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**Paramedic identification and management of victims of
intimate partner violence: A literature review**

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Review

Paramedic identification and management of victims of intimate partner violence: A literature review

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Abstract

Introduction

Intimate partner violence (IPV) occurs between adults of the same or opposite sex in a current, or past, intimate relationship. The aim of this paper is to review the literature regarding paramedic confidence, capacity and accuracy when identifying adult victims of IPV and subsequent management of the scene when IPV is suspected or identified.

Methods

A review of the literature using Ovid MEDLINE was conducted; five articles met the inclusion and exclusion criteria.

Results

Results show a consistency in findings across research areas in Australia, Canada and the United States and are clear in four separate areas: paramedics demonstrate a high degree of accuracy in identifying IPV victims; professional training effectively increases paramedic knowledge of IPV; greater than 50% of the paramedic population surveyed felt underprepared to deal with an IPV scene; and the majority of surveyed paramedics attend between one and 10 IPV scenes per year.

Conclusion

This review indicates that paramedics have the capacity to accurately identify IPV victims, and that paramedics recognise a deficit in their professional IPV training. Further research is required, using a robust sample size, to construct appropriate training packages and guide improvement to paramedic clinical practice guidelines.

Keywords:

adult; emergency medical services; emergency medical technicians; domestic violence; spouse abuse; intimate partner violence

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Introduction

Intimate partner violence, a form of domestic violence, occurs between adults of the same or opposite sex in a current, or past, intimate relationship (1-4). A well-known risk factor for both injury and death among victims, domestic violence is also used to describe child abuse and elder abuse (2). Recognised as a serious public health issue worldwide, intimate partner violence (IPV) studies in Australia, Canada and the United States (US) indicate a significant cost to the health care system in each country contributing as much as 8% of the burden of disease, higher than other well known risk factors (2,4-9).

A community-based survey conducted in the US (6) indicated that 51% of respondents knew someone who had been a victim of IPV and 36% of respondents would consider contacting paramedics as a first contact for help instead of law enforcement (2,6). This indicates that paramedics have a unique opportunity to see IPV victims in their homes, potentially observing and identifying IPV without requiring prior notification. Paramedics represent a critical support and referral resource for victims of IPV who may struggle to ask for support through fear of potential ramifications (2,4,8,9) including fear of retribution from their partner, fear of being judged by health professionals, police, friends or family and fear of not being able to survive on their own should their partner leave them. While transporting to hospital, paramedics have an opportunity to interact with the patient away from the abuser, managing the situation skilfully, confidently and confidentially, creating the opportunity for the IPV victim to feel safe enough to ask for the support they need.

Paramedics consistently report attendance of between one and 10 IPV cases per year, with some attending as many as 20 IPV cases per year (1,4-10). A number of studies have investigated paramedic knowledge of IPV, accuracy when identifying IPV and confidence in dealing with IPV (3,4,8,9,11). Overwhelmingly, these paramedics identify a deficit in their own IPV knowledge and desire more formal training in this area (1-4,7,8,10,12). Effectiveness of training, specifically for paramedics, has been shown to be effective at improving awareness and understanding among participants, (3,8) irrespective of how detailed the formal training is. Therefore, if paramedics encounter IPV frequently, feel underprepared to effectively manage the IPV scene, and desire more formal training with additional training packages designed to improve the paramedic knowledge base will also improve IPV clinical practice guidelines.

Confidence is defined as the concept of reliability or trust in a person to carry out a desired task in an appropriate way. Capacity refers to a person's ability to retain and understand information, while also reproducing it accurately and consistently. Accuracy can be described as perfection, without alteration of the facts or deviation from the absolute

truth. The aim of this paper is to review the literature regarding paramedic confidence, capacity and accuracy when identifying adult victims of IPV and subsequent management of the scene when IPV is identified or suspected.

Methods

A literature review using Ovid MEDLINE (from 1946 to October 2015) was conducted. MeSH terms and keywords used in the search were: abuse, adult, air ambulances, ambulances, domestic violence, emergency medical services, emergency medical technicians, EMT, EMS, paramedic, prehospital, pre-hospital, domestic violence, family violence, spouse abuse, partner violence, intimate partner violence, IPV, transportation of patients, violence.

Articles were included if they specifically described IPV and related to the pre-hospital setting. Articles were excluded if they solely related to children, child abuse, elder abuse, mortality resulting from domestic violence or where patients were self-presenting at hospital emergency departments. Figure 1 shows a PRISMA flow diagram of the article inclusion and exclusion process.

Results

A total of 408 documents were found. Titles were examined for relevance, records excluded (n=129) that did not relate to IPV or were in a language other than English. Of the 279 articles that remained, exclusions were made (n=274) if they related to children, youth, hospital emergency department, patient self-represented to hospital, or not specifically relating to pre-hospital (Figure 1). Overall, five studies were included which assessed paramedic knowledge of IPV, identification of IPV and frequency of paramedic attendance at IPV scenes (Table 1).

Accuracy of paramedic identification of IPV was examined in the US by Weiss et al (11) through comparison data between the treating paramedic and an independent/impartial observer. The observer followed a normal paramedic on shift and completed a 10 question Domestic Violence Scene Assessment Screen (DVSAS) while the paramedic treated a patient, which was the observer's only duty during that time. The observer then conducted a confidential conversation with the patient, which the paramedic did not witness. Subsequently the patient was asked to complete a five question Abuse Assessment Screen (AAS). Once the patient had been admitted to hospital the paramedic completed a DVSAS based on memory of the scene. Weiss et al (11) found that from 43 transports to hospital, there was an 81% (n=35) correlation between paramedic assessment and observer assessment. They also identified a 60% (n=9 of 15) correlation between patient and observer assessment.

Several studies assessed paramedic training in the US (3,8). Weiss et al (3) used a 12 question multiple-choice questionnaire completed before (pre-test), and 4–6 months after, a 3-hour workshop (post-test) that was delivered within a typical continuing professional education setting. Hall and Becker (8) used a different 12 question multiple-choice questionnaire, completed pre-test and immediately post-test a 2-hour intensive training program. Of the 46 paramedics who participated in the Weiss et al (3) study, only 41% (n=19) completed the post-test questionnaire with a reported overall improvement of 17% in accuracy of answers (54% vs. 71%, $p<0.05$). Hall and Becker (8) included 33 paramedics in their study with 100% of participants completing the post-test questionnaire and 91% (n=11) of the 12 questions showing an improvement in accuracy of answers. Hall and Becker (8) also conducted an interactive session post-training whereby the paramedics voiced concern about their ability to have a positive impact on the IPV scene.

Mason et al researched Canadian paramedic exposure to IPV via a 23 question short answer interactive web survey located on the Ontario Paramedic Association (OPA) website for 3 months (9). The OPA had a membership of 1326 at the time of the survey and recorded an average 650 visits to their website each month. Paramedics responded to the research request (n=480) and, because respondents were given the opportunity to leave some questions unanswered if they wanted to, data analysis was calculated based on the number of actual answers to each specific question irrespective of the total number of survey respondents. In the past 12 months, 65% (n=252 of 345) responded to between one and 10 IPV calls. Of all the respondents, 64.3% (n=241 of 375) transported IPV victims some of the time, 29.3% (n=110 of 375) transported IPV victims most of the time and 83.5% (n=303 of 375) said the reason for non-transport was patient refusal. Desire for additional formal IPV training was expressed by 84.5% (n=321 of 381) of participants.

Sawyer et al (4) surveyed Australian paramedics exposure to IPV using a 16 question combination binary/Likert-scale/short answer questionnaire. Of 50 respondents, 90% (n=45) had responded to at least one IPV call in the past 12 months with the average number of IPV calls being 3.66 in a 12-month period. Half of the participants (n=25) stated IPV victims are never transported to hospital and 64% (n=32) stated patient refusal is the reason for non-transport. The majority of participants felt only somewhat prepared to deal with IPV cases (60%, n=30) and believe additional training is required (50% n=12 of 24) to address this deficiency in capability. Table 2 summarises the five studies.

Discussion

This literature review indicates frequent self-reported paramedic attendance at the IPV scene (4,9,11), a perceived

deficit in paramedic IPV training (3,8) and a demonstrated capability of paramedics to identify IPV victims (11).

Attending the IPV scene is reported as a frequent occurrence by paramedics in Australia, Canada and the US with small studies showing occurrence of attendance between one and 10 times in a 12 month period (4,9,11).

The focus of this literature review was the 16 years between 1999 and 2015 and, although IPV discussion of the nature discussed in this review has been described earlier, the timeline was restricted in order to maintain relevance to current pre-hospital environments (12). Deficit in professional paramedic training on IPV is commonly cited as an area needing attention, particularly given the stated frequency of attendance at IPV cases and paramedic requests for more knowledge (2-4,7-10,12). Although previous publications have described the need for further education in this area, further research needs to be conducted to provide a foundation for development of appropriate training packages. Hall and Becker (8) showed how an individual 2-hour intensive training program increased paramedic knowledge through the application of pre- and post-test methodology. Similarly, Weiss et al (3) conducted a training program within a regular, scheduled, continuing professional education environment for paramedics. It had a more general design but was evaluated similarly using pre- and post-test methodology. Interestingly, the more robust training program did not deliver incremental benefits, as the response from paramedics in both studies (3,8) was consistently in favour of more professional IPV training, expressing an unpreparedness to deal appropriately with IPV in the community. Confirmation that this education requirement broadly applies can be obtained by conducting additional studies and gathering information from different paramedic communities. Future study design would need to include a larger sample size to gather sound statistical evidence, thereby establishing the best platform for change in paramedic IPV clinical practice guidelines. Thorough data collection from patient care records, regarding the frequency of IPV attendances, would provide a solid basis for development of future research which will ultimately guide the construction of required pre-hospital educational training packages. Paramedics need a thorough depth of knowledge and skills in order to confidently and appropriately manage the IPV victim and environment.

Sawyer et al (4) conducted the first Australian research in this area using a 16-question combination binary/Likert-scale/short answer questionnaire and identified a deficit in paramedic perception of preparation to deal with victims of IPV. The questionnaire was given to paramedics in a 2-hour IPV workshop, however it is not clear as to whether this was done at the beginning or end of the training session. The purpose of the study was to identify current understanding and awareness of IPV among Australian paramedics.

Mason et al (9) had previously conducted similar research in Canada using a similar questionnaire, however via an interactive web based survey published on a paramedic association website. Interestingly the results of both studies (4,9) are similar, while both population groups are limited in size and further research is warranted, it suggests that paramedic concern regarding deficit in professional IPV training and preparedness to deal with IPV in the community is widespread.

Weiss et al (11) conducted a study to establish the accuracy of paramedic identification and reporting of IPV. Utilising a DVSAS and an AAS it was evidenced that paramedics had a high degree of accuracy, compared to an independent observer, when identifying IPV. Again, this study deals with a relatively small population group, however it presents encouraging data regarding the capacity for paramedic identification of IPV as it indicates that paramedics have the ability to accurately identify IPV during the course of their normal duties. Historically this has been the responsibility of health care professionals in the hospital system and subsequently educational resources have been specifically focused on supporting them (8). Results from this review indicate that paramedics also have the capacity to fulfil the role of identifying IPV victims.

Paramedics are called on to provide emergency medical care in a patient's own home. Accordingly they are in a position to gain a unique insight into the living arrangement and dynamic of the home environment, something that doctors and nurses rarely have the opportunity to witness. It is crucial to equip paramedics with the training and tools they need in order to have the best opportunity to identify and treat every condition that they are likely to meet, and the research already conducted indicates that IPV is one condition in which paramedics identify the need for further training.

Intimate partner violence occurs in secret, behind closed doors and is often not discussed openly or freely. Doctors and nurses have been trained to identify potential victims of IPV and conduct screening, education and referral components of their care when the need arises. However, this management plan has the opportunity to only address those victims that are treated within the medical establishment. Paramedics do not transport 100% of patients that they see, either because the patient refuses or does not require transport. Irrespective of the reason, it means that there are IPV victims who potentially never make it to hospital. Their only interaction with the medical field is through paramedic attendance in their own home.

Intimate partner violence is a community issue. We have a societal obligation to help IPV victims, to provide as many opportunities for assistance as possible, especially in a way that can easily be accessed and utilised by them. Paramedics frequently appear in the media, on television and in the movies. Everyone knows what a paramedic is and that a call to the

emergency services will result in attendance at their home by a paramedic. Paramedics are highly respected health care professionals and are in a unique position to interact with community members in the home environment. More effort is required to ensure paramedics have the resources necessary to provide the IPV victim with the highest possible standard of care.

Limitations and future studies

The context of this literature review is a focus on the pre-hospital setting which has excluded a number of potentially relevant studies undertaken in emergency departments and other acute care settings across the world. Further to this, the use of additional electronic databases and grey literature would add further weight to the findings presented in this review. Finally, Australian research is limited so information from the US and Canada is assumed relevant to Australia.

The included studies provide data from small subsets of each community and suggest that similar statistics could be found in a broader population, however, studies conducted in larger numbers would be more robust and therefore provide conclusive findings and a strong basis for changes to clinical practice guidelines.

Future studies need to be conducted, however, given the nature of existing research being of small sample size and across different countries, it would be a good idea to combine resources nationally, or internationally, in order to substantiate recommendations and create effective change regarding paramedic clinical practice when managing the IPV scene.

Conclusion

The literature indicates that paramedics are frequently faced with IPV in the community and are often the first, or only, professional on scene. The small studies included in this review indicate that paramedics have a demonstrated ability to accurately identify the presence of IPV in addition to a desire to learn more about it and how to work with victims of IPV. Training programs at both a basic and advanced level, although on a small scale, have proven effective in increasing demonstrable paramedic IPV knowledge. At this stage in the research we do not know enough to draw conclusions and further national, or international, studies would substantiate recommendations and ultimately allow implementation of improvements in paramedic clinical practice.

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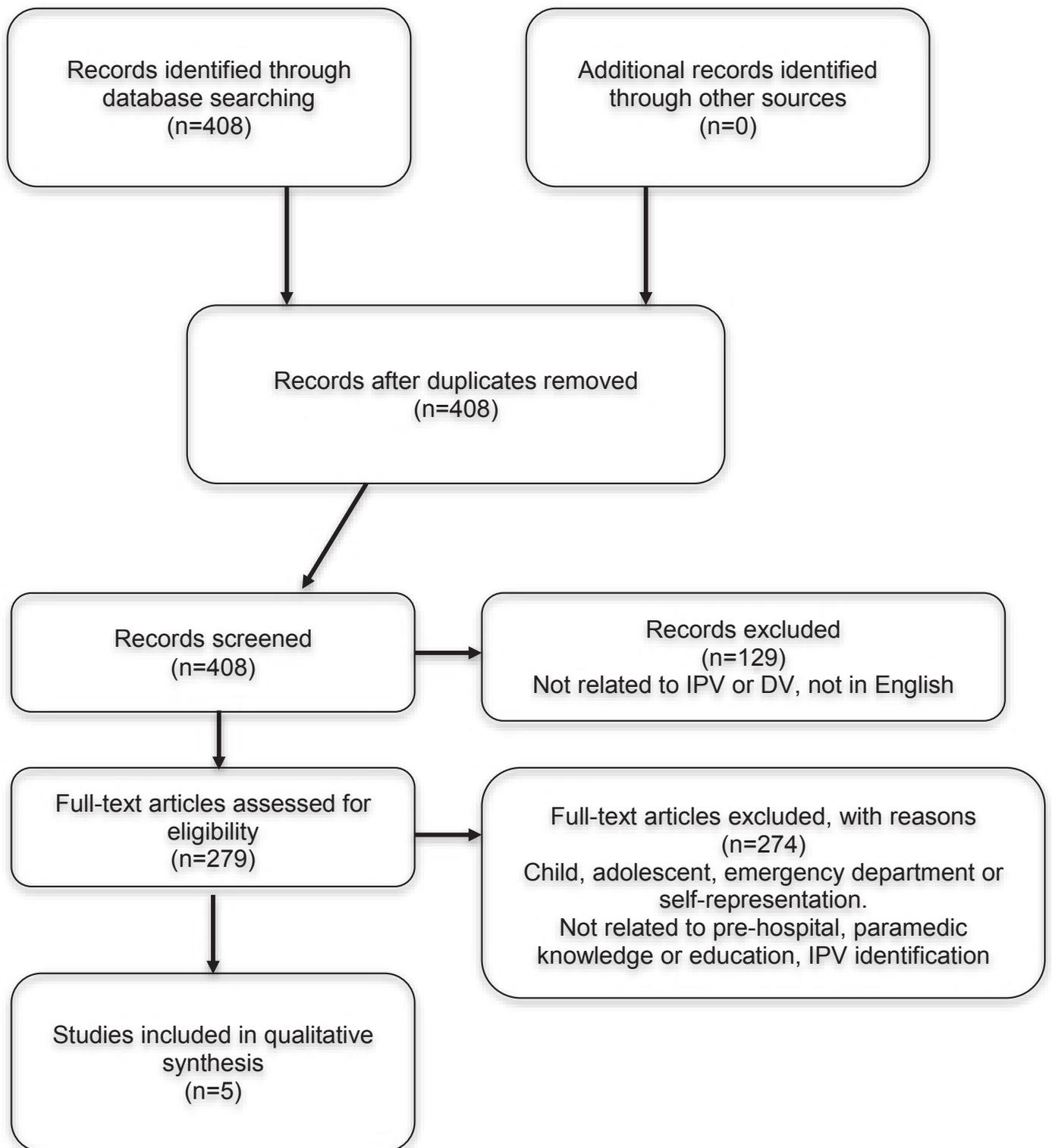


Figure 1. PRISMA flow diagram of the article inclusion and exclusion process
DV = domestic violence

Table 1. Located literature

Author, date and country	Participants	Study type	Key findings	Limitations
Weiss et al (12) 2000, US	43 transported incidents from a domestic location	Comparative study	81% (n=35) correlation between paramedic and observer of IPV identification	<ul style="list-style-type: none"> • Small sample size • DVSAS (paramedic/observer completion) assesses IPV in the present time while AAS (patient) assesses IPV over the whole lifetime • Two different observers used over 40 paramedic shifts, reliability between observers not assessed
Weiss et al (3) 2000, US	46 paramedics 100% pre-test completion, 41% (n=19) post-test completion	Prospective pre- and post-interventional study	17% overall improvement in accuracy of paramedics answers on a 12 question multiple-choice IPV questionnaire (54% vs. 71%, p<0.05)	<ul style="list-style-type: none"> • Small sample size • Only 41% completion of second questionnaire (post-training assessment)
Hall & Becker (8) 2002, US	33 paramedics, 100% pre-test and post-test completion	Training model, pre-test/post-test survey Interactive post-training session	<ul style="list-style-type: none"> • 91% (n=11) of questions on a 12 question multiple-choice IPV questionnaire showed improvement in accuracy of paramedics' answers • Paramedics expressed concern about ability to have a positive impact on the IPV scene 	<ul style="list-style-type: none"> • Small sample size • Specific data and analysis of data not published therefore cannot be verified for validity or relevance
Mason et al (9) 2010, Canada	480 paramedics, questions allowed to be left unanswered, therefore data analysis adjusted to reflect actual responses to specific questions	Interactive, web based short answer survey, 23 questions	<ul style="list-style-type: none"> • 65% (n=252 of 345) responded to 1-10 IPV calls in 12 months • 64.3% (n=241 of 375) sometimes transport IPV victims • 29.3% (n=110 of 375) mostly transport IPV victims • 83.5% (n=303 of 375) said patient refusal cause of non-transport • 84.5% (n=321 of 381) expressed need for more formal IPV training 	<ul style="list-style-type: none"> • Unanswered questions permitted • Answers reliant on paramedic recall • Questionnaire not published as part of the study design
Sawyer et al (4) 2014, Australia	50 paramedics	16 question questionnaire using combination of binary, Likert-scale and short answer questions	<ul style="list-style-type: none"> • 90% (n=45) responded to at least one IPV in 12 months, average n=3.66 • 50% (n=25) IPV victims never transported to hospital • 64% (n=32) patient refusal is reason for non-transport • 60% (n=30) somewhat prepared to deal with IPV cases • 50% (n=12 of 24) additional IPV training is required 	<ul style="list-style-type: none"> • Small sample size • Questions were limited in the information that could be gathered

Table 2. Direct result comparison

Author, date and country	Accuracy of paramedic IPV identification	Improvement in paramedic IPV knowledge	Paramedic exposure to IPV	Reason for non-transport to hospital	Additional IPV training
Weiss et al (12) 2000, US	81% compared to an independent observer	Not assessed	Not assessed	Not assessed	Not assessed
Weiss et al (3) 2000, US	Not assessed	17% overall improvement (54% vs. 71%, p<0.05)	Not assessed	Not assessed	Not assessed
Hall & Becker (8) 2002, US	Not assessed	91% of questions showed improvement	Not assessed	Not assessed	Expressed concern about ability to have a positive impact on IPV victims
Mason et al (9) 2010, Canada	Not assessed	Not assessed	65% (n=252 of 345) responded to 1-10 IPV calls in 12 months	64.3% (n=241 of 375) sometimes transport IPV victims 29.3% (n=110 of 375) mostly transport IPV victims 83.5% (n=303 of 375) said patient refusal cause of non-transport	84.5% (n=321 of 381) expressed need for more formal IPV training
Sawyer et al (4) 2014, Australia	Not assessed	Not assessed	90% (n=45) responded to at least one IPV in 12 months, average n=3.66	50% (n=25) IPV victims never transported to hospital 64% (n=32) patient refusal is reason for non-transport	60% (n=30) somewhat prepared to deal with IPV cases 50% (n=12 of 24) additional IPV training is required

Conflict of interest

The author declares she has no competing interests. The author of this paper has completed the ICMJE conflict of interest statement.

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