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Awareness and Beliefs Regarding Intimate Partner Violence Among First-Year Dental Students

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Abstract: Intimate partner violence (IPV) may affect one to four million individuals per year in the United States, with women accounting for the majority of both reported and unreported cases. Dental professionals are in a unique position to identify many types of IPV because injuries to the head and neck may be indicators or predictors of IPV abuse. Fewer than half of dental programs surveyed have reported having IPV-specific curricula, and most dental students surveyed have reported having little experience or training to recognize IPV. Based on this information, this pilot study sought to assess the awareness and beliefs regarding IPV among first-year dental students at the University of Nevada, Las Vegas. Using a voluntary survey, followed by a one-hour educational seminar facilitated by an experienced IPV/domestic violence advocate, a post-seminar survey was administered to assess changes in student perceptions and beliefs and to determine the magnitude and direction of any changes. The survey had an 81.25 percent response rate (65/80). The results demonstrated that more than two-thirds of the students had no previous IPV-specific education. In addition, approximately half of these students began the educational session reporting they did not believe IPV was a health care issue, although the overwhelming majority had decided it was when surveyed after the seminar. Moreover, their perceptions and beliefs about the responsibilities of the dental professional, as well as knowledge about resources and available support services, were significantly changed. These results suggest that targeted, information-specific seminars may be sufficient to provide dental students with an understanding of the key issues regarding IPV. With this knowledge, they can better provide specific information about resources and referrals for services to their patients who have experienced IPV. Recommendations based on these findings are being used to develop and refine IPV-specific curricula at this institution, which may be of significant value to other dental schools with plans to develop and integrate this material into their programs.

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Domestic and interpersonal violence encompasses physical, sexual, neglective, and psychological abuse of vulnerable populations, including children and elderly or disabled persons, as well as spouses and other intimate partners.[1,2] The term "intimate partner violence" (IPV) describes the form of abuse directed toward the latter two groups. The majority of health care providers, including dental professionals, are mandated to report abuse or neglect of children and elderly or disabled persons to law enforcement agencies.[3,4] Although these forms of human abuse are complex and important health care issues, some estimates indicate that IPV abuse may affect one to four million individuals per year in the United States, with women accounting for the vast majority of both reported and unreported cases.[5,6]

Two recent surveys of U.S. and Canadian medical, dental, and nursing institutions have demonstrated that the majority of medical and allied health professions schools had some form of IPV-specific curriculum, although fewer than half of dental programs reported teaching IPV-specific educational components.[7,8] However, these surveys have also revealed that dental faculty members are keenly aware of the importance of this topic and strongly advocate for further curricular development to address these deficits.[7-9] In fact, recent publications have advocated for including IPV educational curricula, increasing

the number of dental schools incorporating IPV components into their programs, and raising awareness and bringing increased attention to this problem.[9-11]

Dentists and other dental professionals are in a unique position to identify many types of IPV as evidence has demonstrated that head and neck injuries may be considered indicators or predictors of IPV.[5,12] Moreover, some evidence suggests that dentists or dental specialists are often the first or only health care providers to interact with these patients. Thus, the dental professional provides a unique opportunity to offer assistance or intervention support.[12] However, the majority of dental students have had little experience or training to specifically recognize indicators of IPV. Additionally, this inexperience prior to matriculation or during dental school extends to the identification of resources that could facilitate assistance or intervention support services for their IPV patients.[13-15]

Based upon this background information, our pilot study sought to assess the awareness and beliefs regarding IPV of first-year dental students at a recently opened U.S. dental school, the University of Nevada, Las Vegas (UNLV). More specifically, the aims of this study were to assess 1) prior education among first-year dental students regarding IPV; 2) student perceptions regarding professional responsibility in identifying and reporting suspected cases of IPV; and 3) personal beliefs of students specific to IPV. To accomplish these aims, a voluntary survey concerning IPV was administered to the first-year dental students. This was followed by a one-hour educational workshop facilitated by an experienced IPV/domestic violence (DV) outreach coordinator, which involved a PowerPoint presentation, distribution of supplemental resource and contact information, and a question-and-answer session. A post-workshop survey was administered to assess changes in student perceptions and beliefs and to determine the magnitude and direction of any changes.

Methods

This protocol titled "Retrospective Investigation of Course Content Evaluation by Students: A Survey of Domestic Violence Education and Experience among Current UNLV-SDM Dental Students" was reviewed by the UNLV Biomedical Institutional Research Board (IRB) and was deemed excluded from IRB review (OPRS#1103-3752M) on April 7, 2011. Informed consent was waived pursuant to the exemption to human subjects research under the Basic HHS Policy for Protection of Human Research Subjects, (46.101) Subpart A (b) regarding IRB exemption for research involving the use of education tests (cognitive, diagnostic, aptitude, achievement) in which the subjects cannot be identified directly or through identifiers.

All students from the first-year dental student cohort (n=80) were asked to complete a voluntary survey, both before and after an instructional workshop. This session was provided by the UNLV Student Recreation and Wellness Center's IPV/DV outreach coordinator, who is certified to provide this policy and procedure workshop to any and all UNLV departments, faculty, staff, and students. The one-hour workshop was supported by the Office on Violence Against Women, U.S. Department of Justice (Grant No. 1009-WA-AX-0022) and was developed through a collaborative effort among the UNLV Jean Nidetch Women's Center, Office of Civic Engagement and Diversity, Office of Student Conduct, Counseling and Psychological Services, and Multicultural Center, as well as community and social service partners that included the Rape Crisis Center, Family and Child Treatment, Nevada Coalition Against Sexual Violence, and the Las Vegas Metropolitan Police Department. The educational objectives of the workshop were to provide step-by-step direction for what to do when someone discloses IPV; on- and off-campus resources for survivors and victims of violence or stalking; statistics and data regarding IPV; and relevant UNLV regulations and Nevada Revised Statutes code law for IPV.

No students were excluded from participation in the workshop. The pre and post surveys were physically attached to each other by staple, were color-coded (pre survey=blue; post survey=green), and were distributed together with the pre survey facing up. Color-coding allowed the faculty member to visually ascertain whether students who chose to participate in the survey were following classroom instruction and using the correct survey at the designated times. Data from this assignment were retrieved; and each student record, consisting of both the pre and post surveys, was assigned a numerical, nonduplicated identifier to prevent disclosure and ensure confidentiality of the survey participants. Basic demographic information, including gender, age, and race, were noted for each student record.

All students were given the pre and post surveys, which were administered in conjunction with the instructional workshop described above. The survey instrument was an eight-item questionnaire that addressed IPV awareness, resources, profes-

sional beliefs and responsibilities, and personal IPV education and intervention beliefs. The questionnaire used in our study was adapted from a 1996 and 2007 survey of U.S. and Canadian dental schools regarding domestic abuse and IPV, conducted with an instrument consisting of sixteen questions divided into two parts. Part one contained eleven questions to ascertain the extent of course content regarding IPV, while the second part contained an additional five questions consisting of belief statements regarding IPV issues with responses structured using a Likert scale: strongly disagree, disagree, undecided, agree, or strongly agree.[7] The original questionnaire was developed using topics and belief statements from evidence-based publications regarding women's health and IPV, which were refined for content validity using an expert committee consisting of a community-based domestic violence expert/administrator and three dental educators. This questionnaire was sent in a pilot study to all dental schools in the United States and Canada in 1996 (n=64), with the follow-up sent to all U.S. dental schools in 2007 (n=56). The original questionnaire was not tested for validity or reliability.

The questionnaire used in our study contained the subset of original questions consisting of the five belief statements, with three additional questions (contact corresponding author for copy of survey). Of the five questions adapted from the original questionnaire, two were designed to assess IPV awareness, and three were designed to assess personal beliefs regarding IPV. The three additional questions were to assess personal beliefs of students regarding personal willingness to participate in additional IPV courses, personal comfort participating in an IPV intervention, and personal awareness of IPV-specific local resources. These questions were based on previous evidence demonstrating that the vast majority of dentists surveyed do not screen for IPV, despite evident head and neck injuries, for reasons including lack of training, not having a list of local referral agencies, and personal embarrassment in initiating the conversation.[16] Previous IPV education was assessed using a yes/no response to the statement "Prior to today, I have participated in some form of domestic violence education."

Fisher's exact test was used to determine if any characteristic (demographic variable) was different than expected among any specific group of students, such as respondents or nonrespondents and those with and without prior IPV education. A probability level of alpha (α) <0.05 was used to determine significance. A paired t-test was used to determine differences in paired responses to the questions before and after the IPV educational workshop. This allows for the calculation of differences between each set of pairs and analyzes that list of differences based on the assumption that the differences in the entire population follow a Gaussian distribution. A probability level of $\alpha<0.05$ was used to determine significance.

Results

All students participated in the IPV seminar; however, only sixty-five agreed to participate in the pre and post surveys, resulting in an 81.25 percent response rate (65/80). No significant differences were found between the demographics of the respondents and the overall student cohort (respondents and nonrespondents combined) (Table 1). More specifically, the gender of more than two-thirds of the respondents (70.8 percent) was male. This was not significantly different from the percentage of males in the overall cohort (72.5 percent, p=0.8543). Two-thirds of the respondents were twenty-five years of age or over, which was the same percentage of students in the overall cohort (p=1.000). The racial and ethnic composition among respondents was found to be mainly white (52.3 percent), which was not dissimilar from that of the overall student cohort (60 percent, p=0.3069).

The majority of the respondents (67.7 percent) indicated they had no previous IPV-specific education (Table 2). Of those with previous IPV education, half were female (52.4 percent), which was much higher than the percentage of females who had no prior IPV education (18.2 percent) and was statistically significant (p=0.008). Many more of those indicating previous IPV education were under the age of twenty-five (71.4 percent), which was much higher than the percentage of those under twenty-five with no prior IPV education (15.9 percent) and was statistically significant (p<0.0001). A greater percentage of those with previous IPV education were white (66.7 percent), although this was not statistically significant from the percentage of whites with no prior IPV education (52.3 percent, p=0.299).

Awareness

Of the three questions designed to assess awareness among these students, the first sought to ascertain awareness about IPV as a health care issue (Table 3). Prior to the educational workshop, slightly more than half (56.9 percent) agreed or strongly agreed that IPV is a health care issue although nearly half either dis-

Table 1. Demographic analysis of student respondents and nonrespondents, by number and percentage of total respondents

Variable	Study Sample (Respondents)	Total Cohort (Respondents + Nonrespondents)	p-value
Gender			
Female	19 (29.2%)	22 (27.5%)	
Male	46 (70.8%)	58 (72.5%)	p=0.8543
Total	65	80	
Age			
<25 years	22 (33.8%)	27 (33.8%)	
≥25 years	43 (66.2%)	53 (66.2%)	p=1.000
Total	65	80	
Race			
White	34 (52.3%)	48 (60.0%)	
Non-white	31 (47.6%)	32 (40.0%)	p=0.3069
Total	65	80	

Table 2. Previous IPV education among respondents, by number and percentage of total respondents

Variable	Yes	No	p-value
Female	11 (52.4%)	8 (18.2%)	
Male	10 (47.6%)	36 (81.8%)	p=0.0080
Total	21	44	
<25 years	15 (71.4%)	7 (15.9%)	
≥25 years	6 (28.6%)	37 (84.1%)	p<0.0001
Total	21	44	
White	14 (66.7%)	23 (52.3%)	
Non-white	7 (33.3%)	21 (47.7%)	p=0.2990
Total	21	44	

agreed or were undecided (43.1 percent). Following the educational session, the percentage of those who agreed or strongly agreed increased significantly by 24.6 percent to 81.5 percent (p<0.0001).

In response to the second awareness question, more than three-quarters (76.9 percent) of respondents in the pre survey either agreed or strongly agreed that dental professionals may be the first to recognize and offer support to victims of IPV. Nearly one-quarter disagreed or were undecided (23.1 percent). Following the educational session, those who agreed or strongly agreed rose significantly to 90.8 percent (p=0.0003).

Finally, most respondents (83.1 percent) disagreed with or were undecided about resources currently available within the state—the focus of the third awareness question. Following the educational workshop, the percentage of those undecided or disagreeing declined significantly to 18.5 percent (p<0.0001). Those who agreed or strongly agreed with awareness in the post survey accounted for the majority of respondents (81.5 percent).

Professional Beliefs

Three additional questions were designed to assess respondents' beliefs about professional responsibilities as they relate to the dental profession (Table 4). Greater than 90 percent of the respondents in both the pre and post surveys reported believing that dentists have a professional responsibility to refer suspected IPV victims to an appropriate agency for assistance (p=0.5170). Similarly, the overwhelming majority of the respondents reported believing that trusting rapport and communication are critical for patient disclosure, which had similar percentages in both the pre and post surveys although almost one-third of the respondents changed their responses in both directions from the pre survey to the post survey (p=0.0131). Approximately three-quarters (75.4 per-

cent) of the respondents said they believed students should receive some type of IPV education in the dental curriculum, which increased significantly (83.1 percent) after the educational seminar ($p<0.0001$).

Two remaining questions were designed to assess students' personal beliefs about IPV education and intervention (Table 5). When asked about their personal willingness to participate in additional IPV education courses, the respondents in the pre survey were almost evenly split (49.2 percent disagreed or were undecided, 50.8 percent agreed or strongly agreed). The percentages who said they were willing

Table 3. Respondents' awareness of IPV as a health care or dental profession issue and IPV resources, by number and percentage of total respondents

Response	Pretest	Posttest	% Change
Domestic violence is increasing as a health care issue.			
(Strongly) Disagree/Undecided	28 (43.1%)	12 (18.5%)	
Agree/Strongly Agree	37 (56.9%)	53 (81.5%)	+24.6%
Total	65	65	t=5.8133
			d.f.=63
			p<0.0001
Dentists or other dental team members may be the first health care professional to recognize and offer support to the domestic violence victim.			
(Strongly) Disagree/Undecided	15 (23.1%)	6 (9.2%)	
Agree/Strongly Agree	50 (76.9%)	59 (90.8%)	+13.9%
Total	65	65	t=3.8719
			d.f.=63
			p=0.0003
I am aware of domestic violence resources offered in the state of Nevada.			
(Strongly) Disagree/Undecided	54 (83.1%)	12 (18.5%)	
Agree/Strongly Agree	11 (16.9%)	53 (81.5%)	+64.6%
Total	65	65	t=12.42
			d.f.=63
			p<0.0001

Table 4. Respondents' professional beliefs regarding the dental profession and IPV issues, by number and percentage of total respondents

Response	Pretest	Posttest	% Change
Dentists have a professional responsibility to refer suspected domestic violence victims to an appropriate agency for assistance.			
(Strongly) Disagree/Undecided	3 (4.6%)	4 (6.2%)	
Agree/Strongly Agree	62 (95.4%)	61 (93.8%)	-1.6%
Total	65	65	t=0.6517
			d.f.=63
			p=0.5170
A trusting patient-operator rapport and appropriate communication with the patient are important to encourage disclosure of past or current domestic violence incidents.			
(Strongly) Disagree/Undecided	5 (7.7%)	6 (9.2%)	
Agree/Strongly Agree	60 (92.3%)	59 (90.8%)	-1.5%
Total	65	65	t=2.5529
			d.f.=63
			p=0.0131
Dental students should receive some form of domestic violence education in their curriculum.			
(Strongly) Disagree/Undecided	16 (24.6%)	11 (16.9%)	
Agree/Strongly Agree	49 (75.4%)	54 (83.1%)	+7.7%
Total	65	65	t=4.4891
			d.f.=63
			p<0.0001

to participate increased significantly following the educational session (+12.3 percent, p=0.0184). Finally, approximately two-thirds (61.5 percent) reported they would feel comfortable participating in some form of IPV intervention, which increased from 61.5 percent in the pre survey to 69.2 percent in the post survey although almost half the participants changed their responses in both directions (p=0.0016).

Discussion

The primary objective of this pilot study was to assess the awareness and beliefs regarding IPV in first-year dental students. Analysis of this dental student cohort revealed a class that is mostly white, male, and in their mid- to late twenties, with approximately two-thirds reporting no previous IPV education, providing further evidence of the need to develop specific curricula to address this deficiency.[13-15] Interestingly, of the few who did have some previous IPV education, nearly half were female. This finding may suggest that some gender-specific education or training may have been provided in a former educational setting. In addition, the majority of these were younger (<25 years), which may suggest some influence of more recent efforts to raise awareness of IPV at colleges and universities, including this institution.

More importantly, although nearly half of these student respondents began the educational session reporting they did not believe IPV was a health care issue, the overwhelming majority reported it was a health care issue when they were surveyed after the workshop. This finding provides new support for the hypothesis that students regard this as an important component of their dental education. The fact that few students knew of the IPV educational and support service resources located in the state suggests that the majority of first-year dental students at this institution had no prior education or training concerning this issue. However, targeted, information-specific seminars and workshops may be sufficient to outline the key issues as they relate to health care and dental providers. Moreover, these sessions can provide specific information about resources and referrals for services, a critical need previously identified by dental faculty members and dental practitioners.[7-11,16]

Prior to the IPV workshop, almost all students said they believed that dentists have a professional responsibility to refer suspected IPV victims for help or assistance. They also began the session reporting that communication and rapport were essential to facilitate patient disclosure of IPV. Most respondents also said they believed this should be incorporated into the dental curriculum. Although the overall percentage did not change significantly, nearly one-third of all respondents changed their responses, which may suggest some were more convinced following the seminar while others were not. Possible implications for these findings concerning IPV education for the dental profession include the following:

1. Future studies and educational seminars should include more specific information to facilitate responses to student questions or concerns regarding a health care professional's state or federal legally mandated responsibility regarding IPV recognition and reporting.
2. Additional mechanisms to derive feedback or facilitate follow-up inquiries should be developed to more thoroughly assist with student learning objectives on this topic.

Table 5. Respondents' personal beliefs regarding IPV education and intervention, by number and percentage of respondents

Response	Pretest	Posttest	% Change
I would be willing to participate in additional domestic violence education courses.			
(Strongly) Disagree/Undecided	32 (49.2%)	24 (36.9%)	
Agree/Strongly Agree	33 (50.8%)	41 (63.1%)	+12.3%
Total	65	65	t=2.4203
			d.f.=63
			p=0.0184
I would feel comfortable participating in domestic violence intervention.			
(Strongly) Disagree/Undecided	25 (38.5%)	20 (30.8%)	
Agree/Strongly Agree	40 (61.5%)	45 (69.2%)	+7.7%
Total	65	65	t=3.2899
			d.f.=63
			p=0.0016

Two recent studies demonstrated that interactive tutorials and online continuing education seminars specific to this topic may provide new methods for consolidating these educational concepts and providing mechanisms and processes for generating and answering student questions and concerns.[17,18] Although most students in our study indicated they would be willing to participate in additional courses and felt comfortable participating in some form of IPV intervention, these percentages did not change significantly following the educational session. These results may suggest that most students who were responsive to the topic remained willing to further their knowledge and already felt comfortable enough to participate. However, those who were not comfortable may not have had sufficient information to precipitate a change in their response. In addition, nearly half the participants changed their responses from the pre survey to the post survey—providing some evidence that although some felt more comfortable following the seminar, others felt less comfortable. These results suggest that this topic remains a critical factor for discussion among educators and administrators seeking further integration of this topic into developing dental curricula.

There were limitations to this study. The nature of the study design (convenience sample of the dental student first-year cohort) limited the total sample size. In addition, the demographic (gender and racial) characteristics of the students within the cohort may have influenced the outcomes. Finally, no information was available regarding the socioeconomic status of participants, which limits the types of analysis that could be performed as well as conclusions that can be drawn from the outcomes.

Conclusions

This pilot study indicates that targeted, information-specific seminars may be sufficient to provide dental students with an understanding of the key issues regarding IPV. With the acquisition of this knowledge, they can better provide specific information about resources and referrals for services to their patients who have experienced IPV. This is a critical need previously identified and reported by dental faculty members and clinicians.[7-11]

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