting suspicious of CAN (27). In Kural's study, where he researched the CAN awareness of the dentists in Turkey, it was determined that 38,2% of the pediatric dentists and 20,8% of the oral and maxillofacial surgeons got suspicious of CAN (8). These results can be explained with the suggestion that pediatric dentists see more pediatric patients and also have a vast knowledge about the issue. The awareness of the oral and maxillofacial surgeons can be explained with the suggestions that they are more likely to encounter abuse cases and treat the fractures of dentoalveolar zone and maxilla. The awareness of the restorative dentists can be explained with that they handle patients between the ages of 15-18 at some hospitals and they are one of the rare specialties treating traumatic dental injuries.

In this study, it was determined that the level of knowledge of the dentists who did not get any trainings about CAN during their undergraduate education was significantly lower than that of the dentists with an undergraduate level of CAN training. In Canada, 'protecting children' was included into the curriculum at many dentistry departments, and the surveys suggest that there has been a statistically significant increase in the awareness (6). In Kural's research in Turkey, it was stated that –within the recent 5 years- the level of suspicion of those who participated in 'CAN awareness and reporting' lessons at the dentistry undergraduate education was significantly higher than that of those without the same education (8). These findings suggest that the curriculum of many faculties of dentistry in various countries is not adequate to diagnose and report the CAN cases. These courses are not included into the curriculum of the faculties of dentistry in Turkey. Therefore, this subject should be included into the undergraduate curriculum in order to diagnose CAN symptoms and determine how to report.

In this study, it was determined that the level of knowledge of the dentists who did not get any trainings about CAN after the graduation was significantly lower than that of the dentists with a postgraduate CAN training. In Chadwick et al.'s (2009) research with the dental therapists, it was suggested that the dental therapists with a postgraduate education on child protection are more likely to get suspicious of child abuse (28). In Kural's research in Turkey, it was stated that –within the recent 5 years- the level of suspicion of those who participated in 'CAN awareness and reporting' lessons at the postgraduate education was significantly higher than that of those without the same education (8). We believe that –after the graduation- the trainings about CAN during the specialty/doctorate education and vocational continuing training will positively affect the awareness.

In our study, there was a statistically significant correlation between the knowledge level of the participants on CAN and the type of education. The level of knowledge of those educated about CAN at the specialty/doctorate education was significantly lower than that of the dentists educated at the vocational continuing training. These findings as well can be explained with the fact that this subject is not included

into Turkish dentistry curriculum. Moreover, it can be stated that the awareness about CAN was increased by the conferences, symposiums, and seminars delivered by some professional associations such as Turkish Dentistry Union (TDU), which would allow to reach many dentists after the graduation.

According to the results of our study, the education received during the undergraduation and after the graduation positively affects the level of knowledge of the dentists on CAN. In Sonbol et al.'s (2012) research conducted with 256 dentists in Jordan, 34% of the dentists received a training during their undergraduate education and 41% after graduation, and 54% stated having read the related literature. It was found to be statistically significant that the dentists who got CAN training during the undergraduation and after the graduation had higher awareness about CAN than those who did not, and was emphasized that CAN training should be included into the curriculum of dentistry (15). According to Uldum et al.'s research conducted between the years 2008 and 2013 with the dentists in Denmark with the aim of comparing the data of two different surveys, it was suggested that there was a slight increase in the suspicion of CAN cases (from 38,3% to 40,8%) and that there was a significant increase in directing to the Social Services. It was seen that this rise was caused by a few dentists who had already got training on the subject. In the same study, it was announced that most of the participants did not get any training on the subject during that 5-year period. Finally it was concluded that more undergraduate/postgraduate education, collegiality, and novel approaches were required (10). All these findings indicate that education on CAN increases the awareness of the dentists, contributes to practicality, and produces a positive impact on the diagnosis and detection of the CAN cases. CAN education should be included into the postgraduate, specialty, doctorate, and vocational continuing educations as well as every phase of dentistry curriculum. In the light of these results, a link for a brief, colorful, and catchy brochure introducing the types of CAN, explaining the oral symptoms, emphasizing the obligation for reporting, and illustrating what to do in case of a CAN case was added at the end of the survey.

When the data related to the attitude and the behaviour of the dentists in Section 3 was assessed, the ratio of the dentists having got suspicious about CAN was found to be 19,4%, and the others formed the 80,6%. In Kural's research in Turkey, the ratio of the dentists suspecting CAN within the last 5 years was 17,1% (8). The most important step for diagnosing CAN is to suspect its probability. The reason why the participants in our research had a low rate of suspicion might be that their knowledge was not enough to diagnose. It is fair to assume that the more they are aware of CAN, the more they get suspicious of such cases.

In this research, when the participants were asked about the most suspicious type of abuse, physical abuse ranked first with a ratio of 45,36%, and neglect second with 27,84%. In Lazenbatt et al.'s (2002-2003) research conducted with 419 doctors, nurses and dentists in Ireland, 60% of the participants claimed having encountered suspicious physical abuse cases during their careers (29). Özgür in his research with pediatric dentists in Turkey, stated that 43,9% of the participants claimed having suspected physical abuse during their professional lives (9). It is possible to believe that physical abuse is more commonly determined as it produces more visible indications when compared to the other types, hence the dentists are more likely to determine these indications.
In this study, it was found that 54,63% of 194 dentists who got suspicious of CAN cases reported them, while 45,37% did not. In Özgür's study, it was specified that 68,8% of the participating dentists did not report their suspicions (9). In Harris et al.'s (2010) research with the dentists in Scotland, it was found that the report rate of dentists suspecting CAN was 17% (30). All these researches, including ours, indicate that there is an obvious tendency for not reporting suspicious CAN cases. It can be suggested that although the most important reason for not reporting is the lack of knowledge and experience, other reasons might be abstaining the reaction of the families, worrying about further damage to the children, worrying about occupational risks, abstaining from involving in the judicial process and like. When such CAN cases are not officially reported, the subjected child is to go back to the abusive environment to be abused recurrently. The dentists are required to break this chain by reporting every single suspicious case to the authorities.

Our participating dentists claimed that 44,34% had reported to their supervisors, 31,13% to the Police Stations, 9,43% to the Ministry of Family Labor and Social Services, 4,72% to the Prosecution Office, 5,66% to the Child Protection Agency, and 4,71% to the other posts (NGO, the families of the children, Forensic Medicine Institute etc.). 89,62% of our participants claimed having reported to the right institutions (their supervisors, Police Stations, the Ministry, and the Prosecution Office).

In this research, the ratio of the participating dentists who believed that their level of knowledge was not adequate to diagnose a probable CAN case was 79,6%. In

Al-Dabaan et al.'s (2012) study conducted with the dentists in Saudi Arabia, 47,8% of the participants claimed to be sure of themselves about determining the indications of CAN (31). In Kural's study with the dentists in Turkey, 32,7% of the participating dentists claimed to have the adequate background to detect CAN cases (8). Nevertheless, most of the participants in this study believed that their knowledge on the subject was not enough, thus highlighting the significance of related training. Therefore, we aimed to raise the awareness of the dentists about CAN with the brochure attached to our paper.

In our research, 97,3% of the dentists stated that they wanted to be trained and acquire more knowledge about CAN. Likewise 97% of Dalledone et al.'s, 86,5% of Kural's, and 96,7% of Özgür's participants conveyed their enhusiasm for learning more about CAN (8,9,24). Like all these researches, our research also shows that the dentists need more and up-to-date information even if they think they are knowledgeable about the issue. It is believed that the more they learn about the subject, the more they realize the importance of it, the more they want to be trained about it, and the more they want to acquire updated information in order to determine, prevent, and report this important public health problem.

Conclusıon

CAN is a widespread public health issue throughout the world. As CAN might give many indications in the orofacial area, dentists constitute one of the most important occupational groups in determining, reporting, and preventing this issue. Therefore, CAN training should be included in the undergraduate, Master's and Doctorate programs of dentistry. Accordingly, during the postgraduate phase, awareness should be raised within the context of vocational continuing training via congresses and seminars on the diagnosis and reporting protocol of CAN. Dentists should handle the CAN cases within a multidisciplinary approach.

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