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# Oral injuries in victims involving intimate partner violence

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ABSTRACT

*Introduction:* Current literature states that dental medicine can have an important role in diagnosing situations of domestic violence, namely cases of intimate partner violence, since many of the injuries that occur in this context concern the head and neck areas. The aim of this study was to characterize oral injuries in these cases in a Portuguese population, and to determine the kind of permanent consequences that they might represent.

*Material and methods:* 332 forensic reports of domestic violence survivors were analysed. The reports concerned examinations performed in the North Branch of the National Institute of Legal Medicine of Portugal in 2007. Reports were assessed in order to obtain data regarding victim and offender demographic characteristics, and to characterize the nature and number of sustained injuries and their permanent consequences.

*Main results:* Most victims were females with a mean age of 33.7 years; the most frequent offender was the spouse; the majority of oral injuries affected soft tissues; permanent body consequences were found mainly in the teeth and periodontal tissues; permanent functional consequences were described as chewing difficulties, feeling pain or soft tissue mobility changes; permanent consequences for life activities referred mostly to social life aspects.

*Conclusions:* Oral injuries and their consequences were observed in 13.4% of intimate partner violence cases, and though being suggestive of this kind of violence, oral injuries alone are insufficient to identify this kind of abuse, and additional diagnostic criteria and evidence should be used.



## 1. Background

Intimate partner violence (IPV) implies any type of behaviour within an intimate relationship that causes harm to one or both parties [1]; it refers to a broad pattern of coercive or violent tactics used by one partner to establish, maintain power and control over the other. These tactics can include physical, sexual, psychological, and economic abuse in an intimate partnership (any present or previous intimate relationship, with or without sexual involvement). IPV can occur between spouses, former spouses, or unmarried intimate partners [2].

The term IPV has been used interchangeably with domestic violence (DV) [3]. However, in more recent years, DV has developed a broader meaning and now includes abuse that occurs in any relationship within a household, including that against children, the elderly, or siblings [1].

IPV is a serious health problem that affects, in the USA, up to 26% of adult women and 16% of adult men [4]. An analysis of 48 population-based studies by the World Health Organization indicated that from 10% to 69% of women had been physically assaulted by an intimate partner at some point in their lives.

The high prevalence of this phenomenon has given rise to an increasing number of publications on DV and IPV, regarding the signs, symptoms, diagnosis [5–7] and even the medical-professional role in the treatment and guidance of the survivors [8]. IPV has profound health consequences: abused women are more likely to have physical and psychological problems, including reproductive problems, depression, psychosomatic disorders, and limitations in social functioning [9]. In addition, IPV is also associated with loss of productivity and increased use of health care and social services, even long after the end of the violent episodes [10].

Head and neck areas have been reported as the most frequently affected site in DV [11–13]; therefore oral health care professionals may be the first to identify a person who is being abuse and to

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intervene [14]. In 1996, the *American Dental Association* enacted a policy to encourage efforts to educate oral health professionals in the identification of abuse and neglect of adults [15].

The aim of the present study was to determine the incidence of oral injuries in IPV in the Portuguese population.

## 2. Methods

IPV event reports concerning forensic examinations performed in the North Branch of the National Institute of Legal Medicine of Portugal in 2007 were analysed ($n = 2489$). Of these, a selection was made according to the following inclusion criteria: (1) suspected case of IPV; (2) victims (of both genders) older than 16 presenting oral injuries. Oral injuries were defined as those involving the following areas: (a) teeth and the surrounding supportive tissues (periodontium); (b) oral mucosa including the gums, the alveolar mucosa in the edentulous patient, palate, and the buccal mucosa; (c) jaw bones (upper and lower); (d) lips (mucosa and skin); (e) tongue; (f) perioral soft tissues (extraoral tissues that surround the mouth and cover upper and lower jaw).

Selected cases ($n = 332$) were studied for data regarding victim and offender demographic characteristics, the nature and number of sustained injuries and their permanent consequences. To analyse oral injuries, the anatomic location and nature of the injury were identified; if the same area sustained more than one kind of injury, only the most severe was registered. Injury severity was assessed using the severity scale presented routinely in Portuguese legal medicine research [16–19]: grade 0, no injuries suffered; grade 1, mild severity injuries such as scratches, bruises, ecchymoses and cuts; grade 2, medium severity injuries, such as skin lacerations, fractures and other injuries that do not require open treatment; grade 3, major severity injuries, but which are not considered life threatening, although require open treatment; grade 4, very important severity injuries, corresponding to high severity and potential lethal injuries. Permanent consequences were assessed according to the individual's body, functional and situational impact, using the "*Bodily Damage Assessment Inventory*" [16]. Body consequences refer to the organic aspects (e.g., scars, prosthetic devices), the functional impact which refers to the incapacities (e.g., the inability to chew or swallow), and the situational consequences which refer to the impact in an individual's life activities (e.g., the inability to eat in a restaurant, the avoidance of intimate contact, the inability to perform one's professional work). Findings were recorded in a database developed in a prior study [19], and studied using SPSS (Statistical Package for Social Science – SPSS INC, Chicago, Illinois, USA), version 16.0, for Windows. Descriptive statistics was performed using frequency analysis for categorical variables and descriptive analysis for continuous variables.

## 3. Results

Amongst 2489 reports of IPV events, 332 (13.4%) referred to oral trauma. Most victims were females (69.3%) presenting a mean age of 33.7 years (SD = 11.4; minimum = 16; maximum = 92), mostly married or single (46.9% and 39.2%, respectively); 12.1% were divorced and 1.8% were widows. The majority worked in personal or domestic services or were unemployed (32.5% and 19.3%, respectively); 14.4% had jobs linked to commercial or industrial activities, 11.4% had scientific, technical, administrative or similar professions, 9.6% were students and 4.8% had received social security benefits, 5.4% were retired and 2.6% had jobs that do not fit any of the described groups.

The most frequent offender was the spouse (58.4%), followed by the boyfriend (21.7%), ex-spouse (17.5%) and others (2.4%).

The injuries were reported as being the first occurrence in 19.9% of the cases. Slapping or punching was the main aggression mechanism in 44.6% of the cases, followed by kicking (15.1%), being pushed against something (12.7%), or trauma with a blunt instrument (12.0%). The other cases involved trauma with a sharp object, finger nails, bites, fire arms and hot water (6.6%, 6.6%, 1.2%, 0.6% and 0.6%, respectively).

The total number of oral injuries was 438. Oral injuries were the only type of trauma in 27.7% of the victims. Overall, perioral soft tissues were the main site of injury, affecting 80.1% of all survivors (Table 1).

Permanent body consequences were present in 11.4% of the victims with the main site being teeth and periodontal tissues, which affected 6.6% of the victims (Table 2). Permanent functional consequences were present in 10.3%. This implied chewing difficulties, feeling pain or soft tissue mobility changes (Table 3). Permanent situational consequences were present in 3.6%, and were mild in terms of severity, and referred mostly to patterns of social behaviour (Table 4).

**Table 1**
Total number of sustained oral injuries ($n = 438$).

| Anatomic level | *n* | % | Type | *n* | % |
|---|---|---|---|---|---|
| Perioral soft tissues | 266 | 80.1 | Contusion | 236 | 88.7 |
| | | | Laceration | 24 | 9.0 |
| | | | Burn | 6 | 2.3 |
| Lips | 98 | 29.5 | Contusion | 56 | 57.1 |
| | | | Laceration | 42 | 42.9 |
| Gingival and oral mucosa | 40 | 12.1 | Contusion | 4 | 10.0 |
| | | | Laceration | 36 | 90.0 |
| Teeth, prosthetic devices and periodontal tissues | 24 | 7.2 | Tooth fracture | 10 | 41.6 |
| | | | Tooth luxation | 4 | 16.8 |
| | | | Tooth avulsion | 5 | 20.8 |
| | | | Prosthetic device fracture | 5 | 20.8 |
| Tongue | 6 | 1.8 | Contusion | 2 | 33.3 |
| | | | Laceration | 4 | 66.7 |
| Jaws | 4 | 1.2 | Temporo-mandibular joint contusion | 4 | 100 |

**Table 2**
Body permanent consequences ($n = 74$).

| Body | *n* | % Victims presenting this body consequence ($n = 332$) | Type | *n* | % |
|---|---|---|---|---|---|
| Perioral soft tissues | 18 | 5.4 | Scar | 18 | 100 |
| Lips | 20 | 6.0 | Scar | 20 | 100 |
| Gingival and oral mucosa | 12 | 3.6 | Scar | 12 | 100 |
| Teeth, prosthetic devices and periodontal tissues | 22 | 6.6 | Tooth structure loss | 18 | 81.8 |
| | | | Tooth mobility | 4 | 18.2 |
| Tongue | 2 | 0.6 | Scar | 2 | 100 |
| Jaws | 0 | 0 | No. sequelae | 0 | 100 |