Knowledge and Professional Experiences Concerning Child Abuse: An Analysis of Provider and Student Responses

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Abstract

Purpose: The objective of this study was to explore dentists', dental hygienists', dental students', and dental hygiene students' knowledge about their professional responsibilities concerning suspected child abuse and their professional experiences with this issue.

Methods: Questionnaire data were collected from 220 general dentists, 158 dental hygienists, 233 dental, and 76 dental hygiene students regarding their knowledge, professional responsibilities, and behavior concerning child abuse.

Results: Twenty percent of the dentists and 9% of the dental hygienists had reported at least 1 case of suspected child abuse. While 83% of the dental professionals knew that they had to report suspected cases of child abuse, only 73% of the students knew their legal responsibility. Also, only 28% of the professionals and 18% of the students knew where to report suspected child abuse. Compared to students, professionals had more knowledge concerning the diagnosis of child abuse, while students were more knowledgeable concerning signs of sexual abuse. Professionals, however, were less likely to know that failure to report suspected abuse was a misdemeanor.

Conclusion: These data showed that not all dental care providers and students were prepared to fulfill their legal and professional responsibilities in these situations. (Pediatr Dent 2006;28:438-444)

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Each state is responsible for defining child maltreatment, based upon the guidelines of the Federal Child Abuse and Neglect Prevention Act passed by the US Congress in 1974. Regardless of the specifics of their definitions, all states agree that there are 4 types of child maltreatment: (1) physical abuse; (2) sexual abuse; (3) emotional abuse; and (4) neglect.[1] The effects of child maltreatment of all types can be serious and even fatal. An estimated 906,000 children were victims of maltreatment in the United States in 2003, when it was also estimated that 1,500 US children died as a result of abuse or neglect.[2]

Research showed that parents/guardians who abuse their children typically change their child's physician frequently.[3] They are more likely, however, to continue to visit the child's dentist. Dentists typically see patients at least twice a year. This repeated and consistent contact with children, coupled with the high rate of injuries in the orofacial region due to abuse, gives dental care providers a unique opportunity to recognize and report suspected cases of child maltreatment.[4-7] Kassenbaum and colleagues, however, showed that, while 36% of the dentists surveyed had suspected that one of their patients was a victim of child abuse, only 19% had reported suspected child abuse to the authorities.[8] In fact, of all the reported cases of child abuse and neglect, only 1% of the cases were reported by dentists.[9] These findings raise questions concerning dentists' rationale for not reporting suspected child abuse or neglect. One possible explanation for this lack of action could be that some providers were not knowledgeable of their professional responsibilities concerning child abuse and neglect.[10,11] Another possible explanation could be that dentists were not adequately trained and had not received the information needed to address child abuse and neglect professionally.[12,13]

One important piece of information that dental care providers and students may not have is concerned with their legal responsibilities and especially how to proceed when they encounter suspected child abuse and neglect. Prior research showed that dental professionals were not always aware of their legal obligations concerning child abuse and neglect.[14] While they often recognized clinical symptoms suggesting child abuse, they did not always know their legal or ethical obligations to report their findings or suspicions.[15,16] In 1997, Adair and colleagues reported that

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dentists who were aware that they were mandated reporters did not necessarily know to which agency they had to report child maltreatment.[17] Mouden, the bureau chief for the State of Missouri Department of Public Health, therefore, noted that it was important not only to be able to diagnose child abuse and neglect, but also to "be prepared to take immediate remedial action on behalf of the victim."[18] For this report to actually occur, dental care providers must have reporting materials ready and a plan in place to address abuse or neglect should it present itself in their practices.[19,20]

In addition, it is important to gain a better understanding of the factors that may explain whether providers and students report suspected child abuse and neglect. Bsoul et al reported that as many as 50% to 75% of all cases of child abuse included trauma to the head, face, and mouth.[9] Dentists, dental hygienists, and dental and dental hygiene students, therefore, need to be well educated concerning the signs of child abuse and neglect to ensure that they can recognize cases of suspected child abuse or neglect and prevent further suffering of these children.[21] The quality of dental and dental hygiene education could, therefore, be one crucial factor that may contribute to an increase in the identification/detection and the reporting of child maltreatment by dental care providers and students. While dental care providers' decisions to report child abuse or neglect are likely due to many factors, one key factor could be their educational background.[22] Adair and colleagues found that the likelihood of dentists to report child maltreatment was associated with a dentist's "exposure to continuing education, having seen suspected cases in practice and having filed at least one maltreatment report in the previous 5 years."[17]

Research showed that the amount of time dental schools spent educating students about child maltreatment issues has increased over the past 20 years.[10,22,23] In 2002, 100% of US and Canadian dental schools included child abuse education in their curricula.[24] This statistic, however, does not necessarily demonstrate that dental schools provided their students with any clinical or actual experiences with child abuse and neglect. It is not specified what type of education on child abuse and neglect is given, nor the extent of the education. In addition, the increase in training on child maltreatment in dental hygiene programs has not been as substantial. Between 1984 and 2000, child abuse training increased only 7% in dental hygiene programs from 64% of the programs providing it to 71% of the programs.[25]

In summary, the first purpose of this study was to explore whether dental care providers and students have sufficient knowledge about their professional responsibilities concerning reporting child abuse and neglect. This study specifically explored whether they know their legal responsibilities and have a clear idea how to proceed when they encounter suspected child abuse and neglect.

The second aim was to explore the extent to which dentists, dental hygienists, dental students, and dental hygiene students have knowledge concerning how to detect child abuse and neglect.

Methods

This study was approved by the Institutional Review Board (IRB) for the Health Sciences at the University of Michigan, Ann Arbor, Mich. All respondents returned their surveys anonymously to the researchers. Returning the surveys was seen as giving implicit consent to participate in the study. No active consent was obtained, because the names on the consent form would have provided information about who responded to the study.

The dental professionals and students responded to a self-administered survey that included questions concerning their:

1. background (such as gender and year in practice or year in the dental/dental hygiene school);
2. educational experiences; and
3. knowledge about child abuse and neglect.

While both providers and students responded to the same general background questions concerning their gender, ethnicity/race, and age, the student version of the survey then followed these general questions with 4 questions concerned with their educational experiences asking them about the:

1. type of program they attended (dental vs dental hygiene program);
2. year of the program; and
3. whether they had been educated about child abuse and neglect in:
   a. classroom settings;
   b. clinical settings; or
   c. school external settings.

The provider section of the survey included 2 questions concerning the providers' practice setting: (1) location of practice; and (2) types of patients treated.

The questions on knowledge about child abuse and neglect were grouped into 2 sections. The first part contained 3 questions concerning the respondents' knowledge about their legal responsibilities:

1. What was their legal responsibility?
2. Where should they report child abuse and neglect?
3. What were the consequences for not reporting a case of child abuse or neglect?

The second part consisted of 16 questions regarding the providers' and students' knowledge about diagnosing child abuse/neglect and indicators of physical and sexual abuse. These 16 questions were taken from 2 prior studies about child abuse/neglect by Kassebaum et al (11 questions),[8] and Ramos-Gomez et al (5 questions).[15] These 16 questions were formulated as statements, and the providers and students had to indicate whether each was "true" or "false" or whether they did not know the answer. These questions were categorized into 3 groups concerning the students' knowledge of signs of: (1) physical abuse (eg, bruises, bite marks, or burns); (2) sexual abuse; and (3) diagnostic indicators of abuse/neglect.

After the questionnaire was designed, it was given to 2 pediatric dentist faculty members who provided feedback regarding the content of the survey as well as the format used.

Four groups of respondents were targeted for inclusion in this study: (1) dental students; (2) dental hygiene students; (3) dentists; and (4) dental hygienists. All of the participants were practicing dentists and dental hygienists or dental students and dental hygiene students in Michigan. The students included were from all 4 years of the dental school and all 3 years of the dental hygiene program. Questionnaire data were collected from 220 dentists, 159 dental hygienists, 233 dental students, and 76 dental hygiene students. The response rates of the dentists and dental hygienists were 44% and 35%, respectively, and the response rates for the dental and dental hygiene students were 55% and 77%, respectively.

Table 1. Overview of Response Rates, and Respondent Characteristics Concerning Gender, Age, Ethnicity/Race

	Dentists	Dental hygienists	Dental students	Dental hygiene students
n	220	159	233	76
Response rate	44%	35%	55%	77%
Gender				
Male	81%	1%	50%	0%
Female	19%	99%	50%	100%
Age (ys)				
Mean (SD)	48.3 (10.93)	43.4 (10.72)	25.5 (2.81)	23.8 (4.64)
Range	25-76	23-72	20-40	19-41
Ethnicity/race				
African American	1%	1%	7%	9%
Asian American	1%	1%	13%	8%
Hispanic	1%	0%	3%	3%
Native American	1%	0%	1%	1%
Caucasian	94%	98%	71%	70%
Other	2%	0%	5%	7%

The data from the dental health professionals and the students were collected in April 2005. No identifying information was included in the questionnaires. The dental health professional questionnaire was mailed to 500 randomly selected general dentist members of the Michigan Dental Association and to 500 randomly selected dental hygienist members of the Michigan Dental Hygienists Association. A letter of support for this study by the dean of the University of Michigan School of Dentistry, Ann Arbor, Mich, and a stamped return envelope were included in the mailing. Only one mailing was conducted.

The student questionnaires were administered at the end of regularly scheduled classes in early April 2005 during the last week of the winter semester to all students present in these classes. The respondents volunteered to complete the surveys anonymously. The students were:

1. instructed to answer questions honestly;
2. informed that their participation was voluntary; and
3. told that refusing to participate would not affect their grade.

The students returned their completed surveys by putting them into an envelope at the back of the classroom. The researchers collected this envelope later. The average time to complete the survey was approximately 10 minutes.

Statistical analyses

The data from the dentists, dental hygienists, dental students, and dental hygiene students was recorded and analyzed with SPSS version 12 (SPSS Inc, Chicago, Ill). Tables 1 to 3 provide descriptive statistics about the:

1. respondent characteristics;
2. frequencies of encountered cases of child abuse; and
3. percentages of correct responses to the questions concerning the legal responsibilities and the process of reporting child abuse and neglect broken down by the 4 respondent groups.

The differences in the frequencies of correct responses of the 4 respondent groups to the legal responsibility questions (see Table 3) were analyzed with chi-square tests. Table 4 shows the average number of correctly answered questions concerning: (1) signs of physical abuse; (2) signs of sexual abuse; (3) the diagnosis of abuse; and (4) the total number of items.

Statistical comparisons of the average number of correct questions of the four groups of participants were conducted with 4 univariate analyses of variance. Descriptive statistics were provided in Table 5 regarding the answers to the questions from where respondents received information on child abuse and neglect.

Results

Table 1 provides an overview of the respondents' characteristics. Not surprisingly:

1. Dental hygienists and dental hygiene students were nearly exclusively female.
2. The dentists were more likely to be male (81%).
3. The sample of dental students had approximately equal numbers of male and female students.

As can be seen in Table 1, the samples of dental and dental hygiene students were more racially/ethnically diverse than the samples of dentists and dental hygienists.

Table 2. Frequencies and Percentages of Respondents Who Reported Child Abuse Categorized by Dentists, Dental Hygienists, Dental Students, and Dental Hygiene Students

Dentists			
Frequency	175*	43	2
%	80	20	1
Dental hygienists			
Frequency	144	13	1
%	91	8	1
Dental students			
Frequency	224	2	2
%	98	1	1
Dental hygiene students			
Frequency	75	1	0
%	99	1	0

*A chi-square test was conducted to compare the responses of the dentists vs dental hygienists vs dental students vs dental hygiene students (P<.001).

Table 2 shows how many respondents had actually reported suspected child abuse. Eighty percent of the dentists, 91% of the dental hygienists, 98% of the dental students, and 99% of the dental hygiene students had never reported a case of child abuse. Twenty percent of dentists, however, had reported 1 or 2 cases of suspected child abuse, and 2 dentists had even reported 3 or more cases. While fewer dental hygienists had reported 1 or 2 cases of child report, 8% of this sample had reported 1 or 2 cases, and 1 dental hygienist had even reported 3 or more cases of suspected child abuse. Very few students had ever reported suspected child abuse (dental students=2%; dental hygiene students=1%).

Given this low rate of reported cases of suspected child abuse, we explored whether professionals and students had sufficient knowledge concerning their professional responsibilities when they suspected child abuse. The respondents were asked about their knowledge of the legal responsibilities of dental professionals with respect to reporting child abuse and neglect (see Table 3). The 3 questions focused on:

1. which legal responsibility the respondents have;
2. where to report; and
3. the type of crime committed if suspected abuse was not reported.

The highest percentages of correct responses were given to the question of when to report child abuse. Dental hygiene students responded with the greatest accuracy to this question (87%), followed by dentists (85%), dental hygienists (68%), and dental students (68%; *P*<.001). The percentages of correct answers were lower for the other 2 questions concerning where to report suspected abuse and which crime was committed if they did not report suspected abuse.

Table 3. Percentages of Correct Responses to the 3 Questions About Legal Responsibilities of Dentists, Dental Hygienists, Dental Students, and Dental Hygiene Students When Detecting Child Abuse*

% of correct responses	When do you report? (P<.001)	Where do you report? (P=.014)	Penalty for not reporting (P=.014)
Dentists	85%†	27%‡	32%§
Dental hygienists	79%	31%	28%
Dental students	68%	18%	42%
Dental hygiene students	87%	21%	43%

*Chi square tests were conducted to compare the responses of the dentists vs dental hygienists vs dental students vs dental hygiene students for each of the three questions.
†P<.001.
‡P=.014.
§P=.014.

When asked where to report child abuse and neglect, dentists and dental hygienists were more likely to answer correctly than dental students and dental hygiene students (dentists=27 %; dental hygienists=31%; dental students=18%; dental hygiene students=21%; *P*<.001).

The final question concerning a dental professional's legal responsibility to report child abuse and neglect focused on the penalty for not reporting. For this question, the dental students and dental hygiene students responded with greater accuracy than the dentists and dental hygienists. In answering this question, 42% of dental students and 43% of dental hygiene students answered correctly, whereas only 32% of dentists and 28% of dental hygienists answered correctly (*P*=.014; see Table 3).

Table 4 provides the results concerning the question whether dental and dental hygiene professionals and students had sufficient knowledge about the signs of physical and sexual abuse as well as the diagnosis of suspected child abuse. As Table 4 shows, the average overall sums of correctly answered true/false questions concerning physical abuse, sexual abuse, and the diagnosis of child abuse were not significantly different. As can be seen in the last column of Table 4 (indicating total scores), overall the respondents in all 4 groups answered approximately two thirds of the answers correctly. The percentages of correct answers ranged from 65% for the dental hygienists to 68% for the dental hygiene students. When the questions were categorized into questions about signs of physical abuse (6 items), signs of sexual abuse (3 items), and items concerning the diagnosis of abuse (6 items), however, the respondents differed in their accuracy rate for 2 of the 3 categories. While the average numbers of correct responses for questions concerning signs of physical abuse were not significantly different, the 4 groups differed significantly in the average numbers of correctly answered questions concerning signs of sexual abuse and the diagnosis of abuse.

For questions concerning sexual abuse, the dental students and the dental hygiene students answered with greater accuracy than the dentists and dental hygienists (dental

students=74%; dental hygiene students=78%; dentists=57%; dental hygienists=57%; *P*<.001). For questions concerning the diagnosis of child abuse, dentists answered with greater accuracy than dental hygienists and dental hygiene students, and dental students had the lowest percentage of correct responses (dentists=84% vs dental hygienists= 82% vs dental hygiene students=82% vs dental students=77%; *P*<.006).

In addition to exploring the extent of knowledge concerning the legal responsibilities, the signs of abuse, and the diagnosis of abuse, the respondents were also asked about the sources from which they had obtained of information about child abuse (see Table 5). While nearly all dental hygiene students (99%) reported having received information from their educational program, only 73% of dental students, 59% of dental hygienists, and 40% of dentists reported that they had received information about child abuse from their professional programs (*P*<.001). The reverse was true when comparing the percentages of respondents in the 4 groups who indicated that professional journals were their source of information about reporting suspected child abuse. While 56% of dentists reported having obtained information about suspected child abuse from professional journals, only 38% of dental hygienists, 20% of dental hygiene students, and 15% of dental students reported that journals were their source of information.

The questionnaires for dentists and dental hygienists included an option to indicate whether continuing education courses had been a source of information about reporting suspected child abuse. Dentists and dental hygienists had similar response rates for obtaining information concerning child abuse from continuing education courses (33% vs 35%).

Table 4. Average Numbers and Percentages of Correct Answers of Dentists, Dental Hygienists, Dental Students, and Dental Hygiene Students

	Physical (6 items)	Sexual* (3 items)	Diagnosis† (6 items)	Sum of 15 questions
Dentists				
Mean	3.4	1.7*	5.1†	10.5
% correct	56	57	84	66
Dental hygienists				
Mean	3.4	1.7	4.9	10.4
% correct	57	57	82	65
Dental students				
Mean	3.4	2.2	4.6	10.6
% correct	57	74	77	66
Dental hygiene students				
Mean	3.5	2.3	4.9	10.9
% correct	58	78	82	68

*The means of the 4 respondent groups differed significantly (P<.001).
†The means of the 4 respondent groups differed significantly (P=.006).

Table 5. Frequencies/Percentages of Responses Concerning the Sources of Information about Child Abuse*

	Dental/dental hygiene program (P<.001)	Journals (P<.001)	CE courses (NS)
Dentists			
Frequency	88†	124†	72
%	40%	56%	33%
Dental hygienists			
Frequency	93	61	56
%	59%	38%	35%
Dental students			
Frequency	169	36	
%	79%	17%	
Dental hygiene students			
Frequency	75	15	
%	100%	20%	

*Chi-square tests were conducted to compare the responses of the dentists vs dental hygienists vs dental students vs dental hygiene students for each of the three sources.
†P<.001.

Discussion

This study found that a slightly higher percentage of dentists responded that they had reported cases of suspected child abuse than previously reported. While Kassenbaum found in 1991 that only 15% of dentists had reported suspected child abuse,[8] approximately 20% of the dentists who responded in this study in 2005 had actually reported such cases. While this increase in the percentage of dentists who reported cases of suspected child abuse is noteworthy, the findings also showed that the majority of professionals had never reported a case of child abuse or neglect. An interpretation of this finding is challenging because the data did not include information about the number of cases that the respondents had encountered and not reported. Given that approximately 900,000 children are maltreated in the United States each year,[2] it seems worthwhile to consider how to motivate dentists and dental hygienists alike to be vigilant about this serious problem.

Essential prerequisites for actually reporting suspected cases of child abuse are an awareness of the professional responsibilities concerning this matter as well as the knowledge about what to look for and how to diagnose these cases. The results showed that the respondents' knowledge of their profession's legal responsibilities to report suspected child abuse was not sufficient. While more than two thirds of the respondents in the 4 groups knew when to report child abuse (see Table 3), only between 28% and 43% of the respondents knew that it would be a misdemeanor if they would not report it. An even smaller percentage knew where to report it (18% to 31%). Adair reported that several studies found similar results, namely that more respondents were aware of their legal responsibility regarding when to report child abuse and neglect than where to report cases of suspected abuse and neglect.[17] In this study as well as the studies reviewed by Adair, the results showed that:

1. The respondents did not have enough information about child abuse and neglect to consistently identify and diagnose it.
2. If they were able to detect it, most of the respondents did not know where to report this serious matter.

In addition to assessing whether the respondents had a sound understanding of their legal responsibilities about reporting cases of suspected child abuse, this study also analyzed the degree to which these respondents had basic knowledge about signs of physical and sexual abuse and diagnosing abuse in children. The results showed that the respondents in all 4 groups had less than 70% correct responses overall. It is also interesting to note that, while the professionals had better knowledge about the diagnosis of suspected abuse than the students, the students had more knowledge of the signs of sexual abuse. Overall, these results showed that there still is an overall lack of adequate knowledge about how to diagnose and report suspected cases of child abuse and neglect.

An analysis of the sources of information about child abuse showed that more students than professionals reported to have received formal education in their professional programs about this matter. Nearly all dental hygiene students (99%) and 3 out of 4 dental students reported to have learned about this issue in their respective programs. Only 4 out of 10 dentists and 6 out of 10 dental hygienists, however, reported to have received information about this matter in their professional education. A positive and rather plausible interpretation of these results would be that there is a greater emphasis on including material about reporting suspected child abuse in dental and dental hygiene curricula now compared to the times when the professionals received their education. It is, therefore, encouraging that approximately a third of the professionals reported that they had received information in continuing education courses.

In a general practice, a dental hygienist is likely to spend more time with a patient than the dentist, and, thus, may be in an excellent position to diagnose suspected child abuse cases. It may, therefore, be helpful to discuss these issues among the dental team and train all dental office members to be prepared to know what to do when signs of abuse are detected. Office manuals should include information about:

1. what should be reported;
2. how it should be reported;
3. to which agency it should be reported; and
4. which procedures should be followed when child abuse is suspected.

These would be essential steps to increase the probability that children will receive the help they need when they are in abusive situations.

This study's limitations include:

1. The professionals who participated were recruited from the State of Michigan's professional associations, such as the Michigan Dental Association and the Michigan Dental Hygienists' Association.
2. Professionals who are more sensitive to—and possibly more knowledgeable about—these issues and who are more likely to report such cases may have been more likely to respond than respondents with negative attitudes about reporting such cases.
3. There was a lack of questions about the frequency of suspecting, but not reporting, abuse and why these cases were not reported. Such information would have provided additional valuable insights about the situation in dental offices and how to potentially increase the rate of reporting.

Even based on these results from potentially more sensitive providers from one state, however, it seems clear that educational efforts about these matters are needed. Furthermore, professional organizations such as the American Dental Association and the American Academy of Pediatric Dentistry can play an important role by offering such educational programs.

Conclusions

Based on this study's results, the following conclusions can be made:

1. Suspected child abuse was reported by about 1 of 5 dentists and by less than 1 in 10 dental hygienists who participated in this study.
2. Professionals and students alike were not sufficiently knowledgeable about their legal responsibilities concerning reporting suspected cases of child abuse and especially about where to report such cases.
3. While professionals had more knowledge than students about how to diagnose suspected child abuse, overall the respondents were not optimally informed about this matter.
4. More dental and dental hygiene students, however, reported that their professional programs had provided them with more information about diagnosing and reporting suspected child abuse compared to the professionals. This finding is quite encouraging, because it indicates that future dental care providers may be better prepared to fulfill their legal responsibilities concerning this serious matter.

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