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Intimate partner violence injuries in Australian orthopaedic clinics: a survey of clinician perspectives

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Abstract

Background There is increasing recognition that intimate partner violence (IPV) is a global public health issue (1). In Australia, one in 6 women and one in 17 men experience IPV (2, 3). Musculoskeletal injuries are the second most common pathology suffered due to IPV, and previous studies have reported that as many as 1 in 50 patients present to orthopaedic outpatient clinics as a direct result of IPV (4, 5). Thus, this setting provides a unique opportunity to recognise patients at risk and facilitate intervention.

Aim To investigate the perceptions and experiences of Australian orthopaedic clinicians regarding IPV injuries in outpatient clinics, and to identify barriers that prevent the detection of IPV in this setting.

Methods Orthopaedic surgeons and registrars were surveyed using a secure online platform distributed via the Australian Orthopaedic Association (AOA) from December 2023 to February 2024. Responses were analysed using Chi-square, Mann-Whitney U and Kruskal-Wallis tests with a 5% significance threshold.

Results Responses were provided by 101 fellowship trained surgeons or orthopaedic registrars. 92% either 'agree' or 'strongly agree' that IPV is a significant public health issue. Clinicians treated a mean of 5 patients per year (range 0–30) with reported IPV injuries, accounting for 0.4% (range 0–5.8%) of outpatient clinic presentations. Patients with IPV related injuries presented more frequently to public clinics than private rooms ($p=0.04$). The most common perceived barriers to identifying and managing IPV are partners attending with patients ($n=84$), time constraints ($n=75$), lack of privacy ($n=58$), and lack of social supports in clinic ($n=57$).

Conclusion Despite its prevalence in the wider community, few IPV-related injuries are identified or reported in Australian orthopaedic outpatient clinics, and many barriers exist. Understanding experiences and perceptions of this issue is key to improving our ability to provide care for this vulnerable population.

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Introduction

It is increasingly recognised that intimate partner violence (IPV), also known as domestic violence, is a serious international public health issue [1]. In Australia, one in six women and one in 17 men experience violence at the hands of a partner [2, 3]. Every day, 137 women are killed by a partner or family member worldwide [4].

Musculoskeletal pathology is the second most common injury sustained due to IPV, following head and neck trauma, and often leads to referral to orthopaedic outpatient services [5]. Escalation of physical violence resulting in musculoskeletal injury is a key predictor of intimate partner homicide. Orthopaedic surgeons are thus uniquely positioned to identify victims of IPV and provide appropriate assistance and intervention. In 2019, the American Orthopaedic Association deemed IPV a 'critical issue' in orthopaedics [6].

In 2013, The Lancet published the PRAISE trial, a prospective multi-centre study that used validated questionnaires (WAST: Woman Abuse Screening Tool and PVS: Partner Violence Screen) to enquire about 2,945 patients' experiences with IPV [7]. The investigators found that 16% of patients experienced IPV in the year preceding their orthopaedic review. One in 50 women had presented to orthopaedic clinics with an injury that was a direct consequence of IPV, of which 80% were fractures. Whilst the reported prevalence is high, it is likely that the true prevalence of outpatient attendees experiencing IPV is even higher, as the PRAISE trial excluded women who were unable to separate themselves from companions in the clinic.

Despite these findings being reported over a decade ago, evidence regarding identifying and managing patients with orthopaedic injuries resulting from IPV remains limited. Staff perceptions and lack of knowledge are known barriers. Only 14% of women presenting with IPV-related injuries reported being asked about IPV in the PRAISE trial [7]. Della Rocca et al. found that 80% of American clinicians believed the prevalence of IPV to be less than 1%, much lower than PRAISE study findings [3]. Only 4% of surgeons routinely screen for IPV with injured female patients. Nearly 47% reported that they lacked training in how to respond appropriately to a disclosure of IPV; half of the cohort did not know what resources were available to them in the case of a positive disclosure; and 72% of respondents lacked knowledge of what to do once a disclosure occurred [3].

Understanding perceptions of this issue within the Australian orthopaedic community is an important step towards increasing awareness and improving our ability to provide healthcare for this vulnerable population. There is no existing literature regarding Australian orthopaedic clinicians' perspectives towards the prevalence and management of IPV-related injuries.

Thus, the aim of this study was to investigate perceptions of current Australian orthopaedic clinicians toward injuries following IPV in the setting of outpatient orthopaedic clinics, and to identify perceived barriers to identifying and managing these injuries.

Methods

This study was cross-sectional in design. Following the procurement of institutional ethics approval (2022/ETH1657), an anonymous online survey was distributed to all eligible Australian orthopaedic surgeons and registrars via the AOA email newsletter. The survey assessed basic clinician data, including years of experience, practice setting, average number of patients seen and annual number of IPV disclosures. Participants were then asked to agree or disagree [to varying degrees] with statements regarding the impact of domestic violence for both men and women in Australia. Several questions explored barriers to disclosure, with participants able to submit free text responses.

The survey was kept open for a period of three months [December 2023 to February 2024] to provide adequate opportunity for clinicians to respond. Participation was voluntary and informed consent was obtained from all participants. The questionnaire was based on surveys utilised in previous studies, developed by the Violence Against Women Health Research Collaborative [3, 7, 8].

All AOA affiliated orthopaedic surgeons, trainee registrars and non-training orthopaedic registrars were eligible for inclusion. Collected data was de-identified, with the option not to disclose answers that could allow identification.

Data was exported from Google Forms [Google Inc, Mountain View, California] to Microsoft® Excel® (v16.87, Microsoft, Redmond, Washington) for analysis. Tests were two-sided and *p*-values less than 0.05 were considered statistically significant. Chi-square tests were used to compare categorical responses. Mann-Whitney U and Kruskal-Wallis tests were performed for continuous data since they were not normally distributed [9]. A complete case analysis was conducted due to low levels of missing data (<5%). Data were analysed using R version 4.4.0 (R, Vienna, Austria) [10].

Results

Survey responses were provided by 101 fellowship trained surgeons or registrars who work in outpatient orthopaedic clinic settings. Baseline demographics, including gender, level of experience and practice location of clinicians surveyed, are noted in Table 1.

IPV presentations

Clinicians reported seeing a mean of five patients per year (range 0–30) with injuries due to IPV, accounting

Table 1 Demographic data

Demographics	N (%)	No. of patients with IPV in past 12 months (median, IQR)	P
<i>Gender</i>			0.02
• Male	62 (61.4)	3 (1-5)	
• Female	39 (38.6)	5 (2-10)	
<i>Role</i>			0.85
• Registrar	54 (53.5)		
◦ Unaccredited	12 (11.9)	5 (2-5)	
◦ Trainee	42 (41.6)	4 (2-5)	
• Fellow	4 (4.0)	2 (2-4)	
• Consultant	43 (42.6)	2.5 (1-10)	
<i>Years of experience</i>			0.99
• 0-5	25 (24.8)	3 (2-5)	
• 5-10	35 (34.7)	4 (2-5)	
• 10-20	25 (24.8)	2 (1-15)	
• 20+	16 (15.8)	3 (0.5-10)	
<i>Location of practice</i>			0.98
• Metropolitan	63 (62.4)	4 (2-5)	
• Regional/rural	29 (28.7)	4 (1.75-5)	
• Mixed	9 (8.9)	2 (2-10)	
<i>Setting</i>			0.04
• Public hospital	62 (61.4)	5 (2-9)	
• Private hospital	10 (9.9)	2 (1-2)	
• Mixed	29 (28.7)	2 (1-5)	

for 0.4% (range 0-5.8%) of outpatient clinic presentations. For each clinician, the IPV-related injury prevalence was calculated from reported IPV-related injury presentation and overall number of clinic patients seen per year. When asked to estimate the prevalence of IPV-related injuries in orthopaedic clinics, only 18.8% of clinicians reported that their experience correlated with the true incidence, with the majority believing it was more common. Patients with injuries due to IPV were more likely to present to public than to private outpatient clinics (5 vs. 2, $p < 0.05$) (Table 1). Female clinicians reported seeing a greater number of patients with IPV-related injuries in the past 12 months (5 vs. 3, $p = 0.02$) (Table 1).

Clinician perceptions

In terms of clinician perceptions, 92.1% of survey respondents either 'agree' or 'strongly agree' that IPV is a significant public health issue. 85.1% of the clinicians either 'agree' or 'strongly agree' that it is important for healthcare workers to ask patients about IPV in the orthopaedic outpatient clinic. These findings did not significantly vary when stratified by clinician gender, level of experience, practice setting or rurality. Only 28.5% of clinicians

'agree' or 'strongly agree' that IPV is a common reason for presenting to outpatient services, with this perception being more common among female clinicians ($p < 0.001$) (Fig. 1).

Screening

When surveyed about screening, 80.2% of clinicians reported asking patients if IPV led to their injury if the history or injuries raised suspicion. Screening for IPV injuries was not impacted by clinician gender, practice setting or rurality. Among those who do not routinely ask patients about IPV (17.8%), reasons cited included not feeling comfortable asking ($n = 9$), lacking time ($n = 7$), believing that it is not the role of the surgeon ($n = 3$), or believing that the injuries were not suspicious ($n = 2$).

Barriers

The most common perceived barriers to identifying and managing IPV were partner attendance in the consult, time constraints, lack of privacy and lack of social supports (Table 2). However, 95% of clinicians reported either complete privacy or some access to a private room within their clinic. Only 22.8% of clinicians surveyed

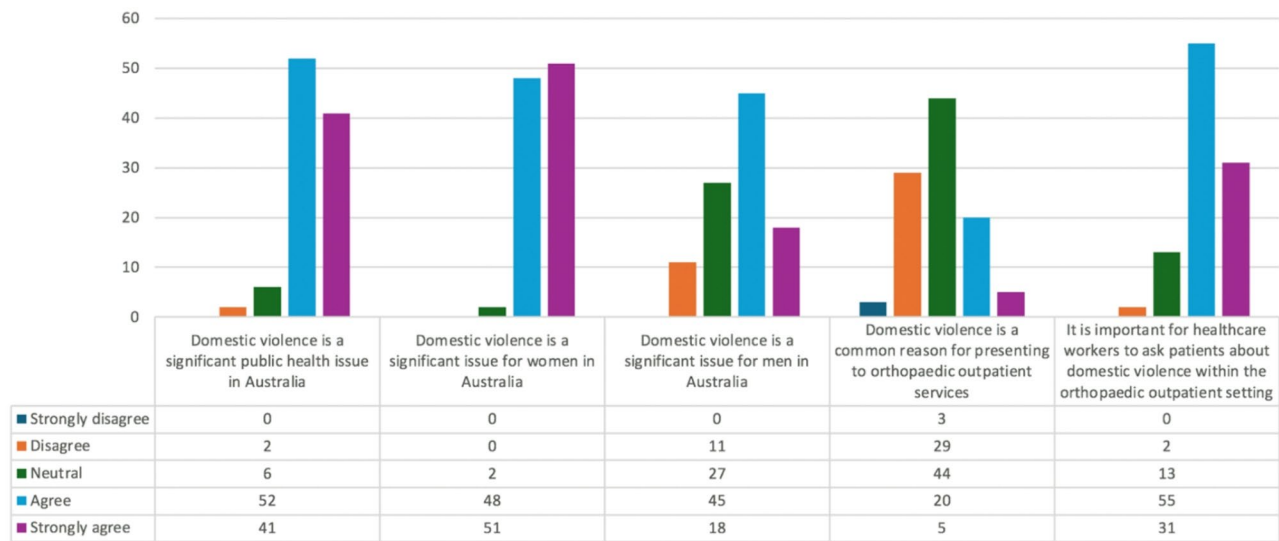


Fig. 1 Orthopaedic clinician survey responses regarding perceptions of IPV

Table 2 Clinician perceptions on the barriers to disclosure of IPV in the orthopaedic outpatient setting

	Total	Male clinician	Female clinician
Partner attending with patients	84	51	33
Time constraints	75	61	14
Lack of privacy	58	33	25
Lack of social supports in clinic	57	32	25
Clinician gender	29	17	12
Clinician feelings (Don't want to appear abrupt, judgmental or prejudiced, fear of complaints, concern patient might feel uncomfortable, clinician feeling uncomfortable)	6	0	6
Lack of awareness	3	1	0
Patient feelings (Patient may feel guilt or shame, patient may fear punishment or reprisal for disclosure)	2	0	1

reported having received training in identifying and assisting victims of IPV.

Discussion

IPV is a recognised global health issue, and recent Australian statistics report a 30% increase in the number of deaths related to IPV from 2021 to 2023 [11]. Studies have shown that as many as 38% of women visiting emergency departments have experienced IPV in the 12 months preceding their visit [12]. Musculoskeletal trauma accounts for up to 42% of those presentations, rendering this pathology the second most common affliction after head injury [4, 13, 14]. The most common orthopaedic injuries related to IPV are sprains, fractures and dislocations, often occurring in the upper limb [15]. Orthopaedic outpatient clinics are therefore an ideal place to identify and assist patients who are victims of IPV [16]. Current international literature suggests that IPV-related injuries constitute 1 in 50 orthopaedic outpatient clinical

presentations [17]. There are no prior studies regarding injuries related to IPV in the Australian orthopaedic outpatient clinic setting. Our findings regarding the Australian orthopaedic experience align with a recent systematic review of literature predominantly sourced in America [18]; namely, that IPV is underreported in orthopaedic clinic settings, and that there appears to be a role for increased screening and education.

This study indicates that while 92% of surveyed Australian orthopaedic clinicians believe that intimate partner violence is a significant health issue, only a quarter credit IPV as a common precipitating factor for presentation to orthopaedic outpatient clinics. The majority of respondents believed that IPV related orthopaedic injuries represent between 1 and 5% of all orthopaedic injuries seen in a hospital or outpatient setting. Similarly, a survey of 186 Canadian orthopaedic surgeons noted that 96% of the cohort believed that fewer than a tenth of their patients sustained injuries related to IPV, with 80%

of surgeons believing these presentations to be exceedingly rare [19]. In comparison, the American Academy of Orthopaedic Surgeons has identified IPV as a significant issue and has stated that screening and appropriate identification of IPV injuries should be performed by all orthopaedic surgeons [19]. Most public hospital orthopaedic outpatient clinics consist of at least 25 patients per clinic, with more than one clinic per week. It therefore stands to reason that on average most orthopaedic services would treat at least one patient with an injury related to IPV per week [5]. Our study revealed that the reported number of actual disclosures in the Australian outpatient setting is much lower than this (0.4%). This discordance suggests that there are barriers preventing the disclosure and identification of these injuries in Australian orthopaedic outpatient clinics, precluding patients from accessing vital services.

Potential barriers to patients disclosing injuries related to IPV can be categorised as clinician related or patient related [20]. Clinician related factors identified in our study confirm that of the previous literature, and include time constraints, lack of privacy, lack of understanding and education, and a lack of social supports available in outpatient clinics [21]. Patient related factors include not having an opportunity to disclose the aetiology, fear of repercussions, cultural or language barriers as well as fear of not being believed. There are many screening programmes available in different healthcare centres, with no consensus regarding which programme is most useful at identifying IPV [22]. Direct questioning has been shown to be the most efficacious method in identifying IPV – Sprague reported that 90% of female patients would prefer clinicians actively screen for IPV, and 80% believed that this would improve their ability to access help [23]. However, in practice, only 2% of members of the orthopaedic multidisciplinary team routinely screen patients via this method [24].

Clinician gender and experience

Our results demonstrate that female clinicians treated more patients per year with injuries reported to originate from IPV when compared to their male counterparts. As the majority of IPV victims are female, it may be postulated that female patients are more likely to disclose IPV to other females; alternatively, female clinicians may be more likely to ask about IPV. Prior surveys of American residents and physicians found that males were less likely to screen for IPV [25, 26]. If so, the lack of choice of clinician inherent to the public system may provide a large barrier to disclosure. This study also found that clinician experience is important in identifying injuries related to IPV, with consultants and clinicians with over 20 years of experience more likely to enquire regarding IPV.

Privacy

Despite most clinicians having access to private rooms in their clinic setting, a lack of privacy was a perceived barrier to identifying IPV-related injuries. Fifty-eight respondents noted a lack of privacy as a barrier, although only five clinicians reported no access to a private room. A 1991 national survey of attitudes toward family violence in the American population reported that women experiencing IPV identified medical providers as the least effective professional source for help, despite frequent healthcare utilisation [13]. Many fracture clinics, particularly in older hospitals, are not conducive to having personal and delicate conversations. Maintaining the confidentiality of IPV victims is of paramount importance because of the sensitive nature of the topic [27]. We recommend having a private room or space in which an IPV coordinator can speak to patients about IPV in every clinic. The subject should not be broached with the patient's partner, friends, or family in order to respect the patient's safety and confidentiality [28, 29]. Victims should be treated in a manner that minimises their anxiety, shame, and fear, assuring them that the abuse is not their fault [28].

Training

While orthopaedic clinicians are generally well versed in recognising non-accidental injuries in children, and a large body of research is available to support this, 77% of clinicians in our study have not received formal training in identifying injuries related to IPV and supporting victims in the outpatient setting [30, 31]. Wong et al. found that doctors often do not feel comfortable counselling women who disclose IPV [32]. In a cross-sectional survey, medical students and residents reported that they had previously received training on how to screen for IPV, but felt that the use of these skills had been 'trained out' by senior members of the orthopaedic team [33]. Della Rocca et al. surveyed Canadian orthopaedic surgeons and noted that they often felt uncomfortable enquiring about IPV; that they did not have appropriate training to do so; and that it was not part of their role as an orthopaedic surgeon [6]. The World Report on Violence and Health advises that orthopaedic surgeons have the responsibility to educate themselves so that they can appropriately recognise and support victims of IPV [2]. Patients with IPV related injuries are more likely to be of lower socioeconomic background and therefore more likely to be seen in a public clinic setting [34]. In these clinics they are more likely to be treated by junior staff, reinforcing the need for adequate training at a registrar level. Zillmer has suggested that orthopaedic surgery training should include education on 'identification, inquiry about safety, and activations of community services' [13]. An education programme designed specifically for orthopaedic

clinicians, trainees and administrative personnel in fracture clinics has shown efficacy in improving staff readiness to manage IPV [35, 36]. In an Australian context, an education programme could be mandated as part of registrar training which would ensure standardisation across hospital sites. Modules incorporated into surgeon continuing professional development requirements would also be beneficial.

The current study is not without limitations. In particular, this study has a low sample size and response rate, which could indicate non-responder bias. Although the exact number of AOA affiliated surgeons and trainees is available information, this is not so for non-training registrars who were eligible for inclusion in this study. As such, it was not possible to calculate the response rate, but we suspect it is low, based on the response rate to similar surveys in the literature [3]. Our results are limited to Australian orthopaedic clinicians, and may not be generalisable to other populations. Finally, answers regarding prevalence of injuries related to IPV are based on clinician recall, and prospective study design or patient surveys would provide greater accuracy.

However, this study revealed clear disparities between rates of IPV in the Australian community, rates of reported orthopaedic clinic IPV presentations in the literature, and clinician reported rates of IPV disclosures. The findings suggest that IPV injuries are currently being under-reported or under-recognised in Australian orthopaedic outpatient clinics. The orthopaedic clinician is well placed to play a pivotal role in the identification of IPV related injuries and facilitate onward referral to assist IPV victims [29]. Our findings provide a better understanding of the barriers to identifying patients with IPV related injuries in orthopaedic outpatient clinics and highlight the need for systemic changes to improve orthopaedic clinicians' ability to identify and care for victims of IPV.

Abbreviations

IPV Intimate partner violence
AOA Australian Orthopaedic Association

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Author contributions

AS- Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Project administration, Writing- original draft, review & editing. NP- Data curation, Investigation, Methodology, Project administration, Writing- original draft, review & editing. BD- Data curation, Formal analysis, Software, Validation, Writing - review & editing. DG- Data curation, Investigation, Methodology, Supervision, Writing - review & editing. BS- Data curation, Investigation, Methodology, Supervision, Writing - review & editing.

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Data availability

The datasets used and analysed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethics approval

Ethics approval has been granted by Human Research Ethics Application (HREA). Approval number: 2022/ETH01657: Clinician survey regarding domestic violence related injuries in orthopaedic clinicians. This research project was deemed 'negligible risk' as it utilised de-identified survey data obtained from clinicians. There are no risks associated with participation. Participants were contacted by email and informed consent was indicated in writing. The benefits of assessing the quality patient care and informing future research on the topic outweigh the minimal risks of harm associated with the study. No funding arrangements have been made.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

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