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The Perceived Likelihood of Dental Hygienists to Report Abuse Before and After a Training Program

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Purpose. The rise of abuse, mandatory reporting, and penalties for not reporting abuse make this study significant for oral health care personnel. The purpose of this research was to determine survey results pertaining to the likelihood of dental hygienists reporting abuse before and after a training program, in order to influence and encourage similar training programs in other locations and to impact dental hygiene curricula.

Methods. Exempt status was obtained from the University of New England Institutional Review Board for the Protection of Human Subjects. A convenience sample was taken of registered dental hygienists who attended a training program and who volunteered to complete a 10-item statement form. A three-category ordinal Likert-type scale was employed. The statement form was filled out before and after a tested training program for the recognition and reporting of abuse (violence) and neglect. The terms family violence, child abuse, and elder abuse were defined as umbrella terms to encompass all abuse, except where explicit. This study explores two research questions: Do dental hygienists perceive the likelihood to make a report if confronted with suspected abuse, and would training make a difference in the perceived likelihood to report? The 10 statements were grouped into three sets for analysis: 1) training and experience in reporting, 2) knowledge of responsibilities, signs, symptoms, and interviewing, and 3) likelihood of making a report. Data were analyzed using descriptive statistics to explain the population's knowledge characteristics and the likelihood of reporting abuse.

Results. Twenty-six surveys were administered and 25 surveys were returned for a 96% response rate (n=25). Survey results supported training to increase compliance with mandatory reporting. Of the subgroup having experience with reporting (n=5; 20%), over half (n=3) knew all aspects of abuse. The entire group knew more about child abuse than elder abuse. Prior to training, 40% definitely knew that they would likely report abuse, 40% somewhat knew that they would likely report it, and 20% didn't know or said it would be unlikely that they would report. Only 5% stated that they definitely knew how to make a report before the training. After training, 100% reported that they would be likely to make a report, an overall increase of 60%. In the pre-survey, 60% said they did not know how to make a report, compared to 96% indicating in the post-survey that they knew how to make a report after training.

Conclusion. Evidence from the dental hygienists attending a continuing education program supports that training increases the self-perceived likelihood to report abuse. This study also acknowledged areas for investigation of curricular augmentation, such as providing more information on elder abuse and presenting a guide for filing a report of abuse to the appropriate agencies. It is imperative for educators to include adequate information in dental and dental hygiene curricula for training in reporting abuse. It is also incumbent upon dental hygiene clinicians to identify their own educational needs and to seek out appropriate continuing education. These identified outcomes are an important reinforcement to providing adequate instruction in dental hygiene curricula.

Keywords: dental hygiene curriculum, family violence, child abuse, elder abuse, reporting abuse, recognizing abuse, continuing education

Introduction

Every year, nearly a half million reports of abuse and neglect are filed on behalf of older Americans and vulnerable adults.[1] In 1999, an estimated 3.2 million children were reported as suspected victims of child abuse or neglect.[2] Estimates range from one million 3 to three million 4 annual incidents of violence against a current or former spouse, boyfriend or girlfriend. Across populations, abuse has been identified as a serious public health problem in Western society.[5, 6] Abuse and family violence have been recognized as national problems in the United States, across all socioeconomic levels.[5,6,7] *Family violence* has been accepted as an umbrella term to encompass child abuse, elder abuse, intimate partner abuse, and abuse of disabled or vulnerable persons.[5, 7] Physical abuse, emotional abuse, sexual abuse, intentional neglect, and economic abuse serve to control and demean the victim, and different forms of violence serve to keep the abused victim isolated, vulnerable, and helpless.[5] Table I defines various categories of abuse.[8] Although the various forms of abuse differ slightly, the dynamics of differential power between the perpetrator and the victim are nearly identical.[5]

Table I. Definition of Abuse

Physical Abuse	The infliction of pain or bodily injury, such as pinching, slapping, pushing, sexual assault or molestation.
Psychological Abuse or Emotional Abuse	The infliction of mental or emotional distress such as threats of harm, calling names, intimidation, and verbal attacks.
Financial Abuse or Financial Exploitation	The illegal or improper use of funds, property, or other resources.
Active Neglect	The intentional attempt to inflict physical or emotional distress by withholding caregiving responsibility, such as food, shelter, medicine, dental care, or social contact.
Passive Neglect	The unintentional failure to fulfill caregiving responsibility, such as providing food and health/dental related services because of a knowledge deficit or caregiver infirmity.
Self-Neglect	The elderly person threatens his or her own health or safety by refusal or failure to provide adequate food, water, clothing, shelter or personal hygiene, etc. This definition excludes the mentally competent who understand the consequences of such actions.

Table adapted from: Kahn FS, Paris BEC. Why elder abuse continues to elude the health care system. Mt Sinai J Med. 2003;70(1):62-68. Previously published: Harmer-Beem MJ. Recognizing elder abuse: oral health clinicians' roles and responsibilities. Contemporary Oral Hygiene. 2004;4(5):14-17.[8]

Table I . Definition of Abuse

In all 50 states, dentists and dental hygienists are mandated reporters of observed cases of child abuse, elder abuse, and abuse of vulnerable adults, as well as instances of active, passive, and self-neglect within the family.[1, 6, 9] Few states, California being one, require health care providers to report observed instances of domestic violence or intimate partner

abuse.[10] Dental hygienists should be aware of any abuse reporting legal requirements in the states in which they practice. Abuse, neglect, and exploitation have clinical significance for dental hygienists. Dental hygienists should be alert to suspicious injuries to patients' heads and necks, along with bruises in different stages of healing.[6] In general, the laws are clear: clinicians are ethically and legally bound to report signs and symptoms of suspected abuse to the state protective services., [10, 11, 12] Penalties for violating states' mandatory reporting laws vary.[12] Many professionals are uncomfortable talking about these problems that affect society, and they may not know how to act upon suspicions. It is incumbent upon dental hygiene clinicians to seek out information concerning their own knowledge deficits on family violence and for educators to ensure curricula to prepare dental hygienists to meet their responsibilities.[7, 8, 11, 13]

This study explores two research questions: Do dental hygienists perceive the likelihood to make a report if confronted with suspected abuse, and would training make a difference in the perceived likelihood to report? This report describes one cohort's responses concerning the recognition and reporting of abuse before and after a training program.

Review of the Literature

The literature shows a paucity addressing the topic of abuse curriculum and what clinicians know about abuse. A National Library of Medicine search of the key words *curriculum*, *elder abuse*, *child abuse*, and *family violence* yielded only 17 articles from the last 10 years in the dental and dental hygiene literature. The literature shows that there is a need for dental hygiene educators to examine the family violence curriculum for deficiencies and also suggests that clinicians examine self-deficits relating to abuse.[7, 11, 13, 14, 15, 16]

Superficial awareness of abuse, tendency to avoid involvement, and lack of knowing professional responsibilities have been discussed in the literature.[13, 17, 18] Gutmann and Solomon examined family violence curricula of 173 dental hygiene programs in the United States. Using a survey to measure curriculum content, knowledge, and attitudes in the area of family violence, researchers found that child abuse was taught in most (70.5%) of the programs, while elder abuse (54.9%), intimate partner abuse (46.8%), and abuse of individuals with disabilities (46.2%) was taught in fewer programs.[7] Jessee reported on the extent of child abuse content in dental curricula in North American dental schools (n=54).[15] Jessee found that physical abuse and dental neglect appeared in the curriclum 100% of the time, whereas emotional abuse/neglect, sexual abuse, physical neglect, medical care neglect, and failure to thrive were reported less frequently.[15] Needleman, MacGregor, and Lynch reported that a statewide child abuse and neglect educational program increased most respondents' awareness and knowledge of child abuse and neglect and made them more likely to detect and report such cases.[14]

Furthermore, the top three factors indicated as barriers to reporting suspected cases included lack of an adequate history (60.1%), self-perceived lack of knowledge about abuse and neglect (11.5%), and lack of knowledge of reporting (12.0%).[14] Pediatric dentists reported having seen suspected cases of child abuse and neglect most frequently.[14, 17] Adair et al., in a study with a stratified randomized design of respondents (n=185) who were general dentists, reported that a minority of dentists believed that they were required to report neglect (7.3%).[19]

Welbury, Hobson, Stephenson, and Jepson reported that a computer-assisted learning program increased knowledge of oro-facial signs of physical child abuse from 10% before the training to 95% after the training.[20] Kilpatrick, Scott, and Robinson identify dentists in New South Wales, Australia, as being aware of abuse and its different types, but having considerable lack of knowledge about child protection protocols.[17] The researchers suggest that dentists may be reluctant to report because of the lack of knowledge on how to make a report.[17]

Murphree, Campbell, Gutmann, Plichta, Nunn, McCann, and Gibson ask, "How well prepared are Texas dental hygienists to recognize and report elderly abuse?"[11] This cross-sectional random study suggested that Texas dental hygienists are not prepared to recognize and report elder abuse following graduation from a dental hygiene program.[11] They also state that dental hygienists are misinformed and unknowledgeable about the laws pertaining to elder abuse in Texas. Forty-eight

percent reported no official training for the recognition of elder abuse, whereas 27% indicated knowledge from journal articles, and 24.3% had formal training through school or continuing education. Murphree et al.[11], as well as other researchers [7, 8, 13], also suggest that increased education levels for practitioners may be effective in creating a greater awareness of abuse.

Methods and Materials

Subjects

University of New England institutional review board approval for exempt status was obtained for the study. The subjects of this study were registered dental hygienists who attended a continuing education (CE) training program for the recognition and reporting of abuse. A convenience sample was taken of all registered dental hygienists (n=26) who volunteered to complete a before-and-after 10-item statement form with a three-category ordinal Likert-type scale. No demographic information was asked to protect anonymity and participant confidentiality. Unanswered surveys were excluded.

Instrument

An anonymous 10-item statement form with a three-category Likert-type ordinal scale was developed to ascertain the likelihood of dental hygienists recognizing abuse and neglect, and their likelihood to report abuse before and after a training program (Figure 1). The three-category scale used "definitely know," "somewhat know," and "don't know" for the participant to self-rate statements concerning abuse. The investigator asked: Would the training program make a perceived difference? The central hypothesis of the study was that, indeed, training would influence the dental hygienists' perceived likelihood to act. Contrarily, the null hypothesis states that there would be no difference between the pre-surveys and post-surveys. The statement forms were color-coded, labeled "pre-survey" and "post-survey," and sequentially numbered for identification and comparison of the pre- and post-surveys. The statement form was pilot tested on a small group of dental hygiene educators before it was implemented.

REPORTING ABUSE
Child, Elder and Family Violence

PRE-SURVEY
Rate the following statements: 3=definitely know, 2=somewhat know, 1=don't know/No

1. I have had training to recognize abuse and neglect.

   3 2 1

2. I have made a report.

   YES NO

3. I know my ethical and legal responsibilities in recognizing and reporting child abuse.

   3 2 1

4. I know my ethical and legal responsibilities in recognizing and reporting elder abuse.

   3 2 1

5. I know the factors contributing to abuse.

   3 2 1

6. I know how to date bruising.

   3 2 1

7. I know how to phrase open ended questions to determine suspected child abuse and elder abuse.

   3 2 1

8. I know how to make a report.

   3 2 1

9. I know what is expected of me after I make a report.

   3 2 1

10. I am likely to make a report to the correct agency if confronted with suspected abuse.

    3 2 1

Figure 1 . Survey Instrument

Procedure

The PANDA (Prevent Abuse and Neglect through Dental Awareness) Coalition of Maine Training Program and the University of Minnesota Family Violence: An Intervention and Training Model for Dental Professionals were used. The terms *family violence*, *child abuse*, and *elder abuse* were defined as umbrella terms to encompass all abuse, except where otherwise explicit on the statement form. A verbal consent procedure was used encompassing the following: 1) The anonymous voluntary pre- and post-survey was distributed to participants attending the training program, 2) The course director informed participants that the survey was voluntary and anonymous, 3) The survey was expected to take only minutes, 4) The survey would help evaluate training in abuse curricula, 5) No compensation was to be given or promised, and 6) The offer to answer questions was stated.

Analysis

Descriptive statistics were used. The mean, median, mode, and standard deviation were applied to analyze the pre- and post-surveys and explain the population's characteristics of those attending a CE program on child abuse, elder abuse, and family violence training. The t-test was applied to each statement to test the null hypothesis and to test the alternative hypothesis-that a significant difference exists between the mean of each question in the pre-survey and the post-survey. The 10 statements were grouped into three sets for further analysis: 1) training and experience in reporting, 2) knowledge of responsibilities, signs, symptoms, and interviewing, and 3) the likelihood of making a report.

Results

Twenty-six surveys were administered, and 25 completed surveys were returned for a 96% response rate (n=25). Of the entire group, 28% indicated that they definitely had training before the CE program (Figure 2). In the first set of grouped statements (training and experience in reporting), of the subgroup having experience with reporting (n=5, 20%) (Table II), over half (n=3) knew all aspects of abuse. When the subgroup identified knowledge deficits (Table III), more reported knowing ethical and legal responsibilities about child abuse than other aspects of abuse.

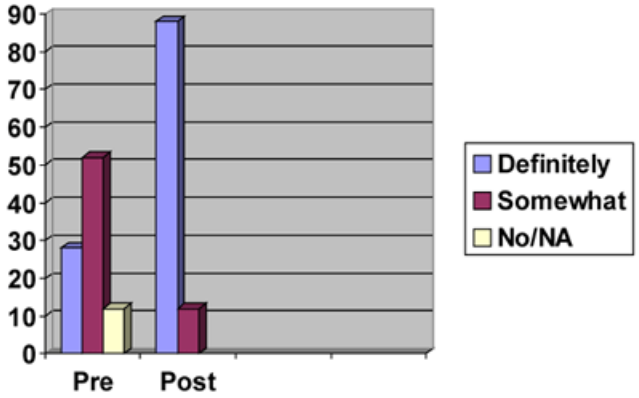

Figure 2 . Percent of subjects who reported training before (28%) and after the CE program (pre- and post-survey). Statement 1: "I have had training to recognize abuse and neglect."

Training and Experience in Reporting Abuse and Neglect (n=25) Self-Reported Training and Reporting of Abuse		
Statement	Yes	No
I have had training to recognize abuse and neglect. n=20	80%	20%
I have made a report. n=5	20%	80%

Table II . Pre-Survey Statement 2 Previous Training and Experience in Reporting.

Self-Reported Knowledge Deficits of the Subgroup of Reporters (n=5) Knowledge of Responsibilities, Signs, Symptoms, and Interviewing Pre-Survey 20% (n=1)			
Statements	Definitely Know	Somewhat Know	Don't Know
I know my ethical and legal responsibilities for:			
Child abuse,	80%	20%	
Elder abuse.	60%	40%	
I know the factors contributing to abuse.	40%	60%	
I know how to date bruising.	20%	60%	20%
I know how to phrase open ended questions to determine suspected child abuse and elder abuse.	40%	40%	20%

Table III . Pre-Survey Report of Knowledge Deficits of Those Having Reported Abuse.

The entire group definitely knew more about child abuse than elder abuse by 12%. Prior to training, 40% definitely knew that they would likely report, 40% somewhat knew that they would likely report, and 20% didn't know or said it would be unlikely that they would report. After training, 100% reported that they would be likely to make a report, an overall increase of 60%. Sixty percent did not know how to make a report in the pre-survey, compared to 96% indicating in the post-survey that they knew how to make a report after training.

In the second set of group statements (knowledge of responsibilities, signs, symptoms, and interviewing), the pre-survey, as compared to the post-survey, identified knowledge deficits such as legal and ethical responsibilities, contributing factors to abuse, interviewing, and how to make a report. In the pre-survey, 40% to 60%, including those having a history of making a report, did not have complete confidence in knowing ethical and legal responsibilities, contributing factors,

dating bruising, questioning techniques, making a report, and expectations after reporting. After the training program, these knowledge levels increased to 80% and above (Table IV).

Self-Reported Knowledge Deficits of Reporters (n=25) Knowledge of Responsibilities, Signs, Symptoms, and Interviewing			
Statements	Definitely Know Post-Survey	Definitely Know Pre-Survey	Net percentage increase
I know my ethical and legal responsibilities for:			
Child abuse,	100%	32%	68%
Elder abuse.	92%	20%	72%
I know the factors contributing to abuse.	92%	20%	72%
I know how to date bruising.	88%	8%	80%
I know how to phrase open ended questions to determine suspected child abuse and elder abuse.	80%	16%	74%

Table IV . Post-Survey Report of Knowledge Increase of the Entire Group.

In response to the third set of statements, the perceived likelihood of making a report of abuse increased dramatically after training from 40% to 100%. Knowledge of what is expected of the reporter after making a report increased from 8% to 84% after training.

The simple comparison of the mean scores showed an increase in the post-survey, leading to the conclusion of practical significance. However, when the two-tail t-test on all statements, excluding statement 2, was done to compare the mean scores of each statement on the pre- and post-survey, the difference was statistically significant to the p=0.05 level on statements 1, 5, 6, 8, and 10. Looking at the overall average scores, they increased. Also, an increase in the standard deviation, an increase in the sum of scores, and median score increases were seen (Table V).

Pre and Post Survey Results of Self-Perceived Knowledge by Statement									
Statistics	Average Score Pre-survey	Average Score Post-Survey	Median Pre-survey	Median Post-Survey	Standard Deviation Pre-survey	Standard Deviation Post-Survey	Sum of Scores Pre-survey	Sum of Scores Pre-survey	*t*-Test* *df*=48 *P*=0.05 *t*-2.02
Statement 1	2.08	2.88	2	3	.702	.331	52	72	3.64 [a]
Statement 2**									
Statement 3	2.24	2.88	2	3	.597	0.0	56	75	1.40
Statement 4	2.04	2.92	2	3	.611	.276	51	73	1.41
Statement 5	1.96	2.92	2	3	.675	.276	49	73	4.34 [a]
Statement 6	1.48	2.88	1	3	.653	.331	37	72	9.86 [a]
Statement 7	1.76	2.8	2	3	.723	.408	44	70	1.03
Statement 8	1.52	2.96	1	3	.714	.2	38	74	3.92 [a]
Statement 9	1.32	2.76	1	3	.627	.597	33	69	1.71
Statement 10	2.2	3	2	3	.763	0.0	55	75	2.28 [a]

- *Two-tail,** Yes/No Answer not included, [a] Statistically significant differences at or above 2.02 *t*-Test (N<30), *p*=0.05.
- Scores are based on 3 to 1 Likert-type scale

Table V . Comparison of Descriptive Statistics and t-Test of Statistical Significance

In response to statement 1, "I have had training to recognize abuse and neglect," the perception of having had training increased from 28% to 88% in the post-survey, an increase of 60%. Not realizing 100% could mean that, for 12%, the CE program did not fulfill all expectations (Figure 2). Only 20% stated they had no training. It can be assumed by selecting "somewhat" that the dental hygienist received some training and that the dental hygienist knew about abuse but did not feel confident with all aspects.

Statement 2, "I have made a report," was a stand-alone statement with no follow-up to ascertain who had experience in making a report. Twenty percent (n=5) reported that they had given an account to authorities (Figure 3).

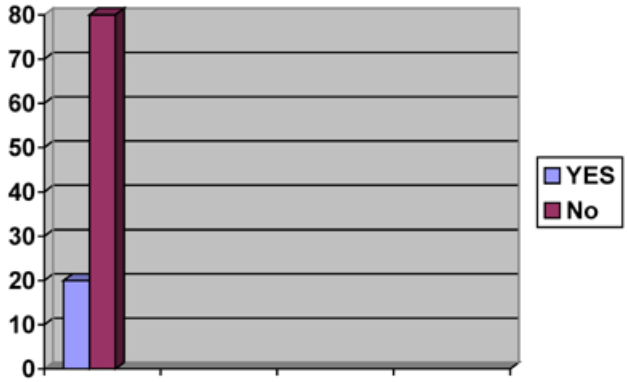

Figure 3 . Percent of subjects having made a report of abuse prior to the CE program. Statement 2: "I have made a report."

The results of statement 3, "I know my ethical and legal responsibilities in recognizing and reporting child abuse," indicated that, prior to the training, only 32% definitely understood their ethical and legal responsibilities to report (Figure 4). In statement 4, "I know my ethical and legal responsibilities in recognizing and reporting elder abuse," fewer (20%) definitely understood their responsibility to report in the pre-survey. In statement 4 after the training, "definite knowledge" of the ethical and legal responsibilities in reporting elder abuse increased by 72% (Figure 5).

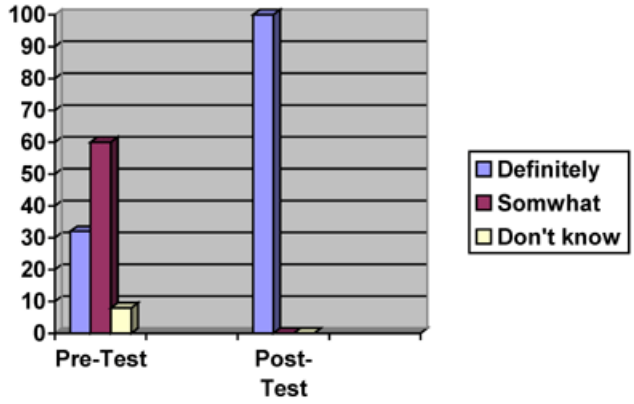

Figure 4 . Statement 3: "I know my ethical and legal responsibilities in recognizing and reporting child abuse." After the training 100% of the subjects reported definitely knowing legal and ethical responsibilities.

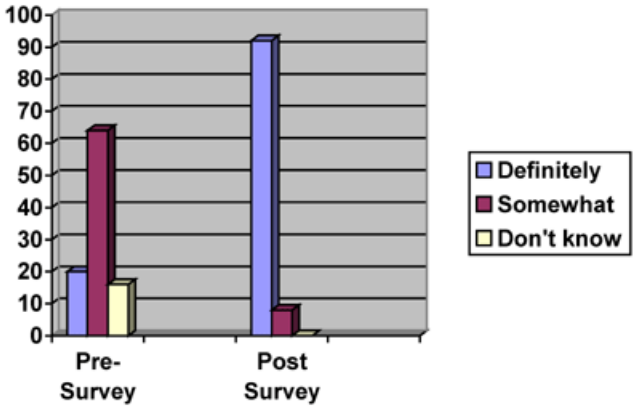

Figure 5 . Statement 4: "I know my ethical and legal responsibilities in recognizing and reporting elder abuse." The percent of knowledge rose 72% following the CE program.

Concerning statement 5, "I know the factors contributing to abuse," training increased the overall perceived knowledge of the contributing factors of abuse from 20% before the CE program to 92%, an increase of 72% after training (Figure 6).

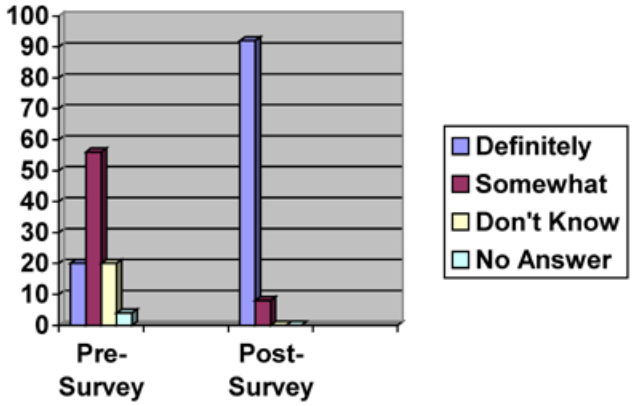

Figure 6 . Statement 5: "I know the factors contributing to abuse." Subjects reported a knowledge increase by 72%.

After the training, regarding statement 6 "I know how to date bruising," there was an 80% increase in the perceived knowledge for dating bruises. By far, this was an area about which this population knew the least. Sixty percent in the pre-survey did not know how to date patient bruising (Figure 7).

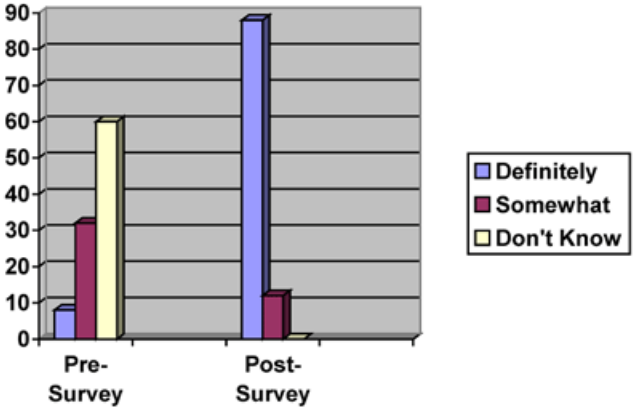

Figure 7 . Statement 6: "I know how to date bruising." This figure demonstrates the greatest percentage of knowledge deficits are in the skill of dating of bruising.

Interviewing skills was another perceived knowledge deficit. In statement 7, "I know how to phrase open-ended questions to determine suspected child and elder abuse," knowledge was increased by training, from 16% in the pre-survey to 80% in the post survey, an overall increase of 64% (Figure 8).

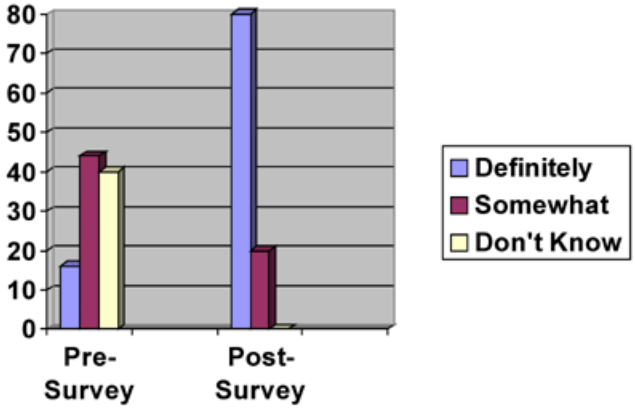

Figure 8 . Statement 7: "I know how to phrase open ended questions to determine suspected child and elder abuse." Percent of subjects knowing interviewing skills.

In statement 8, "I know how to make a report," only 12% definitely knew how to make a report before the training, compared to 96% after training (Figure 9). Also regarding statement 9, "I know what is expected of me after I make a report," a small sample, 8%, definitely knew what was expected of them after making a report; whereas, after training, 96% definitely knew what was expected (Figure 10).

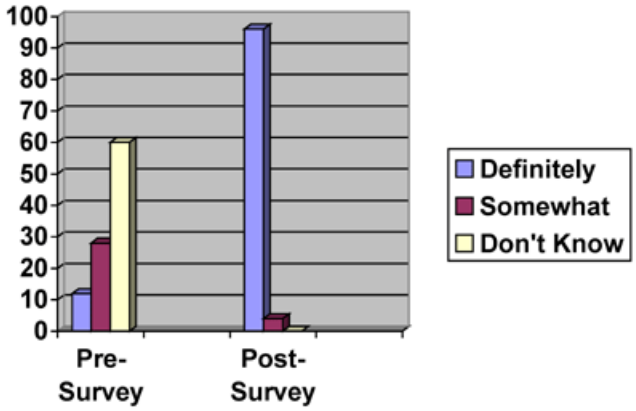

Figure 9 . Statement 8: "I know how to make a report." Percent of change in knowledge from 12% pre-survey to 96% post-survey for definitely knowing how to make a report.

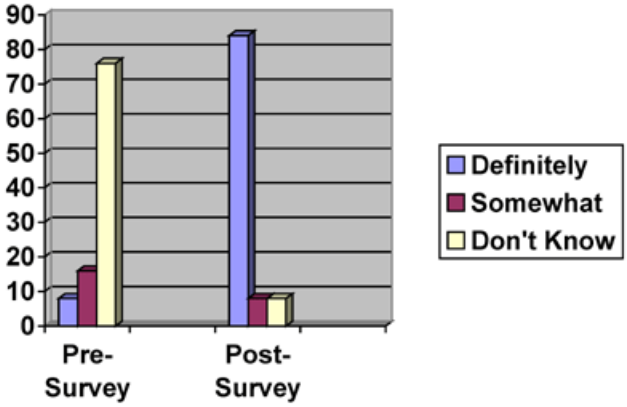

Figure 10 . Statement 9: "I know what is expected of me after I make a report." Percent of subjects knowing what is expected after reporting.

In statement 10, "I am likely to make a report to the correct agency if confronted with suspected abuse," 100% indicated that they were likely to make a report to the appropriate agency if confronted with suspected abuse in the post-survey (Figure 11). There was an overall increase of 60% from the pre-survey.

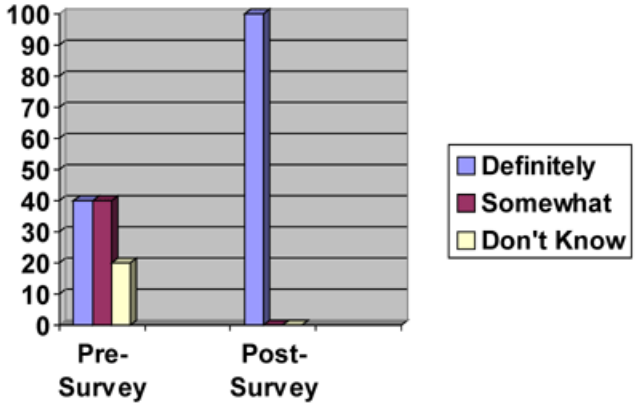

Figure 11 . Statement 10: "I am likely to make a report to the correct agency if confronted with suspected abuse." 100% perceive the likelihood to report after training.

Discussion

Training does impact a participant's perceived likelihood to act as demonstrated from the findings in statement 10, with 100% indicating that they would in all probability make a report. All of the subjects reported an increase in knowledge after attending the CE abuse-training program and reported an increased perception that they would make a report to the proper agency if confronted with abuse. Dental hygienists do make reports, as indicated in the pre-survey, and can self identify knowledge deficits. Deficits, that which the dental hygienist definitely didn't know, such as knowing legal and ethical responsibilities (child 68%, elderly 80%), contributing factors (80%), how to interview (84%), and how to make a report (88%), impact dental hygienists' ability to recognize and act upon suspicions of abuse.

Limitations of this study include the fact that the results of this study cannot be generalized to a greater population because it is a small descriptive study with a limited non-randomized sample. This pilot study would have been strengthened by going back to the participants and asking them whether or not they had actually changed behaviors in their reporting of abuse cases. No statistical significance was found in statements concerning dental hygienists' legal and ethical responsibilities for reporting elder and child abuse, phrasing open-ended questions, and knowing what is expected after a report is made, although realistic increases of percentages were reported. Furthermore, practical parallels do exist with this study's findings and with the few reports in the literature using descriptive statistics that indicate increased perception of respondents to report abuse after training. It may be assumed that identified knowledge deficits were never taught to dental hygienists and may be absent from some dental hygiene curricula on violence, as stated by the researchers Gutman and Solomon.[7] Further research on this topic should be conducted because results from a larger study could be accepted with more confidence.

Conclusion

The evidence supports that training given to a convenience sample of 25 dental hygienists attending a CE program increased their self-perceived knowledge and likelihood to report abuse. Through identifying knowledge deficits, such as factors contributing to abuse, how to date bruising, and how to make a report, this study recognized areas for possible curricular augmentation, such as providing more information on elder abuse and abuse factors and presenting a guide for filing reports to the appropriate agencies. These identified outcomes of this study provide an important reinforcement of the need to provide adequate training in dental and dental hygiene curricula and for practicing dental hygienists to acknowledge deficits and seek continuing education courses in the recognition and reporting of abuse.

Acknowledgements

Notes

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