# Dentists awareness and action towards domestic violence patients

## *A cross-sectional study among dentists in Western Saudi Arabia*

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## ABSTRACT

**الأهداف:** الكشف عن العوامل التي من شأنها التنبؤ بمدى وعي طبيب الأسنان بالعنف الأسري، والكشف عن العوامل المؤثرة على احتمال اتخاذ الإجراءات اللازمة، وتهدف الدراسة أيضاً لعرض الحواجز التي تواجه طبيب الأسنان عند التعرض للضحايا في العيادة.

**الطريقة:** في هذه الدراسة المقطعية قمنا بإرسال استبيان ذاتي بشكل عشوائي لأطباء الأسنان الممارسين في مدينة جدة، المملكة العربية السعودية وتم إرسال الرابط مصحوباً برسالة توضيحية، مدة قبول كافة الاستجابات بدءاً من يناير 2016 حتى نهاية فبراير 2016. وتم استخدام البرنامج الإحصائي SPSS لتحليل البيانات ومن ثم تم حساب الإحصاءات الوصفية وإجراء تحليل للمتغير التعددي من أجل تحديد المتغيرات الهامة، وقد تم اعتبارها عند القيمة الاحتمالية أقل من 0.05، وقد قمنا بإجراء 2 من نماذج تحليل متعدد المتغيرات لتقدير العلاقة بين مستوى الوعي، وقدرة طبيب الأسنان على التصرف السليم تحت تأثير عوامل مختلفة.

**النتائج:** بلغ حجم العينة 151 رداً، بعد ضبط جميع العوامل المثيرة للبس، أشارت نتائج نماذج تحليل متعدد المتغيرات إلى إن احتمالات الوعي لدى طبيب الأسنان، واتخاذ الإجراءات تجاه ضحايا العنف الأسري تتأثر بمستواه التعليمي ومؤهلاته ومدى خبرته السريرية، كذلك تباين قطاعات العمل وجنس الطبيب. قلة التدريب والتأهيل في مجال العنف الأسري والحرج من إثارة هذه القضية كانت أكثر الحواجز شيوعاً بين أفراد العينة التي تمنعهم من مد يد العون للضحايا.

**الخاتمة:** أثبتت نتائج هذه الدراسة أن المزيد من الدورات التعليمية بعد التخرج في هذا الصدد تمكن طبيب الأسنان من اكتشاف ضحايا العنف الأسري ودعمهم.

**Objectives:** To identify the potential factors that would predict a dentist's awareness of domestic violence (DV), as well as the factors that influence the probability of dentists to take the required action. Also, to list the common barriers that dentists face when managing DV victims.

**Methods:** In this cross-sectional study, a self-administered, structured questionnaire was sent randomly to dentists practicing in Jeddah, Saudi Arabia. The online survey link was emailed with a cover message that illustrated the study context. Responses were accepted from January 2016 until the end of February 2016. The Statistical Package for the Social Sciences version 22 was used for data analysis. Descriptive statistics, bivariate and multivariate analysis carried out to identify significant variables at $p<0.05$ level of significance.

**Results:** A sample size of 151 responses were recruited. The result of multivariate models indicated that the odds of dentists' awareness and taking actions towards DV victims were influenced by their education, clinical experience, gender, practicing sector, and qualification. Lack of training in identifying DV and embarrassment to bring up DV with patients were the most common barriers for the respondents when treating DV victims.

**Conclusion:** Continuing education with regards to DV was found to be the most relevant predictor. More educational courses in this regard would empower dentists to support DV victims.


***Saudi Med J 2017; Vol. 38 (1): 82-88***
***doi: 10.15537/smj.2017.1.16085***

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*Received 3rd August 2016. Accepted 16th October 2016.*

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**Disclosure**. Authors have no conflict of interest, and the work was not supported or funded by any drug company.



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The national health service - Barking and Dagenham London (2015) - defined domestic violence (DV) as "*any incident of threatening behavior, violence or abuse (psychological, physical, sexual, financial or emotional) between adults who are or have been intimate partners or family members, regardless of gender or sexuality*". Domestic violence has been recognized as one of the most important public health and human rights issues today. The results of the current literature show that the epidemics of violence against women are under-recorded in different societies.[1] Physical assaults include, but are not limited to, a variety of behavioral actions ranging from simple slapping and hair pulling to the use of life-threatening weapons. Isolation, intimidation, blackmailing, and threatening are also recognized as a form of emotional violence.[2] Exposure to violence significantly increases the odds of self-reported poor health, insomnia, depression, and increased numbers of doctor visits.[3] The results of a cross-sectional study in Jeddah, Kingdom of Saudi Arabia (KSA) showed that the prevalence of DV was 34%, where 29% were emotional abuse, 11.6% were physical violence, and 4.8% were sexual abuse. Moreover, the odds of violence increased 1.5 times among financially dependent women.[4] In a cross-sectional study conducted in Alhsa, KSA, the overall prevalence of violence was 39.3%. Domestic violence reported from family members, including fathers, brothers, and mothers-in-law, were mostly mental and physical.[5] Another cross-sectional study in Riyadh, KSA indicated the prevalence and risk factors of DV against women. Domestic violence was 20% on average over the last year.[6] Also, one out of 10 women is subjected to violence in Taif, KSA.[7] Dentists have an essential role in addressing the victims' needs, as DV is one of the principle causes of oral maxillofacial trauma. Facial contusion and laceration, dental concussion, and mandibular fractures are the most reported trauma types.[8] In a cross-sectional study conducted to investigate the types of the traumatic dental injuries caused by DV, 38.7% of the injuries were to the head and neck region, and only 2% of which were dental injuries. The most affected teeth were the maxillary incisors (31.8%), the mandibular incisors (27.3%), and the maxillary canines (9.1%). Also, the reported trauma cases were 59.1% fractures, 27.2% luxations, and 13.7% avulsions.[9] There are significant relationships between psychological violence and poor periodontal health. Approximately 37.3% of the physical violence victims had lost one or more teeth; this result was statistically significant.[1] Violence could be best predicted by the combination of 5 variables: stress, pain, dizziness, taking drugs, or visiting the doctor repeatedly during the last month.[5] Variety of the dental procedures might be stressful for trauma survivors, such as mouth props, alginate impressions, saliva ejectors, and oral cancer screening. Trauma survivors are influenced by their experience when seeking dental treatment, and it is important for dentists to understand the underlining consequences.[10] Health care providers are able to play a huge role in supporting DV victims by providing help for the victims, showing empathy, and acknowledging their worth.[11] Dentists are found to be in an ideal position to detect DV and to provide victims with support, referral, and appropriate treatment.[1,12] The objectives of the current study are to identify the potential factors that would predict a dentist's awareness of DV, as well as the factors influencing the probability of dentists to take the required action. Also, we seek to list the common barriers that dentists face when managing DV victims.

**Methods.** Online search was carried out to find prior related literature in DV both nationally and internationally. The databases of PubMed and Google Scholar were searched using the following key words: "domestic violence", "domestic violence and oral health", "intimate partner violence", "dentistry and violence", "violence in Saudi", and "traumatic dental injures".

Ethical approval was obtained from King Abdulaziz University Dental Hospital, Jeddah, KSA. In this cross-sectional study, a self-administered, structured questionnaire was sent to dentists practicing in Jeddah. The inclusion criteria consisted of dentists who have practiced or are currently practicing in Jeddah, KSA. The official numbers of dentists practicing in Jeddah were not available; however, according to the Ministry of Health, the number of practicing dentists in the Kingdom by the year 1431 Hijri calendar (H) was 9,206 dentists. The sample size was estimated using an online sample size calculator. The online survey link was emailed to a mailing list with a cover message illustrating the study context and asking to forward the e-mail for any known dentist working in Jeddah. The online survey link was emailed on 1 January 2016, then the remainder of the e-mail was also sent on 1 February 2016. The duration for accepting all responses was from 1 January 2016 until the end of February 2016.

The questionnaire was adopted from previous studies and was constructed and sent in English. It was modified to accommodate the objectives of our study.[13,14] It had 4 main sections, a total of 24 questions, and took approximately 15 minutes to complete. The first section was on the respondents' demographic information (for example, gender, age, practicing

hours per week, years of clinical experience, practice setting, and clinical qualification). Then, there were descriptive questions assessing the dentists' knowledge and educational experience towards DV. The third section is designed to explore the dentists' attitude and clinical action when having potential or actual DV victims in an everyday clinical setting. The last section contains behavioral questions such as potential barriers to provide help and fear of negative impact. All the questions were closed ended to eliminate the chances of researcher bias. The remainder of the e-mail was sent to ensure a higher response rate and to reduce the possibility of self-reported bias.

Descriptive statistics were calculated, and bivariate analysis was carried out to identify significant variables at $p<0.05$ level of significance. Two binary logistic regression models were conducted to estimate the effect of different predictors with DV awareness and ability to act among dentists. In these logistic regression models, the potential association of "Over-all DV awareness among dentists" and "clinical action toward DV" as dependent variables were examined with other confounding variables in this study.

The first dependent variable "Over-all DV awareness among dentists" was determined from the score of 9 awareness-representing variables in the questionnaire; if a participant scored 5 or more, then they were considered to be aware of DV. These 9 variables were "Considering DV as a health care problem that necessitates dentist intervention", "Screening for DV in first visits", "Screening for DV in regular visits", "Suspecting DV when patients presented with extra-oral signs of abuse", "Suspecting DV when patients presented with dental signs of abuse", "Asking patients about DV if suspected", "Documentation in dental records", "Knowledge about available shelters or hotlines", and "Referring DV victims and providing them with information".

The second dependent variable, "Clinical action toward DV", was constructed from 4 representing variables. If the dentist scored 3 or more, then they were considered to have taken action regarding DV. The variables included "Screening for DV in first visits", "Screening for DV in regular visits", "Documentation in dental records", and "Referring DV victims and providing them with information".

The Statistical Package for the Social Sciences version 22 (IBM Corp., Armonk, NY, USA) was used for data analysis, the chi-square test was used to test the significant difference between categorical variables at $p<0.05$ level of significance, and odds ratio was calculated (at 95% confidence interval) to estimate the relationship and effect of different predictors with DV awareness and ability to act among dentist; findings were considered to be significant at $p<0.05$.

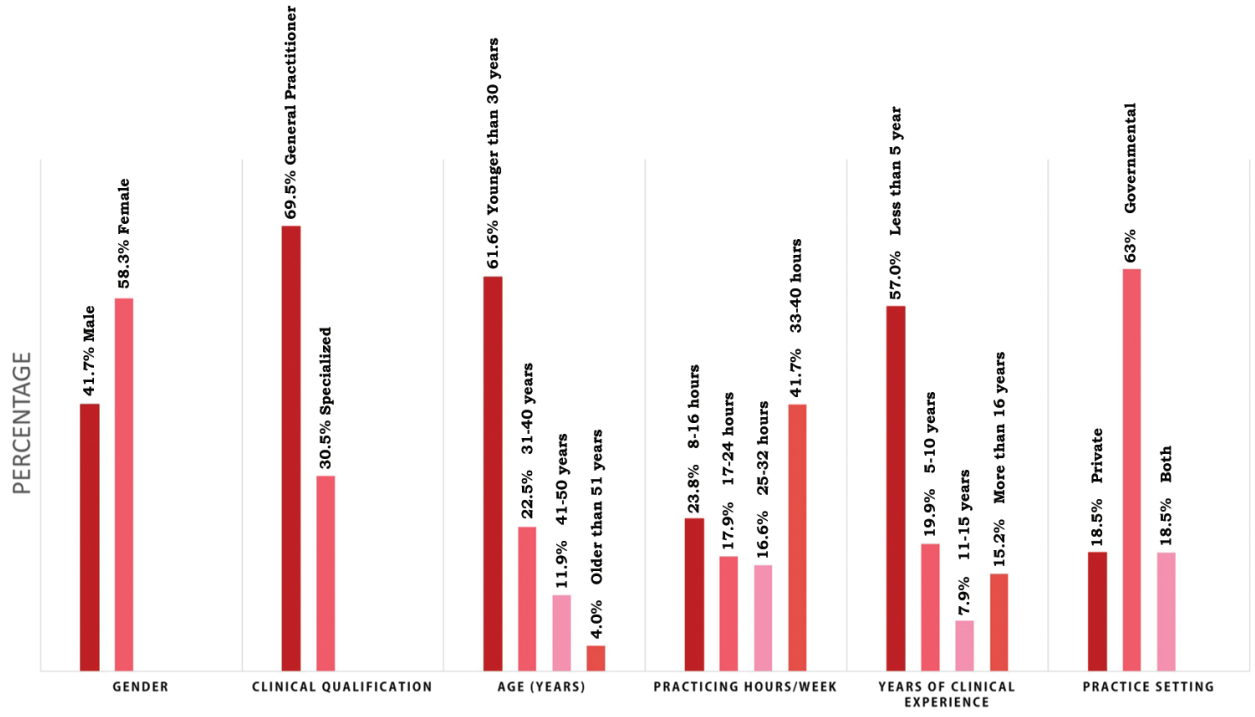


**Figure 1 -** Demographic features of the study population.

**Results.** A sample size of 151 responses was recruited. The respondents' profile is illustrated in **Figure 1**. The respondents experience, behavior, and attitude regarding DV is presented in **Table 1**. **Table 2** demonstrates the common barriers that dentists faced when encountering DV victims in practice.

**Table 1 -** Respondents experience, behavior, and attitude.

| Screening respondents experience, behavior, and attitude | Yes (%) | No |
|---|---|---|
| Heard about domestic violence victims in practice | 55.6 | 44.4 |
| Consider domestic violence a health care problem necessities dentist's intervention | 84.1 | 15.9 |
| Came across domestic violence victims in practice | 30.5 | 69.5 |
| Screen new patients for domestic violence visually (head, neck and exposed body parts) | 49.7 | 50.3 |
| Screen for domestic violence at regular and check-up visits visually (head, neck and exposed body parts) | 46.4 | 53.6 |
| Aware of the extra-oral signs of domestic violence | 67.5 | 32.5 |
| Aware of the intra-oral signs of domestic violence | 37.1 | 62.9 |
| Documentation in patients' chart | 75.5 | 24.5 |
| Acquainted with the available hotlines and social services for domestic violence victims | 31.8 | 68.2 |
| Provided domestic violence victims visiting your practice with information about shelters or victim services | 14.6 | 85.4 |
| Concerns about personal safety | 62.9 | 37.1 |
| Concerns about having negative impact on practice | 54.3 | 45.7 |
| Would like to have more domestic violence education to be able to identify domestic violence in your clinical setting | 89.4 | 10.6 |
| Believe that dentists may have a role in decreasing domestic violence prevalence | 82.8 | 17.2 |

**Table 2 -** The common barriers dentists were facing when managing domestic violence victims.

| Dentists' barriers | (%) |
|---|---|
| Lack training in identifying domestic violence | 38.4 |
| Embarrassed to bring up domestic violence with patients | 15.9 |
| Do not have a list of referral agencies (social services) | 28.5 |
| Do not have enough time to raise the issue of domestic violence | 6.0 |
| Believe domestic violence is not within the scope of dental health services | 11.2 |

Bivariate analysis indicated that participants who had previous DV education were significantly more aware of the extra-oral and intra-oral signs of DV than those who had no prior education in DV *p*-values of 0.001 for the extra oral signs and 0.05 for the intra oral signs. Additionally, an increasing trend is noticed in the awareness of both extra- and intra-oral signs of DV with continuing education compared with education in dental school. approximately 93.8% of participants who did not have any DV education wanted to learn more to be able to identify DV in the clinical setting; this result was significant with a *p*-value of 0.05 (**Table 3**).

After controlling for all potential confounding factors in logistic regressions, the result of the first logistic regression model indicated that dentists who had DV education in their undergraduate dental education were 3.2 times more aware compared with dentists who had no DV education. Similarly, dentists who had DV education in their continuing educational course showed 6.3 times more awareness compared with those who had no DV education. Both findings were statistically significant with *p*-values of 0.007 for those with previous DV education in the dental school and 0.004 in continuing education. The logistic model also indicated that dentists who came across DV victims in the practice were 3.8 times more aware compared with those who did not come across DV victims in their practice. This finding was statistically significant with a *p*-value of 0.002. Dentists who had personal safety concerns were 2.2 times more aware of DV compared with dentists who had no personal safety concerns. Females were found to be 70% more aware of DV compared with the male respondents. Additionally, specialized dentists were 70% more aware of DV than general practitioners.

**Table 3 -** Domestic violence (DV) education Bivariate analysis

| Screening items | None | In dental school (%) | In continuing education | *P*-value |
|---|---|---|---|---|
| *Aware of the extra-oral signs of DV* | | | | 0.001 |
| Yes | 54.3 | 82.6 | 83.3 | |
| No | 45.7 | 17.4 | 16.7 | |
| *Aware of the intra-oral signs of DV* | | | | 0.05 |
| Yes | 30.9 | 37.0 | 58.3 | |
| No | 69.1 | 63.0 | 41.7 | |
| *Wanted to learn more, to be able to identify DV* | | | | 0.05 |
| Yes | 93.8 | 89.1 | 75.0 | |
| No | 6.2 | 10.9 | 25.0 | |

On the other hand, dentists who were concerned regarding having a negative impact on the practice were 12% less aware compared with dentists who were not. Dentists working in the private setting were 1.2 times more aware of DV compared with those in the governmental sector. Dentists working in both private and governmental settings were 2 times more likely to be aware of DV compared with those who were working only in the governmental setting. Yet, all these findings were not statistically significant (**Table 4**).

The second logistic model showed that dentists who had DV education in dental school were taking action towards DV victims 2 times more than dentists who had no education; however, that result was not statistically significant. On the other hand, respondents who have been introduced to DV in continuing education courses were 5.2 times higher in taking action than participants with no DV education; this result was statistically significant with a *p*-value of 0.003. Previous experience with DV victims in practice increased the likelihood of attempting an action by 3.4 times compared with not being previously exposed to DV victims; this result was statistically significant with a *p*-value of 0.002. Female dentists were 47% more likely to have an action toward DV victims compared with male dentists. Personal safety concerns increased the action toward DV victims by 24%, while dentists having concerns regarding negative impacts decreased the actions taken toward DV patients by 1%. Participants working in the private sector were 1.5 times the odds more likely to take action compared with those in the governmental setting. Dentists working in both sectors scored 2.2 times higher for taking action compared with those in the governmental setting. Specialized dentists scored 1.02 times higher for taking actions compared with general practitioners. Still, none of these findings were statistically significant (**Table 5**).

**Table 4 -** Domestic violence (DV) awareness logistic regression.

| DV awareness predictors | OR | Lower 95%CI | Upper 95%CI | *P*-value |
|---|---|---|---|---|
| Dental school education | 3.19 | 1.37 | 7.40 | 0.007 |
| Continuing education | 6.34 | 1.81 | 22.10 | 0.004 |
| Coming across domestic violence victims in practice | 3.86 | 1.62 | 9.18 | 0.002 |
| Concerns about personal safety | 2.28 | 0.98 | 5.32 | 0.05 |
| Concerns about having negative impact on practice | 0.88 | 0.38 | 2.04 | 0.78 |
| Female practitioner | 1.71 | 0.80 | 3.67 | 0.16 |
| Private practice | 1.27 | 0.48 | 3.30 | 0.62 |
| Government and private practice | 2.08 | 0.76 | 5.72 | 0.15 |
| Specialized practitioner | 1.73 | 0.74 | 4.03 | 0.19 |
| Constant | 0.15 | | | 0.00 |

OR - odd ratio, CI - confidence interval

**Table 5 -** Taking action towards domestic violence patients logistic regression.

| Predictors of taking action | OR | Lower 95%CI | Upper 95%CI | *P*-value |
|---|---|---|---|---|
| Dental school education | 1.99 | 0.87 | 4.53 | 0.09 |
| Continuing education | 5.19 | 1.76 | 15.34 | 0.003 |
| Coming across domestic violence victims in practice | 3.48 | 1.59 | 7.58 | 0.002 |
| Concerns about personal safety | 1.24 | 0.54 | 2.84 | 0.59 |
| Concerns about having negative Impact on practice | 0.99 | 0.44 | 2.25 | 0.99 |
| Female practitioner | 1.47 | 0.69 | 3.14 | 0.31 |
| Private practice | 1.50 | 0.59 | 3.80 | 0.39 |
| Government and private practice | 2.27 | 0.87 | 5.92 | 0.09 |
| Specialized practitioner | 1.02 | 0.44 | 2.35 | 0.96 |
| Constant | 0.14 | | | 0.00 |

OR - odd ratio, CI - confidence interval

**Discussion.** Domestic violence is "a pattern of behavior in any relationship that is used to gain or maintain power and control over an intimate partner". It can affect individuals regardless of their educational level and socioeconomic status.[2] Trauma survivors including DV victims usually are presented to the dental clinic in the acute phase of injury or as a routine dental care appointment showing dental anxiety or unhealthy habits.[15] Dentists are not familiar with DV cases, and including the topic of DV in the dental curriculums will enhance their diagnostic skills and clinical training.[16] Although deferent complex barriers could prevent victims from revealing violence to health care providers, service providers should express acknowledgment and support to victims.[17] Depression, post-traumatic stress disorder, long-term anxiety, and panic are the most commonly reported psychological effects of DV. In addition, financial dependence is a major difficulty for victims.[2] Providing dental treatment for DV survivors is found to increase their self-esteem and reintegration into society.[18]

Usta et al[11] conducted a qualitative investigation of physicians' attitudes regarding DV, in which many participants considered DV beyond the scope of their practice. They consider it a social, behavioral, or psychological issue rather than a medical problem, and they would interfere medically if there were significant bruising or physical damage. Some participants expressed their concerns regarding their personal safety if they interfered in such an issue. Concerns of negative impact on their practice include having a negative reputation, where patients might be embarrassed to

visit their practice. Others were concerned regarding having negative financial impact.[19] In the current study, 84% of the respondents considered DV a health care problem that requires a dentist's intervention. Only 15% of those who encountered DV victims provided them with information on shelters or victim services. This could be explained by the fact that 38.4% of the study population lacked the training in DV legal response, and 28.5% did not have a list of social services agencies. Additionally, 63% of participants had concerns regarding their personal safety, and 54% had fear of having a negative impact on their practice. The result of this study indicated that the odds of a dentist having an awareness and taking actions towards DV victims is influenced by their education, clinical experience, gender, practicing sector, and qualification.

Domestic violence education in undergraduate dental school increased dentists' awareness of DV by 3.2 times. By the same token, dentists who had DV education in their continuing educational course increased the DV awareness by 6.3 times. Teaching dental students the key concepts of DV will empower them to provide appropriate services and referrals.[20]

Dentists who had DV education in their dental school were taking action towards DV victims 2 times more than dentists who had no education. Similarly, DV in continuing education courses increased the dentists' response to DV by 5.2 times. Introducing and training dental students to manage abused and neglected victims could break the cycle of violence and change their attitudes and actions toward victims.[21] Moreover, in a study conducted to measure the dentists educational needs for detecting DV, 75.9% of the study participants wanted to have more training to be able to identify DV and act legally.[22]

Almost 83% of our study respondents believed that dentists have a role in decreasing DV prevalence. However, the most common barriers they encountered were the lack of training in identifying DV and not having a list of referral agencies, followed by embarrassment to bring up DV with patients. Mythri et al[14] listed the barriers to identification and referral; 21% of the participants chose lack of training in identifying DV, followed by 15% for the patient accompanied by partner or child as the most common barriers, and 64% of the participants answered that dentists have a role in decreasing DV prevalence.[14]

The reasons for not reporting violence or seeking help were diverse. Most believed that not reporting abuse is better for their children. Some victims accepted abuse, and others were financially dependent, hoped that the violence would be stopped, and afraid of separation.[5] Various protection agencies had appeared in the Kingdom starting with the General Directorate for Social Protection. In addition, the involvement of the Saudi health care system was apparent. The Ministry of Health in 1428H has launched the Department of Psychological and Social Health. This department provides a variety of services including health, mental, and social care to DV victims. All health facilities, staff of the Ministry of Health, and the private sector are mandated to report DV and neglect to the department. Also, the national family safety program was established in 2005. The aim of this program is to protect and help child abuse and DV victims. The program is administratively linked to the National Guard Health Affairs and also provides training for health care professionals in collaboration with local and international partners. However, although child abuse and neglect has been acknowledged by the leadership, there are no clear criminal laws to tackle the problem.[23]

This study's limitations include the dependence on self-reported information. Using online recruitment may underestimate the overall effect of this study as some of the practicing dentists do not check and respond to their e-mails on a regular basis. Nevertheless, the significant findings of this study could be generalized to other similar populations.

In conclusion, this study shows that dentists and oral-maxillofacial surgeons have a great exposure to DV victims compared with other health care providers. Domestic violence continuing education was found to be the most relevant predictor for awareness and acting against DV. Practicing dentists and dental students should be trained to manage those victims and act properly on legal basis. More courses in this regard would empower dentists to support DV victims. Further research is required to support the involvement of dental professional and future policy making.

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