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Intimate Partner Violence Screening in the Dental Setting: Results of a Nationally Representative Survey

Dr. Carrigan L. Parish, DMD,

Columbia University, Mailman School of Public Health, Department of Sociomedical Sciences,
Miami Research Center, Miami, FL

Dr. Margaret R. Pereyra, DrPH,

Columbia University, Mailman School of Public Health, Department of Sociomedical Sciences,
Miami Research Center, Miami, FL

Dr. Stephen N. Abel, DDS, MSD,

School of Dental Medicine, University at Buffalo, Buffalo, NY

Dr. Karolynn Siegel, PhD,

Columbia University, Mailman School of Public Health, Department of Sociomedical Sciences,
New York, NY

Dr. Harold A. Pollack, PhD, and

School of Social Service Administration, University of Chicago, Chicago, IL

Dr. Lisa R. Metsch, PhD

Corresponding Author: Name and Degree: Carrigan L. Parish, DMD, Affiliation: Columbia University, Mailman School of Public Health, Department of Sociomedical Sciences, Miami Research Center, Miami, FL, Address: 1120 NW 14th St, Room 1033, Miami, FL 33136, Phone: (954) 646 – 9499, Fax: (786) 703 – 9828, cp2695@columbia.edu.

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Statement of Authors' Contributions

Dr. Carrigan Parish, DMD

Columbia University Mailman School of Public Health, Department of Sociomedical Sciences, Miami Research Center, Miami, FL
Contribution: conceptualized the paper and analysis, interpreted the findings, wrote the initial, and revised drafts of the manuscript, and contributed to the editing of the manuscripts.

Dr. Margaret Pereyra, DrPH

Columbia University Mailman School of Public Health, Department of Sociomedical Sciences, Miami Research Center, Miami, FL
Contribution: statistical expertise and analyses, interpretation of findings and editing of the initial and revised manuscripts.

Dr. Stephen Abel, DDS, MSD

University at Buffalo School of Dental Medicine, Buffalo, NY

Contribution: interpretation of the findings and editing of the initial and revised manuscripts.

Dr. Karolynn Siegel, PhD

Columbia University, Mailman School of Public Health, Department of Sociomedical Sciences, New York, NY

Contribution: interpretation of the findings and editing of the initial and revised manuscripts.

Dr. Harold Pollack, PhD

University of Chicago School of Social Service Administration, Chicago, IL

Contribution: statistical expertise, interpretation of findings and editing of the initial and revised manuscripts.

Dr. Lisa Metsch, PhD

Columbia University Mailman School of Public Health, Department of Sociomedical Sciences, New York, NY

Contribution: lead investigator for the overall study and editing of the initial and revised manuscripts.

All authors were involved in editing the manuscript and have seen and approved the final version.

Columbia University, Mailman School of Public Health, Department of Sociomedical Sciences, New York, NY

Abstract

Background—The dental setting is a potential venue for identifying patients experiencing intimate partner violence (IPV). The study objective was to assess dentists' current practices and attitudes regarding IPV screening.

Methods—A nationally representative survey of United States general dentists assessed dentists' use of health history forms that queried about IPV and their acceptance of IPV screening as part of their professional roles. Parsimonious Poisson regression models were used in multivariable analysis to estimate risk ratios for the two dependent variables.

Results—Almost all dentists did not include a question to screen for IPV on their patient history form. More than half of dentists also did not know of a referral place for patients experiencing IPV and did not believe that IPV screening should be part of their professional roles.

Conclusions—Uptake of IPV screening and favorable attitudes towards screening were low amongst dentists studied. However, prior IPV training and clinical knowledge plus awareness of IPV referral mechanisms were positively associated with greater screening uptake and attitudes.

Practical Implications—The inclusion of brief, focused IPV interventions in dental education and the establishment of collaborations between dentists and IPV agencies for referral mechanisms, in conjunction with an overall shift in dentists' attitudes about their professional responsibilities may facilitate IPV screening uptake in the dental setting.

Keywords

intimate partner violence; oral health; screening

Introduction

Intimate partner violence (IPV) has been identified by the Centers for Disease Control (CDC) as a serious and preventable public health issue, impacting millions of individuals in the United States.¹ According to their National Intimate Partner and Sexual Violence Survey 2010 Summary Report, approximately 10 million men and women in the United States are subject to physical abuse by an intimate partner each year (1 in 3 women and 1 in 4 men report being subject to some form of physical violence by an intimate partner in their lifetimes).² Data from the National Crime Victimization Survey published in 2014 documented that over one-fifth of all violent crimes were due to violence committed by family or intimate partners.³ Furthermore, while almost half of such episodes inflicted injury, only 34% of those injured by an intimate partner sought medical attention. Prior research suggests that medical healthcare professionals who frequently encounter patients experiencing IPV, including emergency room physicians, obstetricians, and primary care physicians, do not routinely screen for such incidents, even when treating an afflicted patient's injuries.^{4–8} Compared to other risk assessments, namely those for alcohol, tobacco, and drug use, screening for IPV has been found to be the least common and most difficult practice amongst primary and prenatal care providers due to discomfort, lack of resources,

and amongst male providers, a perceived gender preference that patients are more comfortable discussing IPV with female providers.^{9,10}

The dental setting has been recognized as an important venue for identifying individuals who are survivors of IPV,¹¹ given that the most common locations of injury are the face and head.¹² Common specific orofacial signs of abuse that can be identified through a dental exam include bruising of the neck and palates, bite marks, tearing of the labial frenum and/or mucosal lining, lacerations, nonvital and/or discolored teeth, traumatic tooth or jaw fractures, pathology that is not consistent with the self-reported cause, and multiple injuries that are in different healing stages.^{13–15} Potential behavioral indicators of abuse that are relevant to the dental setting include dental neglect, failure to attend appointments for required treatments due to activity restrictions enforced by the perpetrator, unnecessary partner attendance at appointments, patient reluctance to speak in the presence of the partner, and anxious, fearful, or depressed behavior.^{13,14,16}

Research has shown that dental professionals have sometimes failed to recognize signs of abuse and/or failed to report suspected cases out of concern for patient alienation and retaliation lawsuits from family members.^{15,17} The results of a 2009 survey of women residing in violence shelters in North Texas showed that more than half had seen a dentist when physical signs of their abuse were visible, which consisted of high percentages of lip, facial, and neck injuries (29, 25 and 14%, respectively) and broken teeth (15%). While just over 13% of these women reported that a dental staff member actually inquired about their injuries, more than two-thirds indicated that they would have appreciated being asked.¹⁸ A prior national survey of dentists conducted in 1997 – 1998 found that the overwhelming majority of dentists did not screen returning or new patients (85 and 87%, respectively) for IPV, and almost one-fifth did not screen patients even in the presence of multiple visible injuries.¹⁹ Barriers to such screening included lack of training, concern about patient responses, lack of a referral mechanism, and attitudes that such screening was not of their professional concern.

To better understand how dentists' currently perceive their role in addressing the IPV epidemic, we conducted a nationally representative survey of dentists and asked (1) if they were currently using a health history form that inquires about family and/or IPV, (2) if they had a referral source to which they could refer patients experiencing abuse, (3) whether they agreed that screening for IPV should be part of their role as a healthcare professional, (4) if they had any prior training regarding IPV, and (5) their perceived clinical knowledge about IPV.

Methods

The methods of this study have been described previously.^{20,21} The institutional review boards of the University of Miami, Columbia University and University of Chicago approved the study. We conducted a nationally representative survey of U.S. dentists using the American Dental Association (ADA) Survey Center (ADASC) sampling frame. A random sample was drawn stratified by urbanicity as well as by practice type, specifically oversampling 80% of the 383 dentists who identified as being a public health dentist. This

specific subset of the dental workforce was oversampled because public health and community-based dentists have been identified by the CDC and National Association of Community Health Centers as more amenable to non-traditional screenings compared to private practitioners.^{22,23} The survey was distributed and monitored for participation by the University of Chicago's National Opinion Research Center, who utilized multiple forms of contact (e.g., pre-notification letters, multiple mailings of the instrument, and repeated email, fax and telephone reminders) to achieve a high response rate over the study period (November 2010 – November 2011). All elements of informed consent were described in the cover letter, and survey participation implied consent. Dentists were given the option of completing the survey electronically or on paper and received monetary remuneration in the initial mailing (\$10) and upon completion (\$20 for initial responders, and bonus incentives of \$50 – 100 over time to incentivize chronic non-responders).

The survey instrument consisted of 38 questions that queried dentists about their attitudes, practices, and willingness to conduct specific kinds of medical preventive screenings, including IPV. Additional information was collected about dentists' demographic, practice and patient characteristics, and knowledge and education in the specified areas of preventive healthcare. For the present analysis, the two main outcomes of interest were (1) whether dentists agreed that screening for family and/or IPV should be part of the dental professional role, using a four-point Likert scale from “strongly disagree” to “strongly agree” that was later dichotomized for analysis to “agree” or “disagree” and (2) whether dentists included questions about IPV on their patient health history forms, assessed by binary response (yes/no).

Statistical Analysis

All analyses were completed using Stata, version 12. Weighted percentages for frequencies and two-way tables were calculated with the `svy: tabulate` command, accounting for weighting and stratification and producing Pearson's χ^2 statistics corrected for the survey design. Multivariable analyses were performed unweighted, incorporating variables used for stratification and weighting as covariates. Risk ratios were estimated by using a Poisson regression model with a robust error variance. Bivariate analyses informed model specification and final models. Dependent variables were dentists' responses to the two survey items corresponding to the specified outcomes of interest. Both models initially included the full list of variables, including the other dependent variable as a covariate, and then were both reduced to a parsimonious model that only included significant ($p < 0.05$) covariates (other than stratum, age, gender, and race/ethnicity, which were retained in both models regardless of significance). For the covariate assessing prior training in IPV, the categories “5 – 8 hours” and “greater than 8 hours” were collapsed into a single category “5 or more hours” in the final model, due to low response frequencies in these individual categories.

Results

A total of 2,876 dentists were contacted, of whom 328 were subsequently deemed ineligible to participate. The final response rate was 70.7% (equating to 1,802 dentists) (Table 1).

Over-three quarters of the sample were male (78.3%) and most self-reported being White (78.6%). The majority worked in private practice settings (65.4% solo, 30.0% group) and did not accept Medicaid patients in their practice (71.6%). The median age of the final sample was 53 years. Demographic characteristics from our analyzed sample are comparable to ADA data²⁴ on the U.S. dental workforce [80% male, 86.2% white race/ethnicity, 92% professionally active in private practice, and 31% aged 45 – 54 (the highest percentage of any other age bracket)], supporting the representative nature of our survey population of the national dentist workforce.

Slightly more than half of dentists overall (53.2%) reported no prior training in IPV. Less than four percent reported the highest amount of training, which was greater than eight hours. When asked to rate their clinical knowledge of IPV, almost half (45.1%) stated “none/limited,” while over a third (37.5%) stated “moderate.” Only 15% rated their knowledge as “good,” and only 2.4% claimed to have “excellent” knowledge. Dentists almost universally (92.9%) did *not* include a question on their patient history form about IPV. The majority of dentists also did not know of a referral place for patients experiencing IPV (55.1%), and did not believe that screening for IPV should be part of their professional roles (56.5%).

Table 1 also describes characteristics associated with dentists' agreement that screening for IPV should be part of their professional role as well as whether their patient health history form queries about IPV. Female dentists were more likely to believe that IPV screening should be part of their role than their male colleagues (51.5% vs. 41.3%, respectively) ($p = 0.020$). Younger dentists were more likely than their older colleagues to agree with the compatibility of such screening with their professional roles; while about half of dentists in the younger age quartiles were in agreement, less than 40% in the older quartiles agreed ($p = 0.010$). A similar trend was also noted according to year of graduation; dentists who had graduated in more recent years, and thus are presumably younger, showed greater agreement with IPV screening as part of their professional roles than dentists who graduated longer ago ($p = 0.003$). None of these variables were significantly associated with dentists' inclusion of IPV questions on their health history forms.

Prior training in and self-reported clinical knowledge about IPV were both associated with the outcomes; both agreement with screening and use of health history screening increased with progressive amounts of prior training and level of self-reported clinical knowledge. While over 80% of dentists with five or more hours of prior training agreed with the compatibility of IPV screening with their profession, only about one-quarter of dentists with no training and one-half of dentists with less than one hour were in agreement ($p = 0.001$). The percentage of dentists with 5 – 8 hours and over 8 hours of prior training who queried about IPV in their health history forms (17.3% and 28.1%, respectively) was significantly greater than those with less than one hour of training or no training (4.3% and 4.5%, respectively). Agreement with the idea that IPV screening is an appropriate part of dentists' role also ranged from almost 94% in dentists with “excellent” clinical knowledge, almost 71% when “good,” 51.7% when “moderate,” and only 25% when “none/limited” ($p < 0.000$). Similarly, use of IPV screening via health history was almost 30% for dentists with “excellent” clinical knowledge and almost 18% for “good” knowledge, yet less than 6% and 4% for dentists with “moderate” and “none/limited” knowledge, respectively ($p = 0.001$).

Whether dentists had an IPV referral resource was associated with their acceptance of IPV screening and use of a health history form asks about IPV. Among those who did know of a referral mechanism, somewhat more than half (54.0%) believed that IPV screening should be part of their professional role. This was significantly greater than dentists who did not know of a place to refer these patients (35.0%). Dentists with a known referral for IPV were significantly more likely to query about IPV in their history forms (9.6%) than those who did not have a referral source (5.1%) ($p=0.016$). Finally, dentists' agreement that IPV screening should be part of the dentist's role and inclusion of IPV questions on their history form were positively associated. Over 73% of dentists who queried about IPV on their health history form were agreeable to screening, compared to 41.1% of dentists who did not query, while 12.2% of dentists who agreed that screening was compatible with their role included questions about IPV on their forms, compared to the 3.4% who did not agree with the compatibility of such screening.

Multivariable analysis showed that male dentists, compared to female dentists, were less likely to agree with IPV screening as part of their role (IRR = 0.89, 95% CI = 0.80 – 0.99), though they were not significantly less likely to include IPV-related questions on their history forms (Table 2). Compared to their white colleagues, Black/African-American dentists and Asian dentists were more likely to have agreeable attitudes about IPV screening as part of their role (IRR = 1.30, 95% CI = 1.08 – 1.56 and IRR = 1.19, 95% CI = 1.03 – 1.37, respectively). Dentists reporting more training in IPV were more likely to agree with such screening as part of the dentist's role compared to those without such prior training (IRR ranging from 1.43 to 1.58 as numbers of hours of training progressively increased). Similarly, dentists reporting better clinical knowledge about IPV, compared to those with “none/limited” knowledge, were more likely to agree with IPV screening as part of their role (IRR ranging from 1.67 to 2.15 as knowledge progressively increased) and more likely to query about IPV through their health history forms (IRR ranging from 1.64 – 3.10). Knowing of a place to refer patients experiencing IPV was associated with dentists being 1.19 times (95% CI = 1.07 – 1.32) more likely to believe IPV screening should be part of their roles. Finally, dentists who used a health history form that inquired about IPV were more likely to believe such screening was part of their role (IRR = 1.25, 95% CI = 1.10 – 1.41), and dentists who agreed with IPV screening as part of their role were more likely to include IPV related questions on their patient health history forms (IRR = 2.13, 95% CI = 1.44 – 3.16).

Discussion

The results of our nationally representative survey of dentists, strengthened by our high response rate, present an updated picture on the status of the profession of dentistry in regards to their attitudes and practices towards IPV screening. In general, a low percentage of dentists queried their patients about IPV through their health history form. Despite prior research indicating that dentists are willing to provide chairside medical preventive screening²⁵, less than half (43%) of our sample agreed that screening for IPV should be part of the dentists' role, and only a small percentage of this group (12.2%) included questions about IPV on their health history. This level of acceptance of IPV screening as part of the dentists' professional role is lower than has been reported about dentists' acceptance of

substance misuse screening²⁰ (53.9%) and tobacco screening²⁶ (77.9%), and similar to that for HIV²¹ (40%). Since HIV and IPV are both sensitive, life-threatening, and stigmatized subjects that can be uncomfortable to broach, dentists' support of rapid HIV testing and IPV screening may likely be lower than that for less stigmatized conditions that are easier to discuss, such as hypertension, cardiovascular disease, and diabetes.^{25,27–34} These results suggest that barriers exist due to dentists' attitudes and practices specific to IPV that need to be overcome in order for dentists to play an active role in screening and referring patients who are experiencing IPV.

Given the literature documenting the high burden of IPV among ethnic minorities, especially the African-American and Asian-American communities, it is perhaps unsurprising that dentists of these races are more receptive to screening their patients for violence as part of their professional role.^{2,3,35} Since these dentists are likely more exposed and attuned to this public health issue that disproportionally impacts their communities, they may be more willing to play a role in its identification. Minority women in particular are less likely to report abuse on account of such factors as fear of family alienation, distrust of law enforcement, fear of deportation, shelter/intervention services that are not culturally competent, and religious convictions.³⁵ Therefore, dentists from minority communities can potentially play an instrumental role in identifying and querying about signs of violence with patients who are often incapable of speaking out on their own accord. However, it is important that the entire dental community be mindful that IPV is a widespread public health issue that knows no racial/ethnic boundaries, and that dentists' role in screening should not be limited to one particular subgroup.

Gender differences were also noted regarding attitudes about dentists' role in IPV screening as dental professionals. This is similar to prior research which showed that female physicians were more educated about and comfortable identifying those who experience violence and had more favorable attitudes about educational programs and government involvement in IPV issues.^{36,37} In part this may be attributable to the fact that, while males can also experience IPV, it is far more common among women.^{2,38} Yet, patient studies have shown mixed outcomes regarding the issue of whether women, including survivors of IPV and military veterans, have a gender preference for their physicians and counselors during IPV screening and counseling.^{37,39,40} Understanding how gender roles shape both patient and practitioner attitudes and stereotypes towards IPV is important in the progress towards the development of more targeted education prevention efforts, especially if these differing attitudes are related to lived experiences, personal acquaintances with IPV survivors, and/or gender-related social contexts.^{41–43} Therefore, it is important that male dentists play an equivalent role in IPV advocacy as healthcare professionals who are well-positioned to identify and refer cases of IPV.

Our study finding that over half (53%) of participants did not have any prior education in IPV is a slight improvement to the 57% who reported no IPV education in the aforementioned 1997 – 1998 national survey of dentists.¹⁹ Both studies demonstrated that increased hours of IPV education were associated with a more positive attitude or greater likelihood that practitioners would screen for IPV. Specifically, in our survey, prior training and self-reported clinical knowledge in IPV were two of the most influential factors

impacting dentists' practices and attitudes towards IPV screening with their dental patients. However, even though having more IPV training and clinical knowledge was associated with greater acceptance of IPV screening as part of the dental professional role, this did not necessarily translate into actual clinical practice; while the frequencies of querying about IPV through patient health history amongst dentists with the highest levels of training and clinical knowledge were higher relative to dentists with less knowledge and training, these absolute percentages were nonetheless overall strikingly low. For instance, dentists who reported more than eight hours of IPV training and those with excellent clinical knowledge of IPV were highly agreeable to IPV screening being a part of their professional role (81.8% and 93.6%, respectively), yet far fewer included a question about IPV on their health history form (28.1% and 29.4%, respectively). Since having IPV-related knowledge and a favorable attitude was not necessarily sufficient to empower dentists to actually carry out screening, other barriers may be present, including the belief that patients would not be willing to discuss IPV, a fear of offending patients, low perceived self-efficacy to broach the subject of IPV, and/or the stigma associated with IPV.^{19,44–47} Prior research has shown that realistic approaches to IPV screenings that are simple, targeted, and easily integrated into clinical routine practice are effective strategies for intervening without imposing significant barriers on healthcare practitioners.^{48–52} Through brief, focused interventions, including the AVDR approach – (1) *Ask* patients about abuse, (2) *Validate* that battering is wrong, (3) *Document* signs, symptoms and disclosures, and (4) *Refer* survivors to IPV specialists – physicians are able to play a defined, albeit limited, role in identifying patients experiencing IPV and referring them accordingly, with minimal time, resource, and professional disruptions to their normal practices.⁵⁰ These interactive educational approaches have specifically been tested with both practicing dentists and dental students and shown documented changes in dental professionals' attitudes of empowerment and willingness to screen for and treat survivors of IPV.^{53,54} Furthermore, oral health treatment programs established in IPV shelters have not only helped train dentists to treat survivors of IPV, but have also demonstrated a positive impact on these shelters' residents who receive dental treatment, with regard to their oral health related quality of life, usage of dental services, and the interpersonal patient-doctor relationship.^{16,55} Much can be learned from those dentists who *are* querying their patients about IPV, especially about how their attitudes and backgrounds have shaped their clinical decisions to advocate and screen for IPV and how their experiences can help empower other dentists to screen.

Our survey only asked dentists if they have a question about IPV on their patient health history forms as a means of screening patients for IPV. There are other common methods to screen for IPV, such as through verbal query or a computer-based questionnaire, which dentists may be otherwise utilizing.⁵⁶ However, perceptions and speculations about dental patients' willingness to disclose remain a persistent barrier to dentists' screening for medical conditions.^{21,29,31,57} Since prior studies have shown that patients are willing to disclose their experiences with IPV to their healthcare providers,^{52,58–61} it is important for dentists to understand the tremendous opportunity they may have through the acts of “compassionate asking”⁶² – irrespective of the matter used – and providing a unique opportunity for patients to comfortably, compassionately, and safely communicate their IPV experience.^{56,63}

Our study finding about the importance of awareness of referrals sources can be compared with the results of the aforementioned national survey of dentists¹⁹, which found that 41% of participants reported they did not have a list of referral agencies. It is concerning that, in our study conducted fifteen years later, an even greater percentage of participants (55%) did not have a list of referrals for IPV survivors. Lack of awareness of a referral source for patients has frequently been cited as a barrier towards dentists' acceptance of medical screenings^{25,26,64,65}, and in this case was also an influential factor in dentists' attitudes about their professional role to screen for IPV. Uncertainty about where to refer IPV survivors for services has been a noted barrier and source of low self-efficacy to IPV screening amongst a variety of healthcare practitioners.⁶⁶ Other studies have underscored the importance and effectiveness of establishing referral pathways through close partnerships between healthcare providers and IPV services to facilitate the linkage to supportive resources, as well as to improve practitioners' perceptions of competence and effectiveness.^{7,67–70} Without a referral source, educational trainings and interventions, especially those that include referring patients as a pivotal step, will likely be limited in their effectiveness; it is therefore critical to bridge the gap between the dental community and the agencies and shelters that support survivors of IPV in order to foster and facilitate a more efficient mechanism of referral and collaboration.

IPV is a complex social problem which cannot always be identified through traditional screening mechanisms.⁷¹ Many patient barriers to screening in healthcare settings have been noted, including loss of privacy, emotional distress, discomfort about the topic, and concerns about reprimanding abuse if the abuse is reported.³⁸ As such, dentists are not alone along among healthcare providers and others in their reluctance to screen for IPV, as the demands of playing an active role in IPV screening can be complicated, sensitive, and overwhelming for practitioners.^{10,49} Only in the last several years did the U.S. Preventive Screening Task Force (USPSTF) start to recommend that clinicians screen women of childbearing age for IPV and provide referrals for intervention services accordingly.⁷² Prior to 2012, the USPSTF had determined that there was not sufficient evidence to support such screening.³⁸ Now, healthcare systems are being called upon by agencies such as the CDC to enhance their response to this public health problem by assessing signs and symptoms of violence, acquiring more knowledge and skills related to IPV, providing sensitive and culturally competent care to those experiencing IPV, and strengthening their ability to help these individuals navigate the healthcare system and seek needed services and resources.² As primary care practitioners who develop longstanding relationships with their patients and treat these patients with regular frequencies, dentists can play a pivotal role in identifying and advocating for survivors of IPV who often do not have a voice for themselves, especially since so many signs of IPV are localized to the head and neck. Our study identifies the barriers to dentists doing their part. As has been the case with other medical preventive screenings in dentistry like rapid HIV testing²¹ and substance misuse screening²⁰, dental practitioners have been slow in their uptake of IPV screening in response to many barriers at the practical level. These barriers include lack of a referral source and dentists' reluctance to view IPV screening as within the scope of their practice. Thus, many hurdles must be overcome to induce greater involvement of the dental profession in addressing IPV as a significant public health problem. We urge expansion of educational offerings promoting

IPV dental education both within the dental school curricula and through continuing education programs, along with collaborations between the dental community and IPV agencies to facilitate referrals.⁵⁵ Dentists must also endorse an overall change in their attitudes about the appropriate scope of dental practice and their professional responsibility to include screenings in general patient care, and specifically, to screen patients for IPV. The critical need for dentistry to boldly address this epidemic should not be delayed.

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Table 1

Dentists' attitudes about their role in IPV screening and their query about IPV in their health history forms, by dentists' characteristics (weighted proportions)

	N	Overall %	Agrees screening for IPV should be part of dentist's role		Patient history form includes question about IPV	
			%	p value	%	p value
Sample Stratum						
				0.227		0.353
<i>Ryan White (RW) EMA</i>	1168	41.8%	44.5%		8.2%	
<i>Non-RW Metro</i>	212	46.6%	44.6%		6.6%	
<i>Non-RW Micro</i>	112	7.5%	34.7%		3.0%	
<i>Rural</i>	116	3.9%	35.6%		8.1%	
<i>Public Health</i>	194	0.3%	49.6%		9.6%	
Age (quartiles)				0.010		0.611
<i>25–43</i>	420	24.4%	50.7%		9.0%	
<i>44–52</i>	440	22.6%	49.1%		6.8%	
<i>53–59</i>	442	25.6%	38.5%		5.4%	
<i>60–99</i>	476	27.4%	37.1%		7.0%	
Gender				0.020		0.052
<i>Female</i>	439	21.7%	51.5%		10.5%	
<i>Male</i>	1347	78.3%	41.3%		6.0%	
Race				0.205		0.670
<i>White</i>	1298	78.6%	41.6%		7.3%	
<i>Black/African American</i>	93	3.5%	52.0%		5.8%	
<i>Asian</i>	252	13.7%	50.7%		5.2%	
<i>Other</i>	122	4.2%	38.9%		6.8%	
Primary Practice Setting				0.013		0.314
<i>Private solo practice</i>	1063	65.4%	40.2%		6.2%	
<i>Private group practice</i>	465	30.0%	47.6%		8.6%	
<i>Public Health</i>	194	0.3%	49.6%		9.6%	
<i>Other (government settings, hospital/medical group/healthcare clinics, safety net provider/non-profit</i>	80	4.3%	62.8%		9.8%	

	N	Overall %	Agrees screening for IPV should be part of dentist's role		Patient history form includes question about IPV	
			%	p value	%	p value
Treats Medicaid Patients				0.983		0.200
	No	1236	71.6%		43.6%	7.7%
	Yes	528	28.4%		43.7%	5.5%
Year graduated				0.003		0.187
	<1970	128	7.3%		28.5%	2.5%
	1970–1979	444	25.0%		36.3%	6.9%
	1980–1989	581	33.6%		44.5%	5.7%
	1990–1999	335	17.5%		50.0%	7.9%
	2000+	279	16.6%		53.8%	11.1%
Amount of training in IPV				0.000		0.000
	None	906	53.2%		26.7%	4.5%
	<1 hour	332	18.6%		51.6%	4.3%
	1–4 hours	350	17.4%		63.3%	8.3%
	5–8 hours	111	6.9%		80.7%	17.3%
	> 8 hours	83	3.8%		81.8%	28.1%
Self-rated clinical knowledge IPV				0.000		0.000
	None/Limited	794	45.1%		25.0%	3.6%
	Moderate	661	37.5%		51.7%	5.6%
	Good	284	15.0%		70.9%	17.9%
	Excellent	48	2.4%		93.6%	29.4%
Knows IPV referral place				0.000		0.016
	No	1015	55.1%		35.0%	5.1%
	Yes	766	44.9%		54.0%	9.6%
Patient history form includes question about IPV				0.000		
	No	1641	92.9%		41.1%	
	Yes	142	7.1%		73.4%	
Agrees screening for IPV should be part of dentist's role						0.000
	No	991	56.5%		3.4%	

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Table 2

Correlates of dentists' agreement with IPV screening and their query about IPV in their health history forms (adjusted)

	Agrees that screening for IPV should be part of the dentist's role		Patient history form includes questions about IPV	
	IRR	95% CI	IRR	95% CI
Sample Stratum				
<i>Ryan White (RW) EMA</i>	1.05	0.90 – 1.22	0.91	0.57 – 1.46
<i>Non-RW Metro</i>	1.08	0.88 – 1.31	0.64	0.31 – 1.29
<i>Non-RW Micro</i>	0.91	0.69 – 1.20	0.53	0.19 – 1.53
<i>Rural</i>	0.85	0.65 – 1.12	0.90	0.41 – 1.97
<i>Public Health</i>	1.0		1.0	
Age (years)	1.0	0.99 – 1.00	1.00	0.99 – 1.02
Gender				
<i>Female</i>	1.0		1.0	
<i>Male</i>	0.89	0.80 – 0.99	0.80	0.56 – 1.16
Race				
<i>White</i>	1.0		1.0	
<i>Black/African American</i>	1.30	1.08 – 1.56	1.24	0.66 – 2.34
<i>Asian</i>	1.19	1.03 – 1.37	1.01	0.62 – 1.64
<i>Other</i>	1.12	0.94 – 1.33	1.40	0.84 – 2.35
Amount of training in IPV				
<i>None</i>	1		*	*
<i>Less than 1 hour</i>	1.43	1.22 – 1.68	*	*
<i>1 – 4 hours</i>	1.58	1.36 – 1.84	*	*
<i>5 or more hours</i>	1.58	1.34 – 1.87	*	*
Self-rated clinical knowledge IPV				
<i>None/Limited</i>	1.0		1.0	
<i>Moderate</i>	1.67	1.43 – 1.96	1.64	1.04 – 2.57
<i>Good</i>	1.95	1.63 – 2.32	3.10	1.93 – 4.97
<i>Excellent</i>	2.15	1.73 – 2.67	2.68	1.23 – 5.84

	Agrees that screening for IPV should be part of the dentist's role		Patient history form includes questions about IPV	
	IRR	95% CI	IRR	95% CI
Knows IPV referral place				
No	1.0		*	*
Yes	1.19	1.07 – 1.32	*	*
Patient history form includes question about IPV				
No	1.0		-	-
Yes	1.25	1.10 – 1.41	-	-
Agrees screening for IPV should be part of dentist's role				
No	-	-	1.0	
Yes	-	-	2.13	1.44 – 3.16

* Variable not included in the final parsimonious model

		Non PH %	PH %	Total %	p value
Age (quartiles)					
	25–43	24.89%	13.09%	23.62%	
	44–52	23.38%	36.13%	24.75%	
	53–59	24.89%	24.61%	24.86%	
	60–99	26.84%	26.18%	26.77%	
	N	1,587	191	1,778	Pearson chi2(3) = 21.2797 Pr = 0.000
Gender					
	Female	23.34%	34.90%	24.58%	
	Male	76.66%	65.10%	75.42%	
	N	1,594	192	1,786	Pearson chi2(1) = 12.3489 Pr = 0.000
Race					
	White	74.56%	65.08%	73.54%	
	Black/African American	3.62%	19.05%	5.27%	
	Asian	15.36%	5.29%	14.28%	
	Other	6.47%	10.58%	6.91%	
	N	1,576	189	1,765	Pearson chi2(3) = 94.4208 Pr = 0.000
Treats Medicaid Patients					
	No	72.37%	50.54%	70.07%	
	Yes	27.63%	49.46%	29.93%	
	N	1,578	186	1,764	Pearson chi2(1) = 37.8156 Pr = 0.000
Year graduated					
	<1970	7.55%	4.74%	7.24%	
	1970–1979	25.11%	25.26%	25.13%	
	1980–1989	31.52%	44.21%	32.88%	
	1990–1999	19.34%	15.79%	18.96%	
	2000+	16.49%	10.00%	15.79%	
	N	1,577	190	1,767	Pearson chi2(4) = 15.8073 Pr = 0.003
Amount of training received in IPV					

		<u>Non PH %</u>	<u>PH %</u>	<u>Total %</u>	<u>p value</u>
		52.48%	37.17%	50.84%	
	<i>none</i>				
	<i><1 hr</i>	17.91%	24.61%	18.63%	
	<i>1-4 hrs</i>	19.42%	21.47%	19.64%	
	<i>5-8 hrs</i>	6.03%	7.85%	6.23%	
	<i>> 8 hrs</i>	4.15%	8.90%	4.66%	
	<i>N</i>	1,591	191	1,782	Pearson chi2(4) = 21.5007 Pr = 0.000
	Self-rated clinical knowledge IPV				
	<i>None/Limited</i>	44.63%	42.78%	44.43%	
	<i>Moderate</i>	37.41%	33.51%	36.99%	
	<i>Good</i>	15.51%	19.07%	15.89%	
	<i>Excellent</i>	2.45%	4.64%	2.69%	
	<i>N</i>	1,593	194	1,787	Pearson chi2(3) = 5.3224 Pr = 0.150
	Knows IPV referral place				
	<i>No</i>	58.97%	40.63%	56.99%	
	<i>Yes</i>	41.03%	59.38%	43.01%	
	<i>N</i>	1,589	192	1,781	Pearson chi2(1) = 23.5142 Pr = 0.000
	Patient history form includes IPV				
	<i>No</i>	92.33%	89.58%	92.04%	
	<i>Yes</i>	7.67%	10.42%	7.96%	
	<i>N</i>	1,591	192	1,783	Pearson chi2(1) = 1.7657 Pr = 0.184
	Agrees screening for IPV should be part of dentist's role				
	<i>No</i>	56.55%	50.78%	55.93%	
	<i>Yes</i>	43.45%	49.22%	44.07%	
	<i>N</i>	1,579	193	1,772	Pearson chi2(1) = 2.3290 Pr = 0.127