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Retrospective investigation of course content evaluation by students: A survey of domestic violence education and experience among current UNLV-SDM dental students

Rhonda J. Everett

University of Nevada, Las Vegas

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RETROSPECTIVE INVESTIGATION OF COURSE CONTENT EVALUATION
BY STUDENTS: A SURVEY OF DOMESTIC VIOLENCE EDUCATION AND
EXPERIENCE AMONG CURRENT UNLV-SDM DENTAL STUDENTS

by

Rhonda J. Everett

Doctor of Dental Surgery

University of Southern California

2000

A thesis submitted in partial fulfillment
of the requirements for the

Master of Public Health
Department of Environmental and Occupational Health
School of Community Health Sciences

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Nevada, Las Vegas December
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THE GRADUATE COLLEGE

We recommend the thesis prepared under our supervision by

Rhonda J. Everett, DDS

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Retrospective Investigation of Course Content Evaluation By Students: A survey of Domestic Violence Education and Experience Among Current UNLV-SDM Dental Students

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Master of Public Health

Department of Environmental and Occupational Health

Michelle Chino, Committee Chair

Timothy Bungum, Committee Member

Sheniz Moonie, Committee Member

Karl Kingsley, Graduate College Representative

Ronald Smith, Ph. D., Vice President for Research and Graduate Studies
and Dean of the Graduate College

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ABSTRACT

Retrospective Investigation of Course Content Evaluation by Students: A Survey of Domestic Violence Education and Experience among Current UNLV-SDM Dental Students

The overall purpose of this research project is to survey experience and education of current dental students regarding domestic violence. Domestic violence has been recognized as one of our nation's most serious public health issues. Domestic violence can result in physical injury, psychological trauma, and sometimes death. Dentists can act as one of the first lines of intervention in recognizing common dental and facial trauma which may be associated with domestic violence victims including: broken teeth, facial bruising, and jaw fractures.

Current data suggest that education about domestic violence can help the dental professional in overcoming some of the barriers they face in intervening to help domestic violence victims. A UNLV Office of Research Integrity - Human Subjects Exemption (1103-3752M - Retrospective Investigation of Course Content Evaluation by Students: A Survey of Domestic Violence Education and Experience among Current UNLV-SDM Dental Students) was filed and approved June 7, 2011 to facilitate the use of an existing survey administered at UNLV-SDM, before and after a domestic violence education seminar. Although there is growing evidence of domestic violence education and instruction in medical education, few studies have evaluated the need for this type of education or the results of this instruction in dental schools specifically.

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CHAPTER 1

INTRODUCTION

“A 25- year-old woman presents for treatment with a chipped front tooth and a black eye. Should I ask about domestic violence and, if it is occurring, what should I do?” (Journal of the Canadian Dental Association, 2006)

Domestic violence has been recognized as one of our nation’s most serious public health issues. It is an epidemic affecting individuals in every community, regardless of age, economic status, race, religion, nationality or educational background. Domestic violence can result in physical injury, psychological trauma, and sometimes death. The consequences of domestic violence can cross generations and last a lifetime. The economic impact of domestic violence exceeds \$5.8 billion each year (National Coalition Against Domestic Violence, 2007).

As healthcare professionals, dentists are trained to obtain and record thorough medical histories from their patients, in addition to performing complete and detailed head and neck examinations. Dentists can act as one of the first lines of intervention in recognizing common dental and facial trauma which may be associated with domestic violence victims including: broken teeth, facial bruising, and jaw fractures. Yet like physicians, dentists face many barriers in identifying and helping patients who are abuse victims.

Current data suggest that education about domestic violence can help the dental professional in overcoming some of the barriers they face in intervening to help domestic violence victims.

SPECIFIC AIMS

The objective of this research project will be to assess the beliefs of dental student's pre and post domestic violence education. This study will assess the effect of domestic violence education in 1st year dental students attending the University of Nevada Las Vegas, School of Dental Medicine, by comparing their beliefs before and after a domestic violence education lecture. It is expected that following the domestic violence education lecture dental students will develop an increased awareness of its presence and the applicable laws, have an enhanced knowledge for clinical recognition, and an improvement in comfort and communicating with and addressing potential victims.

The primary predictor variable is the domestic violence education administered in a lecture format. The outcome will be changes in beliefs toward domestic violence which will be measured using a survey method. It is expected that domestic violence education will affect the beliefs of dental students as measured by an increase of numbers according to the Likert Scale used for the survey.

BACKGROUND AND SIGNIFICANCE

Violent behavior against an individual can occur within or outside of the family unit. Unfortunately, physical or emotional trauma is often directed against those within the nuclear or extended family or multi-generational home who are least able to defend against it. Thus, human abuse can manifest itself in several forms and is often defined according to the sub-population affected (Herschaf, et al., 2007).

Domestic violence includes the physical and psychological abuse of children, elders and spouses or other intimate partners (Chez, 1988). Any abusive, violent, coercive, forceful, or threatening act or word inflicted by one member of a family or household on another can constitute as domestic violence (NCADV, 2007). Throughout the years domestic violence has become known as one of the most important public health issues facing our nation. Reliable information regarding domestic violence incidence and prevalence usually comes from epidemiologic researchers collecting data from law enforcement agencies, governmental and protective services agencies and information from various *at risk* populations (Herschaf et al., 2007). It is generally accepted that reported incidents of abuse and neglect significantly under represent the actual number of cases that have occurred. One estimate based on the data indicates that almost half of families in the United States have already experienced or are about to experience some form of intra-family violence (Herschaf et al., 2007).

Health care professionals are mandated to report two types of family violence to law enforcement agencies: child abuse/neglect and elder abuse/neglect (Sachs, 2007). As a result, these topics are commonly included in the educational curricula of health care providers, including dentists and hygienists. However, because reporting of domestic violence (intimate partner violence) is not required by most states, these topics are less likely to be included in dental and dental hygiene curricula (Gibson-Howell et al., 2008).

Independent of victim age or gender, a significant number of injuries observed following an abusive situation are found in the head and neck area. Thus, there are common features associated with all forms of human abuse that should increase the suspicion of the dentist examining the patient/victim who has sustained the inflicted trauma (Herschaft, et al., 2007). A study published in the Journal of the American Dental Association, showed the association between location of injury and cause of injury was statistically significant ($P < .001$). Patients who came to the emergency department with HNF (head, neck, facial) injuries were 11.8 times more likely (95% CI=1.65 to 85.8) to be victims of domestic violence than were individuals who sought treatment for other injuries (Ochs, et al., 1996).

It is then critical that the dental professional be prepared to identify, interview, and assist potential victims (Gibson-Howell et al., 2008). As the face is a common target in assault,

dentists and oral and maxillofacial surgeons are in a unique position to screen for domestic violence in the context of presentation of dental and facial injury (Coulthard et al., 2008).

Though it varies by state as to whether or not health care professionals are mandated to report intimate partner violence, medical educators emphasize that including these topics in medical curricula may increase the numbers of suspected victims identified and referred for help. Dental curricula often do not include domestic violence topics.

Because of this, dentists may observe injuries, but do not consider domestic violence as the cause or are afraid to address the issue with the possible victim. However, since head and neck injuries account for 65–75 percent of physical trauma that occurs during domestic violence incidents; dental personnel are in a favorable position to identify signs of domestic violence during their extraoral and intraoral examinations. In addition, the unique knowledge and skills of the dental professional are often necessary to treat the orofacial and dental structures of domestic violence victims (Gibson-Howell, et al., 2008).

A dentist has a professional responsibility to assist possible victims of domestic violence. However, many barriers exist which may prevent them from becoming involved including: lack of time to raise the issue, support resources, education and training, fear or embarrassment of offending the patient; and lack of comfort and confidence in assisting potential victims. A recent study in the JADA pertaining to dentists' attitudes and behaviors regarding domestic violence noted that participants with domestic violence education were more likely to make a note in the patient's chart ($P = .00057$, Mann-

Whitney test), express concern for the patient's safety ($P = .017$), give referrals ($P = .042$) or arrange for a patient's safety ($P = .073$). Although more participants who had any domestic violence education than those who did not reported that they had ever filed a police report (12% vs. 8%), this comparison did not approach statistical significance ($P = .5$) (Love, et al., 2001).

The administration of domestic violence education to dental personnel would seem an effective method in addressing most of these issues. It must be shown that domestic violence education is crucial in affecting the attitude of the dental professional as well as preparing them to be able to assist in aiding potential victims and to diminish some of the barriers which exist between health care provider and patient.

METHODS

Research Topic: Domestic Violence Education and Experience among Current UNLV-SDM Dental Students

Research Question: *Will there be a change in the beliefs of dental students post domestic violence education?*

To answer this research question, a two paged survey containing the same questions was administered to dental students about their ideas, thoughts, perceptions, etc. concerning domestic violence, domestic violence intervention, and the role of the dental professional. The pre-survey was written on green paper and the post-survey on blue paper in order to differentiate between the two. The students were then instructed to fill out the pre-survey

only. The students were given a domestic violence education lecture. After the lecture, the students were then instructed to fill out the attached blue survey. This was done in order to assess and compare any changes in their attitudes and beliefs about domestic violence while maintaining their anonymity.

Significance

It is estimated that 1.5 million women incur serious injury by rape and/or physical assault by an intimate partner annually in the United States.

According to the Nevada Department of Public Safety, the number of domestic violence incidents reported in Clark County has risen from 7,110 cases in 1994 to 26,576 cases reported in 2005.

According to a recent study reported in the Journal of the American Dental Association, domestic violence education increased the likelihood that dentists would screen for abuse.

Approach/Framework

Retrospective Cohort

Classroom/Lecture Based

Participatory Approach

Survey Design – Assessment tool (instrument) Pre / Post Survey

Qualitative and Quantitative Analysis

Applied Research

Topics covered in the domestic violence education lecture included:

Impact of domestic violence on society

Prevalence of domestic violence in U.S. and Nevada

Psychosocial and socioeconomic etiological factors of domestic violence including the perpetrator and the abused

Characteristics of the abused, the abuser, and the dynamic of domestic violence

Physical and behavioral indicators of domestic violence

Interviewing and screening protocol to identify domestic violence victims

Protocol to refer the abused to the appropriate agency for assistance

Protocol to document domestic violence incidents

Responsibility of the health care (dental) professional

Pilot Study Population: This pilot study population consisted of 1st year dental students attending the University of Nevada Las Vegas, School of Dental Medicine. Sample size = 76. Subsequent studies may be conducted with other class levels as well as faculty members within the dental school.

Specific Aims

To survey the beliefs of dental students before and after domestic violence education.

To increase the awareness of dental students to the issues of domestic violence

To encourage dental students to seize the opportunity to play a vital role in aiding patients who may be potential victims of domestic violence.

Hypothesis and Predictions

H0: There will be no difference in the beliefs of dental students following domestic violence education.

H1: There will be a difference in the beliefs of dental students following domestic violence education.

H2: Domestic violence education will increase the awareness of domestic violence issues among the dental students.

H3: Gender influences the beliefs of the dental student.

Measurements

Predictor: Domestic violence education

Outcome: Changes in beliefs, increased awareness, increase willingness to participate in domestic violence intervention.

Mixed methods - qualitative and quantitative data collected

REAIM

Reach: This program was designed to reach students in their 1st year of dental training at the University of Nevada Las Vegas, School of Dental Medicine. If the program is successful, subsequent dental classes as well as dental faculty may also benefit from this educational opportunity.

Efficacy/Effectiveness: The efficacy and effectiveness of this program will be measured and assessed as changes in the data collected from surveys pre and post domestic violence.

Adoption: This research project has the potential to be adopted as a permanent educational format within the dental school. If proven to be effective, other dental schools nation-wide may benefit by similar educational formats.

Implementation: This pilot program was implemented into the fall curriculum of the 1st year dental students. The instruction was given as part of the Diagnosis and Treatment Planning I course. The instructor administered the pre-survey prior to the scheduled lecture period of his/her choosing. Following the pre-survey, domestic violence education lecture was administered by a representative from the UNLV Women's Center. Approximate time allotted for the education was 45 minutes to 1 hour. After completion of the lecture; the post-survey was conducted.

Maintenance: The opportunity for follow-up sessions can be conducted in proceeding 2nd, 3rd and 4th year level course work. Additional domestic violence education can be disseminated in the Community Practices and Professionalism courses which the students

take in their 2nd, 3rd, and 4th years of dental education. Students will also be encouraged to seek out other domestic violence educational programs after graduation, as some form of post graduate continuing education.

Statistical Issues

Measurements included:

Data collected from survey which dental students completed prior to receiving the domestic violence education lecture.

Data collected from survey which dental students completed after receiving the domestic violence education lecture.

Comparison of data collected pre and post domestic violence education lecture.

Expected Outcomes

It is expected that respondent scores will increase on the Likert scale after the domestic violence education lecture. The primary **predictor variable** (domestic violence education) will have a **positive** relationship with the **outcome variables**. In addition, the results of this program should support the following issues:

Evidence supporting the need for domestic violence education in the dental school curricula

Evidence supporting domestic violence education for dental professionals (post graduate) as part of their continuing education

Possible implementation of domestic violence education as part of the required coursework for students at the UNLV School of Dental Medicine

Possible nation-wide implementation of domestic violence education into dental school curricula

Limitations

Student Absences: Very rare, but student absences could play a vital part in collecting and retrieving sufficient data to support the project.

Subjective Data Measurement: Subjective data must be measured with caution. Attitude measures and self-reports may be distorted by biasing factors, such as the “halo effect”, acquiescence, and cognitive dissonance (Rubinstein & Hersh 1984 in Cushman & Rosenberg 1991). Subjects’ preferences are affected by events in the recent past and the perception of instructor expectation.

Allotted Time: Allotted time for domestic violence education may be insufficient. More time may be needed for better education of the subject matter.

Appropriate Setting: Classroom size may influence connection with instructor and respondents. Subject matters of this nature may require a more intimate setting.

Mixed Audience: The comfort level of male and female respondents receiving this subject matter in a mixed audience. In addition, should female instructors lecture to females, and males to males?

Lecturer Knowledge of Audience: Will the educator have the capability to relay information and make it applicable to the dental student (respondent)?

Discussion

As domestic violence gains recognition as a public health issue, there is an increasing awareness that dentists, in addition to physicians, have an opportunity –and a legal and ethical obligation – to identify and make the appropriate referrals for patients who are partner-abuse victims. Although reports show that the majority of victims sustain head and neck injuries, few dentists recognize domestic violence as a problem that their patients encounter and fewer have protocols in place to facilitate intervention (Love, et al., 2007).

The ultimate goal is for the dental student to translate their knowledge into daily practice so that potential victims can be identified and assisted. To do this, dental professionals must be comfortable that they can ask the right questions, can converse in a caring manner, and are prepared to refer the person for assistance. When dental professionals are trained and feel confident to follow through with this process, more victims may be identified earlier and more lives may be saved from years of victimization (Gibson-Howell et al., 2008). This is explored in greater detail in Chapter 2.

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CHAPTER 2

This chapter has been prepared for submission to the peer-reviewed scientific and education journal, *Journal of Dental Education*, and is presented in the style of that journal.

The complete citation is:

Critical Issues in Dental Education:

Awareness and Beliefs Regarding Domestic Violence Among First-Year Dental Students.

By Rhonda J. Everett, DDS; Karl Kingsley, PhD, MPH; Christina A. Demopoulos, DDS, MPH, Edward E. Herschaft, DDS, MA; Christine Lamun, BS; Sheniz Moonie, PhD, MS; Timothy J. Bunghum, Dr.PH, MS; Michelle Chino, PhD, MS.

Awareness and Beliefs Regarding Domestic Violence Among First-Year Dental Students.

Rhonda J. Everett, DDS; Karl Kingsley, PhD, MPH; Christina A. Demopoulos, DDS, MPH, Edward E. Herschaft, DDS, MA; Christine Lamun, BS; Sheniz Moonie, PhD, MS; Timothy J. Bungum, Dr.PH, MS; Michelle Chino, PhD, MS.

Rhonda Everett is an Assistant Professor of Clinical Sciences in the School of Dental Medicine at the University of Nevada, Las Vegas. Karl Kingsley is an Associate Professor of Biomedical Sciences in the School of Dental Medicine at the University of Nevada, Las Vegas. Edward Herschaft is Professor of Biomedical Sciences in the School of Dental Medicine at the University of Nevada, Las Vegas. Christina Demopoulos is an Assistant Professor of Clinical Sciences in the School of Dental Medicine at the University of Nevada, Las Vegas. Christine Lamun is a fourth-year dental student at the School of Dental Medicine at the University of Nevada, Las Vegas. Sheniz Moonie is an Assistant Professor in the School of Community Health Sciences at the University of Nevada, Las Vegas. Timothy Bungum is an Associate Professor in the School of Community Health Sciences at the University of Nevada, Las Vegas. Michelle Chino is an Associate Professor in the School of Community Health Sciences at the University of Nevada, Las Vegas. Direct correspondence and requests for reprints to Dr. Rhonda J. Everett, UNLV School of Dental Medicine, 1001 Shadow Lane, Las Vegas, Nevada, 89106; 702-774-2517 phone; 702-774-2721 fax; Rhonda.Everett@unlv.edu.

Keywords: Domestic abuse, intimate partner violence, educational experience, dental student, awareness, belief

Abstract

Intimate Partner Violence (IPV) may affect one to four million individuals per year in the United States (US), with women accounting for the majority of both reported and unreported cases. Dentists and dental professionals are in a unique position to identify many types of IPV abuse because the majority of IPV injuries involve injuries to the head and neck. Fewer than half of dental programs surveyed report having IPV-specific curricula, and most dental students' surveyed report having little experience or training to recognize IPV. Based upon this information, this pilot study sought to assess the awareness and beliefs regarding domestic violence 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 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 results demonstrated nearly two-thirds of students had no prior experience with domestic violence education. In addition, the majority of students began the educational session reporting they did not believe domestic violence was a health care issue, although the overwhelming majority decided it was a healthcare issue when surveyed after the seminar. Moreover, perceptions and beliefs about the dental professional responsibility, 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 healthcare professionals with an understanding of the key issues regarding the domestic violence and IPV problem. With this knowledge, they can better provide specific information about resources and referrals for services to their patients who have experienced IPV. As a previously identified critical issue in dental education, recommendations based upon these findings are being used to develop and refine IPV-specific curricula at this institution, which may be of significant value to other schools with plans to develop and integrate this material into their dental programs.

Background

Domestic and interpersonal violence encompasses physical, sexual, neglective and psychological abuse of vulnerable populations, including children, the elderly and disabled, 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 healthcare providers, including dental professionals, are mandated to report abuse or neglect of children, the elderly, and the disabled to law enforcement agencies: child- or elder-abuse and neglect.^{3,4} Although these forms of human abuse are complex and important healthcare issues, some estimates indicate that IPV abuse may affect one to four million individuals per year in the United States (US), with women accounting for the vast majority of both reported and unreported cases.^{5,6}

Two recent surveys of US and Canadian medical, dental and nursing institutions have demonstrated that the majority of medical and allied healthcare professional 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 are keenly aware of the importance of this topic and strongly advocate for further curricular development to address this deficit.⁷⁻⁹ In fact, many recent publications have advocated for IPV educational curricula, and to increase the number of dental schools incorporating IPV components into their programs, have raised awareness and brought increased attention to this problem.⁹⁻¹¹

Dentists and dental professionals are in a unique position to identify many types of IPV because the vast majority of IPV injuries involve injuries to the head and neck.^{5,12} Moreover, some evidence suggests that dentists or dental specialists are often the first or only healthcare providers to interact with these patients. Thus, the dental professional provides a unique opportunity to offer assistance or intervention support.¹² Interestingly,

the majority of dental students have had little experience or training to recognize 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, this pilot study sought to assess the awareness and beliefs regarding domestic violence among first-year dental students at a recently opened US dental school. More specifically, the aims of this study were to assess:

1. Prior experience and education among first-year dental students regarding the domestic abuse component of IPV.
2. Student perceptions regarding professional responsibility in identifying and reporting the domestic abuse component of IPV.
3. Personal beliefs of students specific to this topic.

To accomplish the aims of this study a voluntary survey concerning the domestic abuse component of IPV was administered to the first year dental students. This was followed by a one-hour educational seminar facilitated by an experienced domestic violence advocate, which involved a PowerPoint presentation, distribution of supplemental resource and contact information, as well as a question-and-answer session. A post-seminar survey was administered to assess changes in student perceptions and beliefs and to determine the magnitude and direction of any changes.

Methods

Human Subjects

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 (2) research involving the use of education tests (cognitive, diagnostic, aptitude, achievement) where the subjects cannot be identified directly or through identifiers.

Selection and Description of Participants

All students from a first-year dental student cohort (n = 80) were asked to complete a voluntary survey, before and after an instructional session provided by the UNLV Student Recreation and Wellness Center – Domestic Violence Outreach Coordinator. No students were excluded from participation. Data from this assignment were retrieved and each record was assigned a numerical, non-duplicated identifier to prevent disclosure and ensure confidentiality of participants. Basic demographic information, including gender, age, and race, were noted for each student record, in separate tables.

Survey - Needs Assessment

All students were given the pre- and post-survey, which was administered in conjunction with the instructional session described above, which consisted of eight structured questions with Likert scale responses; Strongly Disagree, Disagree, Undecided, Agree, Strongly Agree (Appendix 1). These questions were designed to assess awareness and personal beliefs regarding domestic violence. Prior experience was assessed using a Yes/No response to the statement “Prior to today, I have participated in some form of domestic violence education”.

Statistical evaluation

A chi-square (χ^2) test or a likelihood ratio test was used to determine if any characteristic (demographic variable) was different than expected among any specific group of students, such as respondents or non-respondents. Additionally, the proportion of those who disagree or agree was also evaluated to determine if any were outside of the range that could be expected. A probability level of alpha (α) < 0.05 was used to determine significance.

A weighted Kappa (K) was used to determine differences in paired responses to the survey questions before and after the domestic violence education lecture. A probability level of (α) < 0.0001 was used to determine significance.

Results

Demographics

A total of sixty five (65) usable surveys were collected, resulting in an 81.25% response rate (65/80). No significant differences were found between the demographic of respondents and non-respondents (Table 1). More specifically, the gender of more than two-thirds of respondents (70.8%) was male. This was not significantly different from the percentage of total males in the overall cohort (72.5%) or non-respondents (80%) ($p > 0.05$). In general, respondents were in their mid- to late-twenties (average age 26.6 years \pm 4.3) and no differences were found in comparison to the total cohort or non-respondents. Overall, females had a larger age range (22 – 42) than males (23 – 34), although the means were nearly identical (26.5 and 26.7 years, respectively; $p = 0.966$). The racial and ethnic composition among respondents was found to be mainly White (52.3%), which was not dissimilar compared with the overall cohort (60%). However, a greater proportion of non-respondents were White (14/15= 93.3%), which was statistically significant ($\chi^2 = 8.547, p = 0.0035$).

Table 1. Demographic analysis of study participants

Variables	Study sample (Percentage)	Total cohort	<i>p</i> -value
<i>Gender</i>			
Female	n = 19 (29.2%)	n = 22 (27.5%)	$\chi^2 = 0.0529$ <i>p</i> = 0.8181
Male	n = 46 (70.8%)	n = 58 (72.5%)	
	N = 65	N = 80	
<i>Age</i>			
<25 years	n = 22 (33.8%)	n = 27 (33.8%)	$G = 0.070$ <i>p</i> = 0.966
25-35 years	n = 40 (61.5%)	n = 50 (60.0%)	
> 35 years	n = 3 (4.6%)	n = 3 (3.8%)	
	N = 65	N = 80	
Female	Range: 22 – 42 (Ave. = 26.5 years +/- 6.54)		
Male	Range: 23 – 34 (Ave. = 26.7 years +/- 3.03)		
<i>Race</i>			
White	n = 34 (52.3%)	n = 48 (60.0%)	$\chi^2 = 0.8636$ <i>p</i> = 0.3527
Non-White	n = 31 (47.6%)	n = 32 (40.0%)	
	N = 65	N = 80	
Asian	n = 16 (24.6%)	n = 20 (25.0%)	
Multi/Other	n = 13 (20.0%)	n = 5 (6.25%)	
Black	n = 1 (1.5%)	n = 1 (1.25%)	
Hispanic	n = 1 (1.5%)	n = 6 (7.5%)	

Prior experience

In response to the question indicating some prior experience, the majority of respondents (63.1%) indicated they had no prior domestic violence education (Table 2). Of those with prior experience, most were White (66.7%), which was not dissimilar from the overall cohort (60%). However, approximately half of those with prior experience or education were female (52.3%), which was much higher than expected and statistically significant ($p = 0.03$), given their proportion within the overall cohort (27.5%). There were no significant differences in age between those with prior experience and those without (26.4 and 26.6 years, respectively; $p = 0.883$).

Table 2. Analysis of prior experience (PE) response by demographic variable

Variables	Study sample (Percentage)	Total cohort	p -value
Gender	<i>Yes</i>		
	Female, n = 11 (52.3%)	n = 22 (27.5%)	$\chi^2 = 4.681$
	Male, n = 10 (47.7%)	n = 58 (72.5%)	$p = 0.0305$
	N = 22	N = 80	
	<i>No</i>		
	Female, n = 8 (19.5%)		
	Male, n = 33 (80.5%)		
	N=41		
Age	<i>Yes</i>		G = 0.022
	n = 21, Ave. = 26.4 years +/- 3.55		$p = 0.883$
	<i>No</i>		
	n = 41, Ave. = 26.6 years +/- 5.6		

Variables	Study sample (Percentage)	Total cohort	<i>p</i> -value
Race	<i>Yes</i>		
	White (C), n = 14 (66.7%)	n = 48 (60.0%)	$\chi^2 = 0.3118$
	Non-White, n = 7 (33.3%)	n = 32 (40.0%)	$p = 0.5771$
	N = 21	N=80	
	Asian (A), n = 4 (19.0%)		
	Multi (MR), n = 2 (9.5%)		
	Unk (U), n = 1 (4.8%)		
	<i>No</i>		
	White (C), n = 20 (48.8%)		
	Non-White, n = 21 (51.2%)		
	Asian (A), n = 10 (24.4%)		
	Multi (MR), n = 3 (7.3%)		
	Unk (U), n = 6 (14.6%)		
Black (AA), n = 1 (2.4%)			
Hispanic (H), n = 1 (2.4%)			

Awareness

Of the three separate questions designed to assess the level of awareness among these students, the first sought to ascertain the awareness about domestic violence as a health care issue (Table 3). Prior to the educational component slightly more than half (56.9%) agreed or strongly agreed that domestic violence is a health care issue, although nearly half (43.1%) either disagreed or were undecided (43.1%). Following the educational session, the percentage of those who agreed or strongly agreed was 80%, a significant increase of 23.1% ($p = 0.0000$).

In response to the second question of awareness, more than three-quarters (76.9%) of respondents in the pre-test either agreed or strongly agreed that dental professionals may be the first to recognize and offer support to victims of domestic violence, although nearly one-quarter disagreed or were undecided (23.1%). Following the educational session, those who agreed or strongly agreed rose significantly to 90.8% ($p = 0.000$). Analysis of the pre- and post-survey respondents that disagreed or were undecided was more difficult to assess, due to the smaller number of respondents in the post-survey ($n=5$).

Finally, most respondents (83.1%) disagreed with or were undecided about resources currently available within the state – the focus of the third awareness question. Following the educational seminar, the percentage of those undecided or disagreeing declined significantly, while those who agreed accounted for the majority of respondents (81.5%). Analysis of prior experience and demographic characteristics (race, gender, age) revealed no statistical differences between pre- and post-survey respondents that Disagreed or were Undecided in any of the three awareness questions.

Table 3. Awareness of domestic violence as a healthcare or dental profession issue

Response	Pre-test	Post-test	% Change
Domestic violence is increasing as a healthcare issue			
1 = Strongly Disagree	n = 0	n = 1 (1.5%)	
2 = Disagree	n = 5 (13.6%)	n = 2 (3.1%)	
3 = Undecided	n = 23 (35.4%)	n = 9 (13.8%)	
4 = Agree	n = 35 (53.8%)	n = 29 (44.6%)	
5 = Strongly Agree	n = 2 (3.1%)	n = 23 (35.4%)	
Unanswered		n = 1 (1.5%)	
(Strongly) Disagree/Undec.	n = 28 (43.1%)	n = 12 (18.5%)	
Agree/Strongly Agree	n = 37 (56.9%)	n = 52 (80.0%)	+23.1%
			0.3007
			$p = 0.0000$

Response	Pre-test	Post-test	% Change
Dentists or dental team members may be the first healthcare professional to recognize and offer support to the domestic violence victim			
1 = Strongly Disagree	n = 0	n = 0	
2 = Disagree	n = 1 (1.5%)	n = 0	
3 = Undecided	n = 14 (21.5%)	n = 5 (7.7%)	
4 = Agree	n = 30 (46.2%)	n = 27 (41.5%)	
5 = Strongly Agree	n = 20 (30.8%)	n = 32 (49.2%)	
Unanswered		n = 1 (1.5%)	
(Strongly) Disagree/Undec.	n = 15 (23.1%)	n = 5 (7.7%)	
Agree/Strongly Agree	n = 50 (76.9%)	n = 59 (90.8%)	+13.9%
			= 0.3791
			<i>p</i> = 0.0000

Response	Pre-test	Post-test	% Change
I am aware of domestic violence resources offered in the state of Nevada.			
1 = Strongly Disagree	n = 15 (23.1%)	n = 2 (3.1%)	
2 = Disagree	n = 31 (47.7%)	n = 2 (3.1%)	
3 = Undecided	n = 8 (12.3%)	n = 7 (10.8%)	
4 = Agree	n = 10 (15.4%)	n = 36 (55.4%)	
5 = Strongly Agree	n = 1 (1.5%)	n = 17 (26.2%)	
Unanswered		n = 1 (1.5%)	
(Strongly) Disagree/Undec.	n = 54 (83.1%)	n = 11 (16.9%)	
Agree/Strongly Agree	n = 11 (16.9%)	n = 53 (81.5%)	+64.6%
			= 0.0693
			<i>p</i> = 0.0367

Professional Beliefs

Three additional questions were designed to assess beliefs about professional responsibilities, as they relate to the dental profession (Table 4). Greater than 90% of respondents, in both the pre- and post-survey believe that dentists have a professional responsibility to refer suspected domestic violence victims to an appropriate agency for assistance. Three respondents who were undecided prior to the educational seminar remained undecided. Similarly, the overwhelming majority of respondents reported belief that trusting rapport and communication are critical for patient disclosure. Five respondents who reported they disagreed or were undecided in the pre-survey also reported they were undecided in the post-survey. Approximately three-quarters believed students should receive some type of domestic violence education in the dental curriculum, which increased slightly after the educational seminar.

Table 4. Professional beliefs regarding the dental profession and domestic violence issues.

Response	Pre-test	Post-test	% Change
Dentists have a professional responsibility to refer suspected domestic violence victims to an appropriate agency for assistance			
1 = Strongly Disagree	n = 0 (0%)	n = 0 (0%)	
2 = Disagree	n = 0 (0%)	n = 0 (0%)	
3 = Undecided	n = 3 (4.6%)	n = 3 (4.6%)	
4 = Agree	n = 25 (38.5%)	n = 21 (32.3%)	
5 = Strongly Agree	n = 37 (56.9%)	n = 40 (61.5%)	
Unanswered		n = 1 (1.5%)	
(Strongly) Disagree/Undecided	n = 3 (4.6%)	n = 3 (4.6%)	
Agree/Strongly Agree	n = 62 (95.4%)	n = 61 (93.8%)	
			-1.6%
			<i>K</i> =0.4790
			<i>p</i> =1.000E-4

Response	Pre-test	Post-test	% Change
A trusting patient/operator rapport and appropriate communication with the patient are important to encourage disclosure of past or current domestic violence incidents.			
1 = Strongly Disagree	n = 1 (1.5%)	n = 0 (0%)	
2 = Disagree	n = 1 (1.5%)	n = 0 (0%)	
3 = Undecided	n = 3 (4.6%)	n = 5 (7.7%)	
4 = Agree	n = 31 (47.7%)	n = 19 (29.2%)	
5 = Strongly Agree	n = 29 (44.6%)	n = 40 (61.5%)	
Unanswered		n = 1 (1.5%)	
(Strongly) Disagree/Undecided	n = 5 (7.7%)	n = 5 (7.7%)	
Agree/Strongly Agree	n = 60 (92.3%)	n = 59 (90.8%)	
			-1.5%
			= 0.4899
			p = 0.0000

Response	Pre-test	Post-test	% Change
Dental students should receive some form of domestic violence education in their curriculum.			
1 = Strongly Disagree	n = 0 (0%)	n = 0 (0%)	
2 = Disagree	n = 6 (9.2%)	n = 1 (1.5%)	
3 = Undecided	n = 10 (15.4%)	n = 9 (13.8%)	
4 = Agree	n = 39 (60%)	n = 27 (41.5%)	
5 = Strongly Agree	n = 10 (15.4%)	n = 27 (41.5%)	
Unanswered		n = 1 (1.5%)	
(Strongly) Disagree/Undecided	n = 16 (24.6%)	n = 10 (15.4%)	
Agree/Strongly Agree	n = 49 (75.4%)	n = 54 (83.1%)	
			+7.7%
			= 0.1426
			p = 0.0353

Two remaining questions were designed to assess personal student beliefs about domestic violence education and intervention (Table 5). When asked about their personal willingness to participate in additional domestic violence education courses, the respondents were evenly split (49.2% disagreed or were undecided, 50.8% agreed or strongly agreed). The percentage who were willing to participate did increase following the educational session (+12.3%), which was statistically significant ($p = 0.0000$). Finally, approximately two-thirds reported they would feel comfortable participating in some form of domestic violence intervention, both pre- and post-education.

Table 5. Personal beliefs regarding domestic violence education and intervention.

Response	Pre-test	Post-test	% Change
I would be willing to participate in additional domestic violence education courses.			
1 = Strongly Disagree	n = 2 (3.1%)	n = 1 (1.5%)	
2 = Disagree	n = 13 (20%)	n = 4 (6.2%)	
3 = Undecided	n = 17 (26.2%)	n = 18 (27.7%)	
4 = Agree	n = 24 (36.9%)	n = 28 (43.1%)	
5 = Strongly Agree	n = 9 (13.8%)	n = 13 (20%)	
Unanswered		n = 1 (1.5%)	
(Strongly) Disagree/Undecided	n = 32 (49.2%)	n = 23 (35.4%)	
Agree/Strongly Agree	n = 33 (50.8%)	n = 41 (63.1%)	
			+12.3%
			$K = 0.6213$
			$p = 0.0000$

Response	Pre-test	Post-test	% Change
I would feel comfortable participating in domestic violence intervention.			
1 = Strongly Disagree	n = 1 (1.5%)	n = 2 (3.1%)	
2 = Disagree	n = 8 (12.3%)	n = 7 (10.8%)	
3 = Undecided	n = 16 (24.6%)	n = 10 (15.4%)	
4 = Agree	n = 32 (49.2%)	n = 27 (41.5%)	
5 = Strongly Agree	n = 8 (12.3%)	n = 18 (27.7%)	
Unanswered		n = 1 (1.5%)	
(Strongly) Disagree/Undecided	n = 25 (38.5%)	n = 19 (29.2%)	
Agree/Strongly Agree	n = 40 (61.5%)	n = 45 (69.2%)	
			+7.7%
			= 0.4916
			<i>p</i> = 0.0000

Discussion

The primary objective of this pilot study was to assess the awareness and beliefs regarding domestic violence 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 nearly two-thirds reporting no prior experience with domestic violence education, providing further evidence for the need to develop specific curricula to address this deficiency.¹³⁻¹⁵ Interestingly, of the few who did have some prior educational experience or training regarding domestic violence, nearly half were female. This may suggest that some gender-specific education or awareness training may have been provided in a former educational setting.

More importantly, although the majority of students began the educational session reporting they did not believe domestic violence was a health care issue – the overwhelming majority decided it was a health care issue when surveyed after the seminar. This finding provided 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 experience or training concerning this issue. However, targeted, information-specific seminars may be sufficient to demonstrate the key issues as they relate to healthcare and dental providers and can provide specific information about resources and referrals for services, a critical need previously identified by dental faculty.⁷⁻¹¹

Most students believed that dentists have a professional responsibility to refer suspected domestic violence victims for help or assistance, and these numbers had the most significant change post IPV education. They also felt communication and rapport were essential to facilitate patient disclosure. Most believed this should be incorporated into the dental curriculum. However, a very small subset that disagreed or were undecided about these specific questions in the pre-survey remained undecided even after the informational session. Possible implications for these findings concerning domestic violence and 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 healthcare professional's responsibility regarding domestic violence 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.

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.^{16,17}

Most students indicated they would be willing to participate in additional courses and felt comfortable participating in some form of domestic violence intervention, these percentages changed 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, the large sub-group of respondents who were not responsive may not have had sufficient information to precipitate a change in their response. This remains a critical factor for discussion among educators and administrators seeking further integration of this topic into developing dental curricula.

Conclusions

This pilot study indicates that targeted, information-specific seminars may be sufficient to provide dental healthcare professionals with an understanding of the key issues regarding the domestic violence and IPV problem. With 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.⁷⁻¹¹

Appendix

Are you: Female Male

Age: _____

What is your ethnicity/race?

Caucasian

Hispanic

African American

Asian

Native American

Multi-Race (check all that apply)

Unknown

.....

Prior to today, I have participated in some form of domestic violence education Yes No

This is an assessment of your beliefs concerning domestic violence. Using the rating scale below, please circle the number that corresponds to your belief for the following statements.

1	2	3	4	5
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

1. Domestic violence is increasing as a health care issue.

1 2 3 4 5

2. Dentists have a professional responsibility to refer suspected domestic violence victims to an appropriate agency for assistance.

1 2 3 4 5

3. Dentists or dental team members may be the first health care professional to recognize and offer support to the domestic violence victim.

1 2 3 4 5

4. A trusting patient/operator rapport and appropriate communication with the patient are important to encourage disclosure of past or current domestic violence incidents.

1 2 3 4 5

5. Dental students should receive some form of domestic violence education in their curriculum.

1 2 3 4 5

6. I would feel comfortable participating in domestic violence intervention.

1 2 3 4 5

7. I would be willing to participate in additional domestic violence education courses.

1 2 3 4 5

8. I am aware of domestic violence resources offered in the state of Nevada.

1 2 3 4 5

CHAPTER 3

DISCUSSION & CONCLUSION

In this study, I sought to assess the awareness and beliefs regarding domestic violence of first year dental students at the UNLV-SDM. Using a first year dental student course titled “Diagnosis & Treatment Planning”, I was able to facilitate a one hour educational seminar focused specifically on this topic. A pre- and post-survey instrument was designed and used to assess the awareness and beliefs before and after the seminar.

The results demonstrated that most dental students had no prior experience or training with domestic violence education. Another important finding was that most students did not view domestic violence as a health care issue before the seminar, but had changed their minds after the one hour seminar. The results are consistent with other published reports, and suggest that minimal exposure in a medical or dental curriculum can improve awareness and facilitate more patient interactions to support improved patient outcomes.

In addition, the results demonstrated few students could locate education or support services provided by the state, University or in the local community. The results suggest that the value of information and resource specific seminars to improve provider-patient interactions and to improve patient outcomes.

Curricular Integration

It is my recommendation that public health professionals and educators incorporate these findings into health programs, curricula and public service announcements in order to better serve the population of Southern Nevada. Dental educators might serve as facilitators or lecturers in Injury Epidemiology courses within the Public Health Program. In addition public health educators could also assist with dental curricula.

Foster interdisciplinary research

Because IPV and domestic violence remains a major cause of injury within the US and contributes substantially to the burden of health care costs, it is critical that dentists, epidemiologists, and public health researchers become more familiar with the methods of dental record investigation, public health and epidemiologic research. This study incorporates dental education, injury epidemiology, and public health research to elucidate a growing public health problem and dental treatment issue in Nevada.

This pilot study indicates that targeted, information-specific seminars may be sufficient to provide dental students with an understanding of the key issues regarding the domestic violence and IPV problem. With this knowledge, they can better provide specific information about resources and referrals for services to their patients who have experienced IPV. It is my hope that I can continue to foster this type of curricular integration and interdisciplinary research collaboration.

APPENDIX

IRB Approval



Biomedical IRB-Exempt Review
Deemed Exempt

DATE: June 22,2011

TO: Dr.Karl Kingsley, School ofDental Medicine

FROM: Office ofResearch Integrity-Human Subjects

RE: Notification of review by /Cindy Lee-Tataseo/Ms. Cindy Lee-Tataseo, BS, CIP, CIM
Protocol Title: Retrospective Investigation Of Community Outreach By UNLV-
SDM (Dental) Students: An Analysis of Participant Demographics At Community
Dental Clinics
Protocol# 1106-3848M

This memorandum is notification that the project referenced above has been reviewed as indicated in Federal regulatory statutes 45CFR46 and deemed exempt under 45 CFR 46.101(b)4.

Any changes to the application may cause this project to require a different level of IRB review. Should any changes need to be made, please submit a Modification Form. When the above-referenced project has been completed, please submit a Continuing Review/Progress Completion report to notify ORI –HS of its closure.

If you have questions or require any assistance, please contact the Office of Research Integrity-Human Subjects at IRB@unlv.edu or call 895-2794.

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VITA

Graduate College
University of Nevada, Las Vegas

Rhonda J. Everett

Degrees:

Doctor of Dental Medicine, 2000
University of Southern California

Special Honors and Awards:

Publications:

Everett RJ, Kingsley K, Demopoulos CA, Herschaft EE, Lamun C, Moonie S, Bunghum TJ, Chino M. **Awareness and Beliefs Regarding Domestic Violence Among First-Year Dental Students.** *Journal of Dental Education.* *In review.*

Thesis Title:

Retrospective Investigation of Course Content Evaluation by Students: A Survey of Domestic Violence Education and Experience among Current UNLV-SDM Dental Students

Thesis Examination Committee:

Chairperson, Michelle Chino, PhD, MS
Committee Member, Edward E. Herschaft, DDS, MA
Committee Member, Timothy J. Bunghum, Dr.PH, MS
Committee Member, Sheniz Moonie, PhD, MS
Graduate College Representative, Karl Kingsley, PhD, MPH