Effectiveness of a statewide child abuse and neglect educational program for dental professionals

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Abstract

The purpose of this study was to evaluate the effect of a statewide child abuse and neglect (CAN) educational program. Questionnaires were mailed to a random sample of 2,500 dentists and 2,500 hygienists registered in Massachusetts. Approximately half the responding dentists and hygienists were aware of the existence of the program either via a theme issue of The Journal of the Massachusetts Dental Society *or presentations at the Yankee Dental Congresses. Most respondents indicated that the program had increased their awareness and knowledge of CAN and made them more likely to detect and report such cases. However 38.1% of the respondents were not comfortable calling the Department of Social Services (DSS). The major reason cited for not reporting was the lack of an adequate history to confirm suspicions. Approximately one-fifth of the dentists and hygienists reported having seen dental pathology or injures to children that they suspected to be a result of child abuse or neglect, while 13.6% admitted to seeing at least one suspicious case in the past 12 months. One-third of the respondents stated that they thought at least one of these suspicious cases was definitely the result of abuse. Only a minority of these dentists and hygienists reported to the DSS any of the suspicious cases they'd seen; however, the majority of these reporters were satisfied with the results of their reports. (Pediatr Dent 17:41–45, 1995)*

Child abuse and neglect (CAN) is a rampant societal problem. In 1992, 89,592 cases of alleged CAN were reported to the Department of Social Services in Massachusetts,[1] while nearly three million were reported nationwide.[2] The recognition and reporting of CAN is the ethical, moral, and often legal responsibility[3] of dental professionals who treat children.

The dental literature addressing CAN increases awareness and knowledge of this problem among dental professionals. This literature is the primary vehicle through which practicing dental professionals are expected to broaden their knowledge base. No requirement to include this subject in the undergraduate dental school curriculum exists.[4] However, postdoctoral students in pediatric dentistry are required by the *Standards for Advanced Specialty Education Programs in Pediatric Dentistry*[5] to receive training about CAN.

In 1978 Becker et al.[6] published a paper documenting the extent of Massachusetts dentists' knowledge of CAN, indicating that dentists had a poor knowledge base and often failed to report suspected cases of abuse and neglect despite a legal mandate to do so. In a survey repeating much of Becker et al.'s questionnaire, Macchiarulo[7] reported that over the decade since the initial survey was taken, little progress had been made in improving the dentist's knowledge and reporting behaviors.

In October 1990, the Dental Coalition to Combat Child Abuse and Neglect (Coalition) was formed to educate dental professionals in Massachusetts. Sponsored by Delta Dental Plan of Massachusetts, the Coalition consists of both private and public agencies and institutions including: Boston University's Goldman School of Dental Medicine, Harvard School of Dental Medicine, Tufts School of Dental Medicine, the Massachusetts Dental Society (MDS), the Massachusetts Academy of Pediatric Dentistry, the Massachusetts Dental Hygienists Association, the Department of Social Services (DSS), and the Massachusetts Board of Dental Registration. Beginning in 1991, the Coalition embarked on an intensive statewide program to educate dental professionals on the issues of CAN through a variety of methods including:

1. A mailing to all dentists of educational materials on CAN and an introduction to the establishment of the Coalition
2. Intensive media coverage of the new Coalition, by local press, television and radio
3. An oral slide presentation at all state district dental society meetings and a full-day symposium at both the 1992 and 1993 Yankee Dental Congresses
4. The publication of a theme issue of *The Journal of the Massachusetts Dental Society* (winter 1993) entitled "Recognizing and Reporting Abuse," which was distributed to all dentists in the state.

The purpose of this study was to evaluate the effectiveness of this educational program by surveying dentists and hygienists in Massachusetts.

Methods and materials

A list of all registered dentists and hygienists in Massachusetts was obtained from the Dental Board of Registration of Massachusetts. Questionnaires were mailed to a random sample of 2,500 dentists and 2,500 dental hygienists from these lists including all pediatric dentists (N = 137) and all oral and maxillofacial surgeons (OMFS) (N = 240). No second mailing was done. The questionnaire asked for the following information:

1. Knowledge of the existence of the Coalition and how that knowledge was obtained
2. Presence at Coalition presentations or previous reading of Coalition materials
3. Impression of the effectiveness of the Coalition in improving their awareness, knowledge, and reporting of CAN
4. Level of comfort in reporting CAN
5. Reasons for possible hesitation to report a suspected case
6. Experience with and reporting of suspected and definite cases of abuse,
7. Satisfaction with the results of reporting and
8. Demographic information (sex, age, specialty, and local dental district).

TABLE 1. TYPE OF DENTAL PRACTICE OF RESPONDING DENTISTS (N = 534)

Specialty	%*
General practice	67.8
Orthodontics	8.2
Dental public health	6.2
Oral and maxillofacial surgery	4.7
Pediatric dentistry	4.3
Periodontics	4.1
Prosthodontics	3.6
Endodontics	1.9
Oral pathology	0.6

* Total percentage equals more than 100% (101.4%) since a few respondents indicated more than one specialty.

TABLE 2. AGE DISTRIBUTION OF RESPONDENTS TO QUESTIONNAIRE

Age	*% Dentists (N = 534)*	*% Hygienists (N = 750)*
< 25	0.0	6.0
25–34	12.9	34.3
35–44	28.3	36.1
45–54	29.4	16.5
55–64	19.3	4.9
≥ 65	9.4	1.5
No answer	0.7	0.7

Results

Thirty percent (750/2,500) of the hygienists and 21.4% (534/2,500) of the dentists responded to the mailing. Partially completed questionnaires were included. General dentists accounted for 67.8% (362/534) of the responding dentists with the remainder distributed among various dental specialties (Table 1). The response rates for both the pediatric dentists (16.8%, 23/137) and the OMFS (10.4%, 25/240) were lower than for the other dentists surveyed (22.9%, 486/2,123). The majority of responding dentists were male (89.3%, 477/534), while the majority of responding hygienists were female (97.2%, 729/750). The majority of dentists (57.7%, 308/534) were between 35 and 54 years of age, while the majority of hygienists (70.4%, 528/750) were between 25 and 44 years of age (Table 2).

Fifty percent (267/534) of the dentists and 54.4% (408/750) of the hygienists were aware of the Coalition. The pediatric dentists had the highest rate of awareness with 91.3% (21/23). Table 3 presents the sources of this awareness for all respondents. The majority of the dentists became aware of the Coalition via the MDS theme issue on abuse and neglect. The largest number of hygienists indicated that presentations at the Yankee Dental Congresses were their major source of exposure. Only 28.4% (365/1,284) of the respondents had either read materials from the Coalition (22.3%, 119/534 of the dentists and 19.1%, 143/750 of the hygienists) or had attended Coalition presentations (7.9%, 42/534 of the dentists and 10.5%, 79/750 of the hygienists).

Of those who had either read Coalition materials or attended Coalition presentations, 96.1% (146/152) of the dentists and 98.6% (210/213) of the hygienists indicated that the Coalition increased their awareness and knowledge of CAN. Similarly, all dentists (152/152) and 97.6% (208/213) of hygienists exposed to Coalition presentations or reading materials felt more likely to detect CAN as a result of this information.

While 61.4% (789/1,284) of the dentists and hygienists were either very comfortable (20.2%) or fairly comfortable (41.2%) calling the DSS to consult on a suspected case of CAN, the remaining 38.1% (489/1,284) were either not very comfortable or very uncomfortable (0.6% failed to answer the question).

Table 4 shows the reasons cited by respondents for not reporting suspicious cases of child abuse or neglect. Lack of an adequate history to confirm their suspicions (60.1%, 620/1,032) was most common. Either lack of knowledge of CAN or of reporting procedures accounted

TABLE 3. MAJOR SOURCES OF AWARENESS OF THE DENTAL COALITION TO COMBAT CHILD ABUSE AND NEGLECT

	% Aware of Coalition	
	Dentists (N = 267)	*Hygienists (N = 408)*
MDS journal/newsletter	71.9	28.4
Yankee Dental Congress	31.1	35.8
District meeting presentations	19.1	15.4
Radio ads	4.5	4.7
Dental/hygiene school	1.9	7.4
Mailings	1.1	7.4
Mass. Dental Hygiene Association	0.0	2.2
Other	8.2	16.4

for an additional 23.5% (243/1,032). No other single reason accounted for more than 4% of the responses.

Similar percentages of the dentists (22.3%, 119/534) and hygienists (20.0%, 150/750) reported having seen dental pathology or injuries to children they suspected might be the result of child abuse or neglect. This rate was considerably higher among the pediatric dentists (73.9%, 17/23), oral pathologists (66.7%, 2/3), and OMFS (48.0%, 12/25). At least one suspicious case was seen in the previous 12 months by 13.6% (174/1,284) of the dentists and hygienists and 43.5% (10/23) of the pediatric dentists. Of this group, 34.5% (60/174) responded that in their opinion at least one of these suspected cases was definitely abuse. Table 5 shows the various numbers of definite cases of child abuse or neglect seen in the past 12 months by those dentists and hygienists who responded to having seen suspicious cases during the same time period.

TABLE 4. MAJOR REASONS FOR HESITATING TO REPORT A SUSPECTED CASE OF CHILD ABUSE

	% Dentists (N = 403)	% Hygienists (N = 629)	% Total (N = 1,032)
Lack of adequate history	56.6	62.3	60.1
Lack of knowledge of abuse/neglect	11.7	11.4	11.5
Lack of knowledge of reporting	11.7	12.2	12.0
Concern over effect on practice	4.5	3.7	4.0
Unsure of abuse/neglect	2.2	1.9	2.0
Concern over effect on family	1.7	2.1	1.9
Lack of confidence in DSS	1.5	1.4	1.5
Concern about impact on job or lack of support by dentist	0.0	0.8	0.5
Fear of revenge from family	0.0	1.3	0.8
Not applicable/never suspected	8.4	5.6	6.7

Of the 119 dentists and 150 hygienists reporting having seen dental pathology suspected to be CAN, only 52.1% of the dentists and 52.7% of the hygienists responded to the question, "Did you call the Department of Social Services to report your concern for all cases?" Of those who did respond, 61.3% (38/62) of the dentists and 86.1% (68/79) of the hygienists admitted not reporting any of the suspicious cases that they had seen. If we assume that those dentists and hygienists who failed to answer the question did not report their suspicions either, the total rate of failure to report would rise to 79.8% (95/119) for dentists and 92.7% (139/150) for hygienists. Only 32.3% (20/62) of the dentists and 8.9% (7/79) of the hygienists who answered the question admitted to reporting all of the suspicious cases seen, with 6.5% (4/62) of the dentists and 5.1% (4/79) of the hygienists reporting only some of these cases. Of all the dental groups responding to the questionnaire and answering the question, pediatric dentists were the most likely to report suspicious cases with 57.1% (8/14) reporting either some or all. Of the small number of dentists and hygienists who reported cases to the DSS, 66.7% (16/24) of the dentists and 81.8% (9/11) of the hygienists were either fairly or completely satisfied with the results of their report to the DSS. The Coalition was either a major or minor factor influencing their reporting behaviors for 45.8% (11/24) of the dentists and 36.4% (4/11) of these hygienists cited.

TABLE 5. DEFINITE CASES OF CHILD ABUSE OR NEGLECT SEEN IN THE PAST 12 MONTHS BY DENTISTS AND HYGIENISTS WHO REPORTED HAVING SEEN SUSPICIOUS CASES DURING THE SAME PERIOD

No. of Cases	Dentists (N = 72)	Hygienists (N = 102)	Total (N = 174)
None	47.2	32.4	38.5
1	22.2	24.5	23.6
2	6.9	9.8	8.6
3	1.4	2.9	2.3
≥ 4	0.0	0.0	0.0
No answer	22.2	30.4	27.0

Discussion

This study attempted to evaluate the effects of a statewide CAN educational program for dental professionals. A significant effort was made by the Coalition over about a two-year period to provide information to Massachusetts dentists and hygienists through a variety of methods. A large amount of relevant data was obtained from this survey. Conclusions, however, must be substantially tempered because of the low response rate (30.0% for hygienists and 21.4% for dentists). A likely assumption is that the most well-informed dentists and hygienists were the most motivated to respond to the survey, thus skewing the results toward a more favorable outcome. Nonetheless, valuable insight into the effectiveness of this program can be drawn from this study.

The responding dentists were predominately male and older than the hygienists, who were predominately female. All pediatric dentists and OMFS were surveyed because we assumed that they would have the greatest exposure to child and traumatic injuries, thus increasing the likelihood that they were in a position to detect, and therefore, report. The findings of this survey confirmed this hypothesis. The response rate of these two groups was poorer than the response rates of the dental professionals as a whole. This was surprising since pediatric dentists and OMFS deal with greater numbers of children and/or trauma. Perhaps these groups were more reluctant to respond because with their increased exposure they had more often failed to report suspected abuse or neglect cases.

Approximately half of the responding dentists and hygienists were aware of the Coalition, as were most of responding pediatric dentists. Of those aware of the Coalition, most believed that it had increased both their awareness of and their potential for detecting CAN. Given the scope of the Coalition's effort and the limited time it had to disseminate information statewide, this level of awareness is an important accomplishment. The theme issue of the *Journal of the Massachusetts Dental Society* was the most effective method for bringing this information to the dentists, while presentations at the Yankee Dental Congress were cited by hygienists as the largest source of their exposure. Although the hygienists did not directly receive the MDS theme issue, 28.4% gained their awareness by reading the issue sent to their dentists' offices.

Presentations at all of the district dental societies did not reach significant numbers of dentists based on our findings. Conversely, presentations at both the 1992 and 1993 regional Yankee Dental Congresses, were cited by approximately one-third of the responding dentists and hygienists as their largest source of contact with the Coalition.

Most dentists and hygienists reported that they would be comfortable calling the DSS regarding suspicious cases of CAN. This is a significant finding because it has been our experience that a major barrier to reporting is a reluctance to make the first step of calling the DSS. Much of the thrust of the Coalition's effort was to remove this barrier. Coalition presentations and materials attempted to reassure dental professionals that calling the DSS is not necessarily a report, but a consultation with a trained social worker to help determine if their suspicion is worthy of a report. Still, 38.1% of the respondents reported that they were not comfortable making this call. Based on these data, we believe the Coalition lowered barriers to reporting for some dental professionals.

The respondents also indicated that the major reason for not reporting their suspicions was lack of either an adequate history or knowledge of CAN and/or of reporting procedures. Continued efforts to lower reporting barriers should be made by educating dental professionals about how to obtain an adequate history to corroborate suspicions and providing them with more information on CAN.

A significant percentage of responding dentists (22.3%) and hygienists (20.0%), and even higher percentages of the pediatric dentists (73.9%), oral pathologists (66.7%), and OMFS (48.0%) reported having seen dental pathology or injuries in children that they suspected to be the result of CAN. Extrapolating this finding to all dentists and hygienists statewide, the actual number of dental professionals who may be exposed to abused and/or neglected children may be higher than previously believed. Similarly, 13.6% of all the dentists and hygienists and 43.5% of the pediatric dentists admitted to seeing at least one suspicious case in the year prior to the survey. During their careers, dental professionals likely come in contact with large numbers of children whose abuse and/or neglect may otherwise go undetected.

It was disturbing that only a fraction of responding dentists (38.7%, 24/62) and hygienists (13.9%, 11/79) and only slightly more than half of the pediatric dentists (57.1%, 8/14) who had ever seen suspicious cases of abuse or neglect and answered the question, actually reported any of these cases to the DSS. This low reporting rate has been reported previously for both dentists[6, 7] and other medical professionals.[8–13] Since almost half of those responding affirmatively to seeing suspicious cases failed to answer the question about their action, these low rates probably overestimate reporting behaviors. To obtain more realistic reporting rates, the total number in each group who responded affirmatively to seeing suspicious cases should be included in the calculations of reporting rates. The reporting rates then decrease to 20.2% (24/119) for dentists, 7.3% (11/150) for hygienists, and 47.1% (8/17) for pediatric dentists. Because the dentists and hygienists did not report their suspicions, they may have felt uncomfortable answering the question. Most hygienists and dentists have considerable resistance to reporting, which must be addressed in future Coalition efforts.

In absolute terms, however, this survey revealed that 24 dentists (eight of whom were pediatric dentists) and 11 hygienists responded that they had reported cases of CAN. This finding supports the Coalition's belief that dentists and hygienists can recognize CAN and many do report. Most of the dentists and hygienists who did report cases to the DSS were satisfied with the results of their action. However, since one-third of the dentists and 18.2% of the hygienists who made reports were not satisfied with the results of their report to the DSS, it appears that there are issues that the DSS needs to address. Precisely what the dentists' and hygienists' concerns are needs further investigation. Again, it appears that the efforts of the Coalition have made a difference, since more than one-third of both the reporting dentists and hygienists cited the Coalition's efforts as a factor positively influencing their reporting behavior.

In the future, the Coalition will be expanding its program to include other types of family violence, i.e. elder abuse and domestic violence. The abuse of wives and other family members is also a common societal problem that can be detected in the dental office.

Conclusions

1. A statewide CAN educational program for dental professionals can increase both awareness of and potential for detecting CAN.
2. An issue of the state dental journal dedicated to CAN was the most effective method in educating dentists, while regional dental meetings were cited by hygienists as their major source of exposure to CAN.

3. Most respondents reported being comfortable calling the DSS regarding suspicious cases of CAN, although slightly more than one-third were not comfortable.
4. The major reason cited for not reporting suspicious cases of CAN was the lack of either an adequate history or knowledge of CAN and/or reporting procedures.
5. A significant percentage of responding dentists and hygienists and an even higher percentage of the pediatric dentists, oral pathologists, and OMFS reported having seen dental pathology or injuries in children that they suspected to be the result of CAN during the 12 months prior to the survey.
6. Only a fraction of dentists and hygienists and only slightly more than half of the pediatric dentists who had ever seen suspicious cases of abuse or neglect actually reported any of these cases to the DSS.

Alternative conclusion

Based on a small sample of responding dentists and hygienists, a statewide CAN educational program appears to have been effective in increasing their awareness and knowledge of CAN and made them more likely to detect and report such cases.

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From The Archives

Disease proposed as nothing more than the absence of health. Take away Death and Pain, and disease is no big deal. Sir William counts himself among the enlightened, apart from the ignoramuses and charlatans.

Pathology only Deranged Physiology — Respecting the object we work for, this living organism of ours, one great advance has of late been made. We are acquiring a physiological notion of disease. Disease is no entity; it is but a modification of health — a perverted physiological process; and this must at all times be insisted upon. Were it not that we fear death and dislike pain, we should not look upon disease as anything abnormal in the life-process, but to be as part and parcel of it. Few would now venture upon a definition of disease, for in reality, it is but the course of nature in a living thing which is not health. In health, the balance of function is even; incline it to either side, and there is disease. That being so, just as the life-process constitutes an individual and puts him apart from his fellows, so must any alteration in it be individual, and not general. But to the ignorant, disease is an entity — an evil spirit which attacks and seizes us.... To the charlatan, disease is a set of symptoms, to be attacked by a variety of drugs — a drug for each symptom. To us, disease is a life-process of a perverted kind.

Sir William Gull, before the Clinical Society of London Lancet, 1872