

Domestic Violence and its Relation to Dentistry: A Call for Change in Canadian Dental Practice

Tracey J. Hendler, BA; Susan E. Sutherland, DDS, MSc

Contact Author

Dr. Sutherland
Email: [susan.sutherland@
sunnybrook.ca](mailto:susan.sutherland@sunnybrook.ca)



ABSTRACT

Domestic violence (DV), now a national health concern, has pervasive effects at both the individual and societal levels. Women are the primary victims of DV; their lifetime prevalence has been reported to be 20%–53.8%. The sequelae of violence include increased acute and chronic health care utilization, psychological harm and a wide range of physical injuries. Head and neck injuries are the most common result of violence, and many women seek dental treatment following abuse. Dentists are in a unique position to identify abused victims and intervene. However, they are not well trained to identify victims of DV, and they lack appropriate resources to manage identified victims. Moreover, of the many health professionals surveyed, dentists feel the least responsible for intervening in cases of DV, and interventions by dentists are minimal. Barriers to screening for DV occur at the patient, provider and system levels, but they can be overcome with increased education. DV education, assessment and management should be a priority, so that dentists can help improve the lives of the many women faced with abuse.

For citation purposes, the electronic version is the definitive version of this article: www.cda-adc.ca/jcda/vol-73/issue-7617.html

Domestic violence (DV), also known as spouse abuse, woman abuse and intimate partner violence, can be defined as a pattern of assault and coercive behaviours — including physical, sexual and psychological abuse — characterized by the misuse of power and control by adults or adolescents against their intimate partners.¹ Although violence in the home can refer to child and elder abuse, in this article we use the term DV to describe intimate partner violence, where the victims are almost always women. The purpose of this review is to examine the prevalence and impact of DV, the role of health care professionals in dealing with this problem and helpful interventions that can be employed to provide another layer of assistance to victims.

The Scope of the Problem

DV, once considered a private problem, is now a national health concern. In 2002,

27% of victims of violent crimes in Canada were victims of family violence; among all those who experienced family violence, 62% were victimized by their spouse.² Although some men are abused by either their male or female partner, females account for 85% of all victims of spousal violence reported to police.² Moreover, the 2005 *Family Violence in Canada* report from Statistics Canada³ notes that women are much more likely than men to experience extreme violence, such as being beaten, choked or threatened with a gun or knife; are much more likely than men to be the target of repeated violent incidents at the hands of their partner; are more likely to be injured as a result of the violence; are 3 times more likely than men to have to take time off from their everyday activities because of the violence; and are more likely than men to fear for their lives because of the violence they are experiencing.

In a study of DV incidence and prevalence in a Northern Ontario emergency department,⁴ 2% of women reported that DV was the primary reason for their visit, while 26% reported DV within the last 12 months and 51% reported lifetime DV by a partner. These statistics echo a study in the United States where 11.7% of women presented to the emergency department due to acute DV, 15.3% had experienced DV in the last year and 54.2% reported a lifetime prevalence of violence by a partner.⁵ Studies in emergency departments, primary care settings and various medical specialties have reported a lifetime prevalence of DV in women ranging from 20%–53.8%.^{6–11} Furthermore, in a 1998 national survey on intimate partner abuse, 1 in 3 American women reported being hit, kicked, choked or otherwise physically abused by a spouse or boyfriend at some time during her life.¹²

There is no typical “profile” of DV victims, as they are represented in all major racial and ethnic groups,¹³ age groups, marital statuses and education, employment¹⁴ and income levels.⁵ Although it is important to acknowledge that DV is pervasive, some correlates can act as markers. Pregnancy, for instance, is a known risk factor for abuse.^{7,15} A systematic literature review found that homicide is a leading cause of pregnancy-associated death, most commonly a result of intimate partner violence.¹⁶ In the first study to identify a definite link between abuse during pregnancy and attempted or completed murder, McFarlane and others¹⁷ found that the risk of becoming an attempted or completed femicide victim was 3-fold higher for women abused versus those with no reported history of abuse during pregnancy. In addition, some studies have found that DV is more prevalent when women are younger,⁶ divorced or separated,⁷ when parents were involved in DV, when the current partner is engaging in substance abuse¹⁰ and when household income is low.¹⁸

DV is cyclic in nature, and battering incidents are rarely isolated events.¹⁹ In a landmark study of battered women by Berrios and Grady,¹³ a third of the abused women studied were not living with their attacker at the time of the violent episode, 86% reported that abuse had not been a singular occurrence and 40% had required medical attention for abuse in the past. Data have shown that the period after the woman leaves the abusive relationship can be the most violent, and may turn deadly. Statistics Canada found that ex-spouses are more likely than current spouses to have repeated or chronic contact with the police for spousal violence.²⁰ Furthermore, McFarlane and others¹⁷ determined that women are almost twice as likely to be killed or almost killed by an ex-partner than a current one.

The Impact of Domestic Violence

Violence affects both victims and society at large. The measurable health-related costs of violence against

women in Canada, including treatment of acute injuries, long-term care, lost time at work and the use of transition housing, exceeds \$1.5 billion a year.²¹ Health care utilization rates and costs for DV victims are significantly higher than for non-victims across multiple levels of care,²² and sequelae of the violence lead to an increase in costs and utilization over time.¹⁰

Subjective ratings of mental and physical health are significantly lower for victims of both psychological and physical abuse than for those who have never experienced abuse.¹⁰ DV victims report higher rates of post-traumatic stress disorder,²³ depression,^{8,24–26} anxiety,^{8,25,26} somatization⁸ and suicide attempts^{8,13} than non-victims. In addition, behavioural symptoms that can act as indicators of abuse have been identified; these include presentation of a vague or conflicting medical history, being “accident prone,” the presence of bruises at multiple stages of healing, sudden changes in behaviour and unusual aggressiveness or withdrawal.²⁷

Dental treatment can be particularly uncomfortable for victims of abuse, due to feelings of loss of control.²⁸ In a study by Walker and others,²⁸ women with a history of trauma reported greater dental fear, and women with high dental fear scores were nearly twice as likely to have been victims of multiple assaults. In a study of female patients with temporomandibular disorder,²⁶ those with a history of physical abuse reported significantly more pain, anxiety and depressive symptoms than patients with a history of sexual abuse or no history of abuse. In a study of patients with orofacial pain,²⁹ nearly 69% had a history of abuse, and this was significantly related to greater levels of depression and psychological distress, increased anxiety, decreased capacity to cope with stressful events, and increased pain severity. These results suggest that victims of abuse may have difficulty finding adequate coping strategies for facial pain, and their psychological distress may exacerbate their facial pain disorders.

Physical consequences of DV extend well beyond the “tell-tale” bruising. Abused women commonly experience broken bones, sprains, tendon or ligament injuries, and joint dislocations.^{8,13} Victims may also present with upper limb abrasions and contusions,³⁰ as a result of self-defence attempts.³¹ Assaultants frequently attempt to strangle their partners,¹³ which can lead to swallowing changes, inconspicuous internal injuries and breathing difficulties.³² Of 218 women seen in a California emergency department with injuries resulting from DV, 28% required admission to hospital, 13% required major surgical treatment and 5% sustained permanent injury (disfigurement, hearing loss or visual impairment).¹³

The physical health impact on abused women is pervasive. Many studies of abused women conclude that this population experiences frequent abdominal or stomach pain, severe headaches or migraines, chest pain, chronic neck or back pain, insomnia, angina and worsening

asthma or hypertension.^{8,10,18,25} These women may also experience gastrointestinal and digestive problems,¹⁸ such as stomach ulcers, spastic colon, frequent indigestion, gastric reflux,¹⁰ constipation and diarrhea.^{8,10} In addition, the greater psychological distress experienced by victims of violence³³ may translate into loss of appetite,¹⁸ massive weight gain or loss²⁵ and bingeing or self-induced vomiting.⁸

When physical abuse is accompanied by sexual maltreatment,³⁴ women incur many injuries to their reproductive systems and genital areas. Abused women often experience chronic pelvic pain, pain in the genital area or breasts, vaginal discharge or bleeding, painful intercourse and difficulty passing urine; they also have higher rates of hysterectomy than non-abused women.^{8,10,18,25} Intimate partner violence is also correlated with higher rates of sexually transmitted, vaginal and urinary tract infections,^{8,10,18,25} and 5% of the abused women in a study miscarried due to violence.¹³ Furthermore, children living in a violent household are significantly affected by the violence, as they are more aggressive, delinquent, withdrawn, anxious and stressed than their counterparts.³⁵

Head, neck and facial (HNF) injuries are by far the most common injuries resulting from DV.^{13,30,31} In 1 study,³⁶ 94% of female victims of DV had HNF; in this small sample, the positive predictive value of having HNF injuries and DV was 23%, and the negative predictive value was 98%. Another study³⁷ found that 88% of assaulted women had some facial injury, especially bruising. In a population of abused women, Le and others³¹ found that 81% of victims presented with maxillofacial injuries; half of the victims had only maxillofacial injuries and only 14% presented with an isolated non-maxillofacial injury. HNF injuries are so common that they have been characterized as markers of DV.³⁸ Patients with HNF are 11.8 times more likely to be injured as a result of DV than other causes,³⁶ and women who have never been abused have the lowest rate of facial injuries.¹⁸

Muelleman and others³⁰ identified some specific injury types that are more common in abused women and that have high specificity and high negative predictive value: battered women are 18 times more likely to have facial abrasions or contusions than non-battered women with injuries; 16 times more likely to have neck abrasions or contusions; nearly 10 times more likely to have an orbit, zygoma or nasal fracture or a loose or fractured tooth; and nearly 6 times more likely to have a facial laceration. In a study of abused women's injuries,³¹ the maxillofacial region was the site of the most common soft tissue injuries, and nasal fractures were the most common fracture. In the same study, the average number of facial fractures per patient was 1.2, and the average number of mandibular fractures per patient was 1.32, most commonly on the condylar process.

The Role of Health Care Professionals

Despite the prevalence of DV and the broad impact at both the societal and individual levels, a number of complex barriers to screening in the health care setting have been described. These have been characterized as patient, provider and system issues.³⁹ Patient issues include fear of the partner's retaliation to the victim and her children, shame and humiliation, denial of the seriousness of the situation, lack of trust in the health care provider and concerns about confidentiality.^{25,40,41} Lack of confidentiality threatens not only the immediate safety of the victim, but also the safety of her family and raises economic concerns and fears about police involvement.⁴⁰ Provider issues include fear of offending the patient, lack of time and resources to deal with the issue, burnout and fatigue, frustration with patients' unwillingness to change the situation and feelings of powerlessness.⁴²⁻⁴⁴ Some physicians have even described discussing DV as "opening Pandora's Box" and unleashing some of their own fears and discomforts.⁴² System issues include lack of time and inadequate resources for referral,³⁹ as well as privacy issues and lack of providers with sufficient expertise.⁴⁵

Lack of training and resources is commonly cited by providers as a barrier to screening for DV⁴³ and reports strongly suggest that providers are not confident in their ability to screen and manage DV victims.⁴⁶ Of 116 medical schools surveyed in the United States and Canada, only 42% reported that their students receive DV education as part of at least 1 required course, and most of this training occurs in the preclinical years.⁴⁷ In U.S. medical schools, 86% of deans compared with 57% of students believe that DV education is included in the curriculum.⁴⁸ The same study reported that the mean time devoted to instruction on DV (2 hours) had not changed compared with 7 years earlier, although there was an 18% increase in the number of schools requiring DV education. In a study by Tilden and others,⁴⁹ only 40% of physicians and 15% of dentists recalled any DV education in their professional training.

Physicians' estimation of the prevalence of abuse is an important factor in their screening behaviour⁵⁰; however, large numbers of health professionals believe abuse to be infrequent among their patients.⁴⁹ Physicians who estimated that 10% or more of their patients had been abused were 8 times more likely to have screened patients for DV at initial visits than physicians who estimated that less than 5% of their patients had been abused.⁵⁰ Similarly, DV education increases the likelihood that clinicians will suspect abuse,⁴⁹ screen for abuse and intervene.⁴³ A study⁴⁶ of physicians' beliefs and practices regarding DV highlighted the connection between estimation of prevalence and screening; half the clinicians believed that DV was very rare in their patient population (0.1%–1%)

and 12% believed that it affected 10%–15% of their patients. Of these clinicians, 30% had not identified an abused person in the last year, while 10% had never identified a victim of abuse. An emergency room study by McLeer and Anwar⁵¹ showed that identification of battered women rose from 5.6% to 30% following staff training and institution of a DV protocol.

Many studies have demonstrated that direct screening is the most effective way to identify abused women. In a medical record review, DV was recorded in 7% of women's charts; however, 40% of these women disclosed DV in a questionnaire.⁷ In another study, 11% of battered women were identified by a questionnaire but not by medical record review.³⁰ In a review of 828 medical records, Abbott and others⁵ showed that acute DV was documented in only 2 charts, despite the 54% lifetime prevalence of DV among the women. In the same study, only 13% of women who were self-identified as victims of DV on a questionnaire said that they were asked about violence in a visit to an emergency department.

Most women reported that they would like the provider to ask about abuse directly or act on cues given by the victim.^{25,40} However, providers differ greatly in their screening practices. In 1 study of primary care physicians, only 19% reported screening new patients for DV, whereas 98% screened for tobacco use, 90% for alcohol use and 47% for HIV/STDs.⁵² Chamberlain and Perham-Hester⁵⁰ found that most physicians (86%) screen female patients for violence "often or always" when they present with an injury, but rarely screen routinely at initial visits (6.2%) or annual examinations (7.5%). In a study of dentists,⁴³ 87% said they never screen new patients for DV and 18% never screen even when patients have visible signs of trauma on their head or neck.

In a study of the attitudes and behaviours of dentists regarding DV,⁴³ the most commonly reported barriers to identification and referral were that the patient was accompanied by a partner or children (77%), lack of training (68%) and concern about offending the patient (66%). Patients' cultural norms and customs were reported as barriers by 53% of the dentists, whereas 51% said that they were embarrassed to discuss the topic. Among the respondents, 41% stated that they did not have a list of referral agencies, 36% said that they did not have enough time to raise the issue and 29% felt that the patient would not follow up on their recommendations. Among these dentists, 23% believed that DV is none of their business. Once these dentists identified DV, the intervention was minimal; the most common intervention was making a note in the patient's chart (64%), followed by expressing concern for the patient's safety (54%), with only 29% offering referral sources and 13% helping the patient to safety. Most (94%) of the dentists did not have a written DV protocol in their office.

Even though injuries in the orofacial region as a result of DV are common, a gap exists in DV education for dentists, and dentists may not be well equipped to manage patients who disclose violence. Many abused women seek dental treatment; 9.6% of women who sought health care for physical assault and 16.9% of women who sought health care for rape injuries visited dentists.¹¹ Dentists, whose focus is the orofacial region, have a great opportunity to identify and provide help for victims of abuse. However, a study⁴⁹ comparing the attitudes and behaviours of dentists, dental hygienists, nurses, physicians, psychologists and social workers regarding DV found that dentists and dental hygienists reported the least abuse education, the lowest rate of suspecting abuse and the greatest proportion of those who do not see themselves as responsible when abuse is suspected. Furthermore, Love and others⁴³ reported that 71% of dentists have not received DV training in dental school and 77% have not received any in continuing education courses, although 61% of dentists reported that they would like more training in this area.

Helpful Interventions

Dentists can implement simple changes to help victims of DV. In view of the numerous and complex barriers that exist in screening for DV, an intervention strategy must be straightforward and easily integrated into practice and must be non-threatening to both the health care professional and the victim. The importance of confidentiality cannot be overstated; this includes a confidential environment, conscientious management of all information and documents and specific instructions to staff to ensure that the disclosure is not known by the abuser.

Gerbert and others⁵³ developed the AVDR approach (ask, validate, document, refer) to standardize the clinician's role in screening for DV and reduce the barriers that exist in this process. This model, which has been used in a number of health care settings, was developed from the literature on DV and health care; research with physicians who intervene with victims and survivors who have been helped by physicians; and the collective experience of the researchers in teaching DV intervention to students and practising clinicians.^{53–56} Applied to all patients suspected of being at risk of violence, the AVDR approach advocates *asking* patients about abuse, which sends the message that DV is a health care issue. Normalizing the question and including it routinely in a medical check-up reduces physician and patient discomfort. In the second step, the clinician *validates* that battering is wrong by making compassionate statements that remove the blame from the victim and confirm her worth. Survivors have indicated that validation may be the most important component of a clinician's intervention.⁵⁴ The third step is the *documentation* of the signs and symptoms of abuse, as well as any disclosures of

Table 1 Using the AVDR approach

Step	Helpful approaches
Ask	<ul style="list-style-type: none"> • “Sometimes when I see (a loose tooth) (broken teeth) (bruises) like this, it means the person is being hurt by someone. Could this be happening to you?” • “I am concerned about you and these injuries. Is everything OK?” • “It looks like you’ve been hurt by someone. How are things going for you at home? Is there anything you would like to talk about?”
Validate	<ul style="list-style-type: none"> • “As your dentist, I have to ask when I see signs that are often associated with abuse. A lot of people have that problem and no one deserves to be abused.” • “Whatever is happening, you didn’t cause this. You do not deserve to be hit or hurt no matter what happened.” • “Everyone ought to feel safe at home. I’m concerned about your safety and well-being.”
Document	<ul style="list-style-type: none"> • Document presenting signs and symptoms of abuse: location, size, duration, colour, shape • Take photos if patient consents • Obtain relevant radiographs • Document patient disclosures in a specific and detailed manner, using patient’s exact words in quotations, including names, locations and witnesses
Refer	<ul style="list-style-type: none"> • Offer a list of local domestic violence resources/referrals in private • If patient declines (may not feel ready; may not feel safe enough), let her know that these are available • Follow up at next visit with “How are things at home?” Validate and offer referrals again in non-judgmental way

Source: Adapted from AVDR training materials with permission from Dr. Barbara Gerbert, director, Center for Health Improvement and Prevention Studies, University of California at San Francisco.

abuse by the victim in the victim’s own words. Finally, the model calls for clinicians to *refer* victims of abuse to community advocates or on-site specialists. The AVDR model has many benefits including efficiency, no requirement for extensive training and incorporation of universal screening (asking and validating), thereby reducing cultural barriers, personal discomfort and fears of offending patients.⁵⁴ Most important, the model alleviates the responsibility of “fixing” the situation, leaving follow-up to appropriate authorities. Examples of helpful phrases for dentists to use are listed in **Table 1**.

Studies have shown that education improves clinicians’ knowledge, attitudes and behaviours toward DV. In a controlled, randomized trial, a tutorial was given to dental students to evaluate the impact of an education module on the students’ ability to recognize and respond to DV.⁵⁵ The students who received the tutorial demonstrated improved knowledge about and attitudes toward DV, compared with the control group. They also reported that they intended to inquire about their patients’ safety following recognition of injuries to the head or neck. When the same tutorial was given to a group of dentists, similar results occurred⁵⁶; the intervention improved the dentists’ intentions to screen for DV as well as their

perceived knowledge of DV and how to help its victims. Although the tutorial was not effective in changing dentists’ core beliefs and attitudes about DV, it did empower them to initiate a screening process with their patients. From these studies, it seems that DV education is beneficial in raising awareness of the issue and can translate into a positive change in behaviour.

Given that head and neck injuries are the most common sequelae following an assault, dentists have a unique opportunity to identify and help victims of DV. Dentists must be able to recognize the signs of violence and help those in need. Just as issues, such as AIDS/STDs, smoking and alcohol use, were once considered taboo but are now commonly discussed, so must DV make the transition to the public realm.⁵² The epidemic of violence is highly underreported. As primary health care providers, dentists have an obligation to intervene. Changes at the national, provincial, educational, public health and private practice levels of dentistry are needed to make identification of DV and intervention a priority. The opportunity for dental professionals to help victims gain access to support and referral services and, consequently, to make a positive difference in the lives of our patients must not be overlooked. ✦

THE AUTHORS

Acknowledgement: Ms. Hendler was supported as a summer research student by the summer research program, faculty of dentistry, University of Toronto, and by the department of dentistry, Sunnybrook Health Sciences Centre, Toronto Canada.



Ms. Hendler is a third-year dental student in the faculty of dentistry, University of Toronto, Toronto, Ontario.



Dr. Sutherland is dentist-in-chief, department of dentistry, Sunnybrook Health Sciences Centre, Toronto, Ontario.

Correspondence to: Dr. Susan Sutherland, Department of Dentistry, H-126, Sunnybrook Health Sciences Centre, 2075 Bayview Avenue, Toronto ON M4N 3M5.

The views expressed are those of the authors and do not necessarily reflect the opinions or official policies of the Canadian Dental Association.

This article has been peer reviewed.

References

- Kimberg L, Bilbao D, Marjavi A. Intimate partner violence (IPV): guidelines for medical providers. San Francisco: Family Violence Prevention Fund; 2005. Available from URL: www.endabuse.org/health/ipv/ipv-doc.doc (accessed May 8, 2007).
- Canadian Centre for Justice Statistics. Family violence in Canada: a statistical profile 2004. Ottawa: Statistics Canada; 2004. Catalogue no. 85-224-XIE. Available from URL: www.statcan.ca/english/freepub/85-224-XIE/85-224-XIE2004000.pdf (accessed May 8, 2007).
- Canadian Centre for Justice Statistics. Family violence in Canada: a statistical profile 2005. Ottawa: Statistics Canada; 2005. Catalogue no. 85-224-XIE. Available from URL: www.statcan.ca/english/freepub/85-224-XIE/85-224-XIE2005000.pdf (accessed May 8, 2007).
- Cox J, Bota GW, Carter M, Bretzlaff-Michaud JA, Sahai V, Rowe BH. Domestic violence. Incidence and prevalence in a northern emergency department. *Can Fam Physician* 2004; 50:90–7.
- Abbott J, Johnson R, Koziol-McLain J, Lowenstein SR. Domestic violence against women. Incidence and prevalence in an emergency department population. *JAMA* 1995; 273(22):1763–7.
- McCloskey LA, Lichter E, Ganz ML, Williams CM, Gerber MR, Sege R, and others. Intimate partner violence and patient screening across medical specialties. *Acad Emerg Med* 2005; 12(8):712–22.
- Richardson J, Coid J, Petrukevitch A, Chung WS, Moorey S, Feder G. Identifying domestic violence: cross sectional study in primary care. *BMJ* 2002; 324(7332):274.
- McCauley J, Kern DE, Kolodner K, Dill L, Schroeder AF, DeChant HK, and others. The "battering syndrome": prevalence and clinical characteristics of domestic violence in primary care internal medicine practices. *Ann Intern Med* 1995; 123(10):737–46.
- Bradley F, Smith M, Long J, O'Dowd T. Reported frequency of domestic violence: cross sectional survey of women attending general practice. *BMJ* 2002; 324(7332):271.
- Coker AL, Smith PH, Bethea L, King MR, McKeown RE. Physical health consequences of physical and psychological intimate partner violence. *Arch Fam Med* 2000; 9(5):451–7.
- Tjaden P, Thoennes N. Prevalence, incidence, and consequences of violence against women: findings from the National Violence Against Women Survey. Washington: National Institute of Justice, Centers for Disease Control and Prevention; 1998.
- 1998 women's and men's health survey. New York: Commonwealth Fund; 1998. Available from URL: http://www.commonwealthfund.org/usr_doc/menwomensurvey_chartbook.pdf?section=4056.
- Berrios DC, Grady D. Domestic violence. Risk factors and outcomes. *West J Med* 1991; 155(2):133–5.
- Zachary MJ, Mulvihill MN, Burton WB, Goldfrank LR. Domestic abuse in the emergency department: can a risk profile be defined? *Acad Emerg Med* 2001; 8(8):796–803.
- Horon IL, Cheng D. Enhanced surveillance for pregnancy-associated mortality — Maryland, 1993–1998. *JAMA* 2001; 285(11):1455–9.
- Shadigian E, Bauer ST. Pregnancy-associated death: a qualitative systematic review of homicide and suicide. *Obstet Gynecol Surv* 2005; 60(3):183–90.
- McFarlane J, Campbell JC, Sharps P, Watson K. Abuse during pregnancy and femicide: urgent implications for women's health. *Obstet Gynecol* 2002; 100(1):27–36.
- Campbell J, Jones AS, Dienemann J, Kub J, Schollenberger J, O'Campo P, and others. Intimate partner violence and physical health consequences. *Arch Intern Med* 2002; 162(10):1157–63.
- Flitcraft A. Physicians and domestic violence: challenges for prevention. *Health Aff (Millwood)* 1993; 12(4):154–61.
- Canadian Centre for Justice Statistics. Family violence in Canada: a statistical profile 2006. Ottawa: Statistics Canada; 2006. Catalogue no. 85-224-XIE. Available from URL: <http://www.statcan.ca/english/freepub/85-224-XIE/85-224-XIE2006000.pdf> (accessed May 8, 2007).
- Woman abuse: screening, identification and initial response [Nursing Best Practice Guideline]. Toronto: Registered Nurses' Association of Ontario; March 2005. Available from URL: www.rnao.org/Storage/12/655_BPG_Women_Abuse.pdf (accessed May 8, 2007).
- Ulrich YC, Cain KC, Sugg NK, Rivara FP, Rubanowicz DM, Thompson RS. Medical care utilization patterns in women with diagnosed domestic violence. *Am J Prev Med* 2003; 24(1):9–15.
- Samson AY, Bensen S, Beck A, Price D, Nimmer C. Posttraumatic stress disorder in primary care. *J Fam Pract* 1999; 48(3):222–7.
- Scholle SH, Rost KM, Golding JM. Physical abuse among depressed women. *J Gen Intern Med* 1998; 13(9):607–13.
- McCauley J, Yurk RA, Jenckes MW, Ford DE. Inside "Pandora's box": abused women's experiences with clinicians and health services. *J Gen Intern Med* 1998; 13(8):549–55.
- Campbell LC, Riley JL 3rd, Kashikar-Zuck S, Gremillion H, Robinson ME. Sexual, affective, and pain characteristics of chronic TMD patients with sexual versus physical abuse histories. *J Orofac Pain* 2000; 14(2):112–9.
- Kenney JP. Domestic violence: a complex health care issue for dentistry today. *Forensic Sci Int* 2006; 159(Suppl 1):S121–5.
- Walker EA, Milgrom PM, Weinstein P, Getz T, Richardson R. Assessing abuse and neglect and dental fear in women. *J Am Dent Assoc* 1996; 127(4):485–90.
- Curran SL, Sherman JJ, Cunningham LL, Okeson JP, Reid KI, Carlson CR. Physical and sexual abuse among orofacial pain patients: linkages with pain and psychological distress. *J Orofac Pain* 1995; 9(4):340–6.
- Muelleman RL, Lenaghan PA, Pakieser RA. Battered women: injury locations and types. *Ann Emerg Med* 1996; 28(5):486–92.
- Le BT, Dierks EJ, Ueek BA, Homer LD, Potter BF. Maxillofacial injuries associated with domestic violence. *J Oral Maxillofac Surg* 2001; 59(11):1277–83; discussion 1284–4.
- Harm T, Rajs J. Face and neck injuries due to resuscitation versus throttling. *Forensic Sci Int* 1983; 23(2–3):109–16.
- Amar AF, Gennaro S. Dating violence in college women: associated physical injury, healthcare usage, and mental health symptoms. *Nurs Res* 2005; 54(4):235–42.
- Green CR, Flowe-Valencia H, Rosenblum L, Tait AR. Do physical and sexual abuse differentially affect chronic pain states in women? *J Pain Symptom Manage* 1999; 18(6):420–6.
- Schuler ME, Nair P. Witnessing violence among inner-city children of substance-abusing and non-substance-abusing women. *Arch Pediatr Adolesc Med* 2001; 155(3):342–6.
- Ochs HA, Neuenschwander MC, Dodson TB. Are head, neck and facial injuries markers of domestic violence? *J Am Dent Assoc* 1996; 127(6):757–61.
- Shepherd JP, Gayford JJ, Leslie JJ, Scully C. Female victims of assault. A study of hospital attenders. *J Craniomaxillofac Surg* 1988; 16(5):233–7.
- Perciaccante VJ, Ochs HA, Dodson TB. Head, neck, and facial injuries as markers of domestic violence in women. *J Oral Maxillofac Surg* 1999; 57(7):760–2; discussion 762–3.
- Ernst AA, Weiss SJ. Intimate partner violence from the emergency medicine perspective. *Women Health* 2002; 35(2–3):71–81.
- Rodriguez MA, Quiroga SS, Bauer HM. Breaking the silence. Battered women's perspectives on medical care. *Arch Fam Med* 1996; 5(3):153–8.
- Gerbert B, Johnston K, Caspers N, Bleecker T, Woods A, Rosenbaum A. Experiences of battered women in health care settings: a qualitative study. *Women Health* 1996; 24(3):1–17.
- Sugg NK, Inui T. Primary care physicians' response to domestic violence. Opening Pandora's box. *JAMA* 1992; 267(23):3157–60.

43. Love C, Gerbert B, Caspers N, Bronstone A, Perry D, Bird W. Dentists' attitudes and behaviors regarding domestic violence. The need for an effective response. *J Am Dent Assoc* 2001; 132(1):85–93.
44. Gerbert B, Caspers N, Bronstone A, Moe J, Abercrombie P. A qualitative analysis of how physicians with expertise in domestic violence approach the identification of victims. *Ann Intern Med* 1999; 131(8):578–84.
45. Minsky-Kelly D, Hamberger LK, Pape DA, Wolff M. We've had training, now what? Qualitative analysis of barriers to domestic violence screening and referral in a health care setting. *J Interpers Violence* 2005; 20(10):1288–309.
46. Sugg NK, Thompson RS, Thompson DC, Maiuro R, Rivara FP. Domestic violence and primary care. Attitudes, practices, and beliefs. *Arch Fam Med* 1999; 8(4):301–6.
47. Centers for Disease Control (CDC). Education about adult domestic violence in 25 U.S. and Canadian medical schools, 1987–88. *MMWR Morb Mortal Wkly Rep* 1989; 38(2):17–9. Available from URL: www.cdc.gov/mmwr/preview/mmwrhtml/00001332.htm (accessed May 8, 2007).
48. Alpert EJ, Tonkin AE, Seeherman AM, Holtz HA. Family violence curricula in U.S. medical schools. *Am J Prev Med* 1998; 14(4):273–82.
49. Tilden VP, Schmidt TA, Limandri BJ, Chiodo GT, Garland MJ, Loveless PA. Factors that influence clinicians' assessment and management of family violence. *Am J Public Health* 1994; 84(4):628–33.
50. Chamberlain L, Perham-Hester KA. The impact of perceived barriers on primary care physicians' screening practices for female partner abuse. *Women Health* 2002; 35(2–3):55–69.
51. McLeer SV, Anwar R. A study of battered women presenting in an emergency department. *Am J Public Health* 1989; 79(1):65–6.
52. Gerbert B, Gansky SA, Tang JW, McPhee SJ, Carlton R, Herzig K, and others. Domestic violence compared to other health risks: a survey of physicians' beliefs and behaviors. *Am J Prev Med* 2002; 23(2):82–90.
53. Gerbert B, Moe J, Caspers N, Salber P, Feldman M, Herzig K, and other. Simplifying physicians' response to domestic violence. *West J Med* 2000; 172(5):329–31.
54. Gerbert B, Moe J, Caspers N, Salber P, Feldman M, Herzig K, and other. Physicians' response to victims of domestic violence: toward a model of care. *Women Health* 2002; 35(2–3):1–22.
55. Danley D, Gansky SA, Chow D, Gerbert B. Preparing dental students to recognize and respond to domestic violence: the impact of a brief tutorial. *J Am Dent Assoc* 2004; 135(1):67–73.
56. Hsieh NK, Herzig K, Gansky SA, Danley D, Gerbert B. Changing dentists' knowledge, attitudes and behavior regarding domestic violence through an interactive multimedia tutorial. *J Am Dent Assoc* 2006; 137(5):596–603.