Student paramedic exposure to workplace violence: a scoping review.

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ABSTRACT

INTRODUCTION: Workplace violence (WPV) against healthcare professionals (HCPs), including student paramedics, is a global concern, with reported incidents ranging from physical to psychological abuse. The prehospital environment, characterised by its high-risk nature, presents unique challenges for student paramedics during clinical placements. To explore the extent and nature of WPV experienced by student paramedics during clinical placements, assess the impact of WPV on their training and psychological well-being, and identify existing support mechanisms and training provisions.

MATERIALS AND METHODS: Included were research or review articles specifically exploring WPV experienced by student paramedics during clinical placements. Exclusions were applied to articles not focusing on student paramedics, those not in English, and publications outside the specified time frame. A comprehensive search strategy was used across the databases CINAHL, Medline, EMBASE, EMCARE, and PubMed, supplemented by grey literature searches via Google Scholar and citation searching. Data extraction was facilitated through a synthesis matrix and themes were identified and analysed.

RESULTS: From 417 records identified, six articles were included, all conducted in Australia, revealing themes such as the risk and effects of WPV, lack of reporting, the role of the practice educator (PEds), and preparedness for WPV. Freedom of Information (FoI) requests to English Ambulance Services highlighted inconsistencies in recording WPV incidents and variability in support provided to student paramedics.

CONCLUSIONS: WPV significantly impacts student paramedics' educational experience and psychological health. There is a crucial need for improved education on WPV, standardised reporting mechanisms, and enhanced support systems. Collaborative efforts between ambulance services and higher educational institutions (HEIs) are essential to address these challenges and ensure a safer learning environment for student paramedics.

KEY WORDS: Workplace violence, student, paramedic, healthcare professionals, prehospital.

INTRODUCTION

Workplace violence (WPV) against healthcare professionals (HCPs) is a recognised concern globally [1,2] and, by definition, includes a spectrum of abuse such as physical, psychological, sexual, and racial maltreatment in an environment related to work [3]. HCPs frequently encounter both physical and verbal hostility not just from patients and their families but also from their colleagues [4]. The consequences of this violence not only endanger the staff acutely but also have a negative impact on psychological health, leading to increased burnout, stress, high turnover rates, and a reluctance to work in high-risk areas [5]. The prehospital setting and emergency services are recognised as a particularly challenging work environment, with a high rate of occupational risk, including workplace violence [5,6]. Globally, as many as one-quarter of paramedics have experienced physical violence and over a half have endured verbal abuse [7]. If anything, these figures are likely to be underrepresenting the extent of the problem.

Fjeldheim et al. [8] make a clear distinction between paramedics and student paramedics. They acknowledge that differences in experience, age, and the additional stress of academic work separate student paramedics from their fully qualified counterparts and therefore they require focused research. Consequently, the persistent issue of prehospital WPV inevitably extends into the educational sphere, particularly affecting student paramedics during their clinical placements.

In the United Kingdom (UK), student paramedics are integrated into healthcare settings through clinical placements, where they work closely with practice educators (PEds) [9]. This relationship is pivotal in bridging the gap between theoretical knowledge and practical skills [10]. However, it also introduces challenges, especially in the context of WPV. Student paramedics are often situated in a grey area between being learners and quasi-employees and, as a result, may face uncertainties about their rights and the support mechanisms available to them following WPV incidents. This ambiguity is exacerbated by support mechanisms through higher education institutes (HEIs) that may not be specifically tailored to health-related students who experience the high-risk environments and WPV that student paramedics encounter [11]. Unlike support systems designed for the broader student body, the challenges posed by the prehospital environment demand specialised support strategies that recognise the specific risks and pressures faced by student paramedics.

This review aims to explore the existing literature on WPV as experienced by student paramedics. By examining the intersection of higher education students and clinical placements within a challenging workplace, this study seeks to enhance understanding of WPV within out-of-hospital care settings and inform policy, practice, and educational frameworks to mitigate these challenges effectively.

MATERIALS AND METHODS

The scoping review was conducted in accordance with the Joanna Briggs Institute (JBI) methodology for scoping reviews [12] using Arksey and O'Malley's [13] five-stage framework of research question identification, literature search, study selection, data charging, and results summarisation and reporting.

1. Identifying the research question

A population, concept, context (PCC) framework informed the identification of a research question and guided the search strategy [14].

Population: Research or review articles that specifically explored student paramedics. Excluded were apprenticeship student paramedics who are often experienced employees, healthcare students on a course that did not lead to paramedic registration, and qualified staff.

Concept: The concept explored was WPV as experienced by student paramedics whilst on clinical placement.

Context: Exposure to WPV during clinical placements, no specific location limitations.

Question: In this scoping review, we aim to answer the question „*What are the experiences and impacts of work place violence on student paramedics during clinical placements?*" This research question aims to synthesise existing literature on the topic, providing a clear overview of the scope and scale of WPV against student paramedics during their clinical placements and its consequences.

2. Search for relevant studies

The search strategy aimed to locate published studies. An initial limited search of CINAHL, Medline and Embase was undertaken to identify articles on the topic. The text words contained in the titles and abstracts of relevant articles, and the index terms used to describe the articles were used to develop a full search strategy for CINAHL, Medline, EMBASE, EMCARE, and PubMed (see Table 1). The search strategy, including all identified keywords and index terms, was adapted for each included database and were searched up to the 20th April 2023. Grey literature was searched through Google Scholar and citation searching. The online software Covidence was used to manage and screen articles.

3. Selecting relevant studies

All five individuals of the research team (SB, JA, TI, CW, and KS) assessed the suitability of the published articles against the following inclusion criteria: any published research and review articles that contained any WPV experienced by student paramedics during clinical placement, written in the English language. Exclusion criteria were articles that did not explore any form of WPV of student paramedics in clinical practice, and were not in the English language.

To ensure consistency, a subset of studies underwent initial screening by the reviewing team collectively, consisting of SB, JA, TI, CW, and KS. Following this, each article was individually screened by two reviewers (SB and JA), independently assessing titles and abstracts. Any disagreements were resolved by a third reviewer from the research team. Subsequently, full-text examination was conducted independently by two reviewers. Studies at this stage were either included or excluded based on the predetermined criteria. Any conflicts during this process were resolved through consultation with the research team. The results of the search and the study inclusion process are presented in a Preferred Reporting Items for Systematic Reviews and Meta-analyses extension for scoping review (PRISMA-ScR) flow diagram (Figure 1) [15,16].
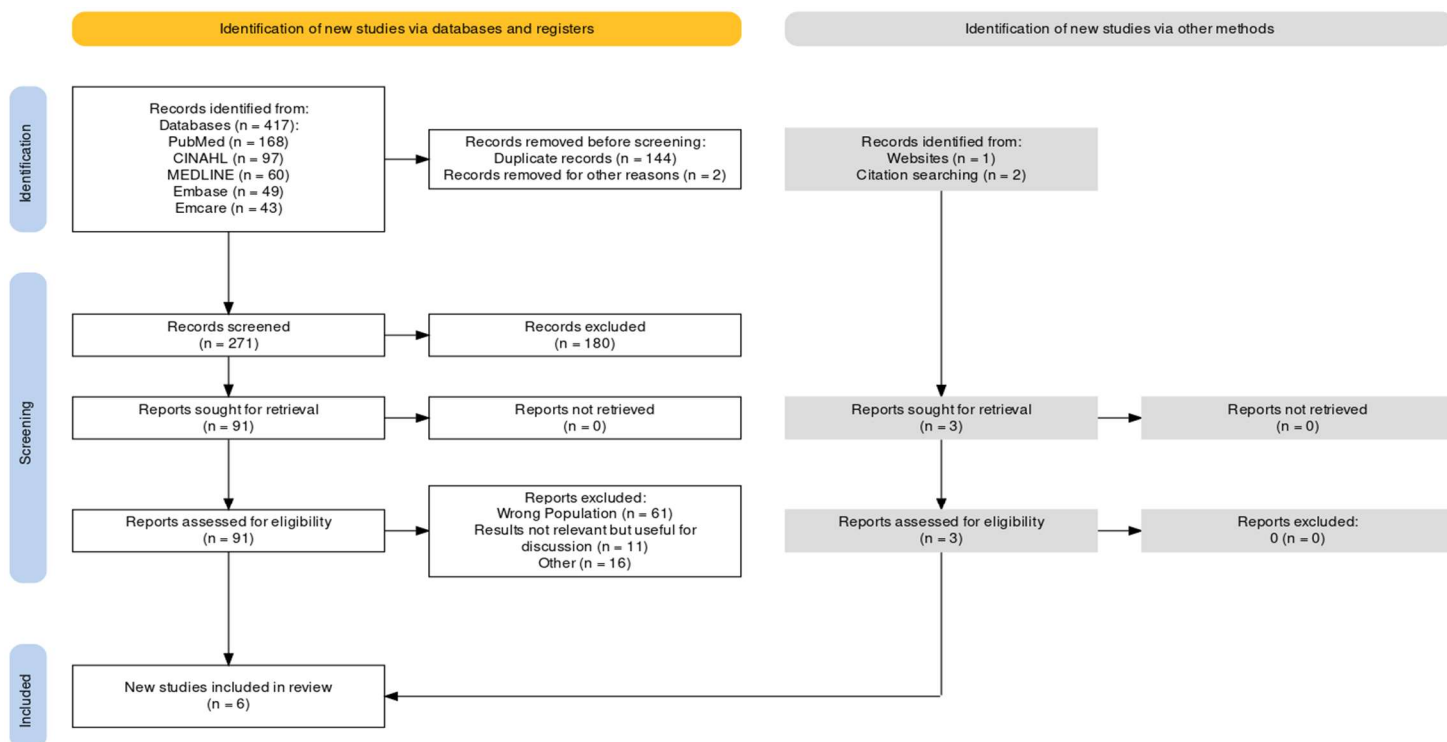

Figure 1. PRISMA flow diagram showing inclusion and exclusion strategy [16].

Table 1. Search Terms.

S1	*(MM "Workplace Violence") MeSH Subject Heading/ Major Concept*
S2	*SU Ambulances OR SU Emergency Medical Technicians OR SU Air Ambulances OR SU emergency medical services OR paramedic* OR ems OR emt OR prehospital OR pre-hospital OR first responder* OR emergency medical technician* OR emergency medical service* OR ambulance* OR HEMS OR Helicopter Emergency Services OR ambulance**
S3	*S1 AND S2*
S4	*Limit to English Language*

4. Charting the data

Data from the included articles was aided by a synthesis matrix to organise the information into author(s), year, title, object, study design, and key relevant findings (Table 2). This was reviewed by all of the research team (SB, JA, TI, CW, and KS). The extracted data were then analysed and organised into themes of risk and effects of WPV, a lack of reporting, the role of the PEd, and preparedness for WPV.

Table 2. Data extraction table.

Authors	Title	Year	Country	Type of Research	Aim	Population Size [n]	Major Themes
Boyle, M., and Mckenna, L. [20]	*Are paramedic and midwifery students exposed to workplace violence during clinical placements?*	2012	Australia	Questionnaire	To identify the type of workplace violence experienced by undergraduate paramedic and midwifery students and their responses to the violence.	**393** Participants	Negative effects of experiencing workplace violence. Lack of reporting. Lack of research. Need for education on workplace violence. Need for an improved reporting system. Need for further research.
Boyle, M., and Mckenna, L. [22]	*Paramedic and midwifery student exposure to workplace violence during clinical placements in Australia – A pilot study*	2016	Australia	Pilot study consisting of a questionnaire.	To identify the type of workplace violence experienced by undergraduate paramedic and midwifery students.	**136** Participants	Increased risk of workplace violence. Lack of reporting. Lack of research related to student paramedics. Need for education regarding workplace violence. Need for further research.
Boyle, M., and Mckenna, L. [21]	*Paramedic student exposure to workplace violence during clinical placements – A cross-sectional study.*	2017	Australia	Cross sectional study	To identify the type and number of workplace violence acts experienced by undergraduate paramedic students whilst on an ambulance clinical placement.	**133** Student Paramedics	Increased risk of workplace violence. Lack of reporting. Need for education regarding workplace violence. Need for reporting systems. Need for further research.The role of the mentor in supporting students.
Sheen, J., Boyd, L., Eastwood, K., Archer, F. and Leaf, S. [19]	*Student perceptions of adverse health events during ambulance clinical placements*	2012	Australia	Written Questionnaire	To investigate the frequency and nature of adverse health events experienced by student paramedics on clinical placement.	**56** Student Paramedics	Negative effects of experiencing workplace violence. Lack of reporting. Need for education on workplace violence. Need for further research. The role of the mentor in supporting students.
Mitchell, B. [18]	*Undergraduate paramedic student experience with workplace violence whilst on clinical placement.*	2021	Australia	Survey with semi structured interviews.	Identify how well university curricula prepare paramedic students for practice and the experience of paramedic students and their exposure to potentially violent situations whilst on clinical placement. Research question: Does an existing educational training programme assist undergraduate paramedic students in their preparedness to manage violence and aggression whilst on clinical placements and their lived experience.	**387** Students emailed the survey. **85** Completed surveys for analysis. **7** Students for semi-structured interviews.	Increased risk of workplace violence. Negative effects of experiencing workplace violence. Lack of reporting. Lack of research. Need for education on workplace violence. Need for an improved reporting system. Need for further research. The role of the mentor in supporting students.
McManamny, T., Boyd, L., and Sheen, J. [17]	*Occupational risks in undergraduate student paramedic clinical placements*	2013	Australia	Questionnaire and Focus Groups	To investigate paramedic students' experiences of occupational risks during clinical placements.	**122** Participants completed questionnaires. **12** Participants attended a focus group.	Increased risk of workplace violence. Negative effects of experiencing workplace violence. Lack of reporting. Need for education on workplace violence. Need for an improved reporting system. Need for further research. The role of the mentor in supporting students.

5.   Collating, summarising, and reporting the results

The extracted articles were collated, summarised, and reported in Table 2. Emerging themes were presented in Table 3. Freedom of Information (FoI) Requests were sent to all 10 English Ambulance Services on 23rd August 2022 asking the following questions:

1. *What is the Trust's protocol for recording violent incidents, specifically violence perpetrated by patients that involve student paramedics?*
2. *If it is recorded, how many students were involved in violent incidents since your Trust was formed, broken by year?*
3. *What is the protocol to support students who have experienced workplace violence whilst on placement?*

The FoI results were not used to inform the themes presented in the results.

Table 3. Key findings.

Risks and effects of workplace violence
- Prevalence of WPV: Student paramedics frequently encounter WPV due to dynamic, unpredictable environments during clinical placements. High-risk factors include working in isolation and dealing with intoxicated or confused patients.
- Forms of WPV: Verbal abuse is the most common form. Intimidation follows, with a gender-specific pattern observed: females face more verbal and sexual violence, while males encounter threats and physical assaults.
- Impact of WPV: Effects range from no fear to psychological disturbances (flashbacks, nightmares, mood changes, increased alcohol consumption), indicative of PTSD. However, these experiences do not deter career aspirations in paramedicine.

The role of the Practice Educator (PEd)
- Protective Measures: PEds often protect student paramedics from WPV by positioning them away from volatile situations or towards safer areas.
- Low Reporting Influence: The protective actions by paramedics contribute to the low physical violence reporting rates by student paramedics.
- Support and Bullying: PEds are crucial in offering advice and support, yet there are reports of WPV perpetrated by PEds and other ambulance staff, including bullying.

Lack of reporting
- Underreporting Issues: Significant underreporting driven by fear of repercussions and concerns over career progression. Students prefer informal over formal reporting due to fear of negative impacts on employment prospects.
- Barriers to Reporting: Power imbalances, lack of knowledge about available resources, and a need for more clarity on support mechanisms contribute to underreporting.
- Normalisation and Response: WPV is often viewed as part of the role, with a preference for discussing incidents informally. Calls for reformed, student-friendly reporting systems, including anonymous options, are widespread.

Preparedness for WPV
- Lack of Training: There's a notable absence of formal education and training on WPV prior to clinical placements, leaving students ill-prepared.
- Educational Needs: A demand for dedicated sessions on WPV, including communication, de-escalation, and breakaway techniques, to better equip students.
- Collaboration for Preparedness: The need for improved collaboration between HEI and ambulance services to enhance student preparation and support.

RESULTS

A total of 417 records were identified through searching the databases (figure 1). After removing duplicates, 276 studies were screened by title and abstract with 94 assessed through full text. Of this, the majority were excluded due to being the wrong population, primarily not being student paramedics. The review identified six articles from the databases (three articles), grey literature (one article), and citation searching (two articles) that explored WPV experienced by student paramedics whilst on clinical placements. All research extracted was conducted in Australia. Themes identified from these included risk and effects of WPV, a lack of reporting, the role of the PEd, and preparedness for WPV. From the 10 English Ambulance Service's FoI requests, seven responded.

Risks and effects of workplace violence

The reviewed articles consistently highlighted that student paramedics face a significant risk of WPV and the inherently dynamic and unpredictable environments in which paramedic students undertake clinical placement serve as a backdrop for frequent encounters with WPV [17-22]. Some of the high-risk environment factors that exacerbated the risk of WPV were attributed to working in isolation and dealing with intoxicated or confused patients [18]. McManamny, Boyd and Sheen [17] found that when patient clinical presentations such as hypoxia, dementia, and hypoglycaemia had been a contributor to the violence, students were more understanding and therefore less affected. This also appears to mitigate some of the immediate emotional impact of WPV [17].

Verbal abuse was identified as being the most commonly reported form of WPV experienced by student paramedics [18-22]. Specifically, Boyle and McKenna [22] found that 67% of student paramedics reported experiencing verbal abuse in clinical placement (Table 4).

Table 4. Paramedic student WPV exposure.

	Total [n]	verbal abuse	property damage	intimidation	physical abuse	sexual harrasment	sexual assault
Boyle and McKenna, 2012 [20]	84	16	0	7	1	1	0
Boyle and McKenna, 2016 [22]	393	71	*	67	*	*	*
Boyle and McKenna, 2017 [21]	133	28	*	13	1	1	0
Sheen, Boyd, Eastwood, Archer and Leaf, 2012 [19]	56	14	*	*	1	9	*
McManamny, Boyd and Sheen, 2013 [17]	122	5	*	*	6	14	*
Total [n] (%)	788	134 (17%)	0 (0%)	87 (11%)	9 (1.1%)	25 (3.2%)	0 (0%)

*not provided/measured

This finding is corroborated in a cross-sectional study, where verbal abuse, followed by intimidation, were reported as the predominant forms of WPV encountered [21]. There is a notable gender difference in the types of WPV experienced, with females more at risk of encountering verbal and sexual violence, whereas males are more often subjected to threats and physical assaults. This gender-specific pattern of WPV exposure was predominantly observed by Boyle and McKenna [22]. The effects of experiencing WPV varied from students feeling 'no fear' [20] to some students reporting psychological disturbances including flashbacks, nightmares, altered appetites, altered sleep patterns, moods, and increases in alcohol consumption following WPV incidents [17]. These symptoms are typical of post-traumatic stress disorder (PTSD). Despite this, these experiences did not deter students from pursuing a career as a paramedic [17].

The role of the Practice Educator

The results reveal a complex relationship between student paramedics and their paramedic mentors. PEds frequently assume a protective role towards student paramedics, engaging in actions such as shielding students from volatile situations or strategically positioning them in safer areas, such as the front of the ambulance during the transport of aggressive patients [17].

Boyle and McKenna [21] discussed that this level of protection from paramedics is likely to contribute to the low reporting of physical violence by student paramedics. Sheen et al. [19] indicates that PEds play a pivotal role in equipping student paramedics to handle WPV, offering valuable advice and providing a supportive and safe learning environment. Concerningly, McManamny et al. [17] report that in a third of WPV cases, the perpetrators were identified as PEds or other ambulance staff. Furthermore, Sheen et al. [19] reports instances where students experienced bullying behaviour from their PEds.

Lack of reporting

The collective findings from all of the studies retrieved highlighted a multifaceted issue surrounding the underreporting of WPV experienced by student paramedics during their clinical placements [17-22]. Significant barriers influencing this lack of reporting include a perceived power imbalance and fear of repercussions [18,19]. Students express concerns about potential negative impacts on their career progression and placement experience if they were to report WPV [19-22]. The reporting practices of students are also a barrier as they often opt for informal, verbal reporting rather than formal reporting systems, driven by fears that formal complaints could adversely affect their career prospects, as particularly noted in the pilot study by Boyle and McKenna [22]. This sentiment is echoed in their subsequent cross-sectional study, which further emphasises students' reluctance to formally report incidents for fear of jeopardising their employment chances [21]. The absence or underutilisation of formal reporting mechanisms leads to a lack of actionable data for hospitals and ambulance services [17]. This deficiency significantly restricts the capacity of these institutions to respond to or address WPV incidents, fostering a cycle of non-recognition and inaction that perpetuates the problem. As well as a reluctance to use formal feedback, McManamny et al. [17] found some students had a lack of knowledge of the available resources and Mitchell [18] found students wanted more information and clarity of formal support mechanisms.

The normalisation of WPV is also cited as a contributing factor [18] with more than half of students viewing WPV as an inherent part of the paramedic role. Both Sheen et al. [19] and McManamny et al. [17] report students found it most helpful to discuss incidents with friends, family, and peers. Despite this, all articles call for reformed reporting systems that students are more likely to use, including structures to allow for anonymous reporting [18,20].

Preparedness for WPV

The collective findings from the studies highlights a lack of preparedness of student paramedics for facing WPV during their clinical placement. A recurrent theme across the research is the absence of formal education and training on WPV prior to clinical placement [18,20,22]. Mitchell [18] found only half of student paramedics felt the education system had prepared them for clinical placement. Boyle and McKenna [22] emphasise the need for dedicated, standalone education sessions aimed at equipping students with the knowledge and skills to handle WPV. Universities should also consider adding occupational risk topics into the curriculum or adding information sessions as part of placement [17,22]. Boyle and McKenna [21] also found an absence of formal education on WPV as a significant oversight, leaving students potentially ill-equipped to manage, cope with, and report incidents of violence and aggression encountered in the prehospital setting. Students expressed a desire for more education on communication, de-escalation, and breakaway techniques, indicating a recognition among the student body of the importance of these skills in mitigating WPV [18]. Mitchell [18] and McManamny et al. [17] both comment on the need for better collaboration between universities and the ambulance service so students can be better prepared and supported.

Reporting and Incidents in English Ambulance Services

Out of the seven ambulance services who responded to the FoI request, five documented incidents of WPV through established reporting systems such as Datix or Ulysses Safeguard. Several ambulance services report challenges in providing detailed data breakdowns, attributed to constraints inherent in their reporting systems, adherence to data protection laws, or the generic nature of their data collection methodologies. However, two of the ambulance services reported an increase in WPV incidents specifically involving student paramedics over the last 10 years. The provision of support mechanisms for student paramedics subjected to WPV was provided by six of the seven respondents and support channels included risk departments, placement teams, and referrals to occupational health and counselling services. One ambulance service specifically stated they do not distinguish between student paramedics and their staff.

DISCUSSION

Impact on education and training

The prevalence of WPV against HCPs, particularly full time BSc student paramedics during clinical placements, poses significant concerns for both safety and well-being, necessitating immediate and targeted interventions. The evidence drawn from the literature underlines the multidimensional impact of WPV, ranging

from verbal abuse to physical assaults to psychological threats [3,18-22], which fundamentally undermines the educational and training framework for paramedic students. However, it is also clear that, despite the well documented risks of WPV in the clinical out-of-hospital environment [6,23,24], there is a paucity of evidence surrounding the incidence and impact of WPV specifically experienced by student paramedics. It is also unknown how stressful practice-based learning is to paramedic students and how well they are equipped to cope with that stress [25]. Some evidence suggests that there is a marked difference in experienced stress levels between year one, two and three nursing students [26].

There is a gender-dependant difference in the type of WPV experienced by student paramedics, with female's experiencing more sexual violence than males [17,20-22]. This is also seen in qualified staff, where female paramedics experienced sexual harassment and sexual assault [6,27,28]. A study conducted by Boyle et al. [29] focusing on qualified paramedics in Australia revealed that over a third of female paramedics had experienced sexual harassment, and 11.5% had been subjected to sexual assault. In reported instances of sexual harassment of qualified paramedics, which included men, women, and those who did not specify their gender, nearly half of the perpetrators were identified as fellow staff members [27]. Again, this is in line with the results of this literature review that found over a third of WPV incidents reported, the perpetrator was a PEd [17].

The exposure to WPV has profound adverse effects on the learning experiences of student paramedics. Such experiences not only impact their immediate psychological well-being but also have the potential to deter them from future career progression and retention within the healthcare sector [30]. This highlights the critical need for integrating violence prevention and management into paramedic curricula, ensuring students are adequately prepared to face and navigate these challenges. Interventions that have shown a beneficial effect on WPV encompassed transition programmes, workshops, resilience training, cognitive rehearsal training, additional training methods, and multimodal initiatives [31-35]. However, these studies concentrated on qualified nurses rather than students or the out-of-hospital setting. The absence of formal education and training on WPV, as our results have found, points to a significant gap in the current educational framework that must be addressed to safeguard student paramedics' safety and enhance their resilience.

Variability in recording WPV

There is a significant variability in how WPV incidents involving students are recorded across ambulance services. The absence of specific records for incidents involving student paramedics and the lack of differentiation between incidents involving the workforce and learners poses serious implications. It hinders the ability to accurately assess the prevalence and nature of WPV in clinical settings, thereby impeding the development of targeted interventions and collaborative support mechanisms between educational institutions and ambulance services. This needs to be accessible and its use encouraged.

Under reporting of WPV is complex and includes issues of power imbalance, normalisation, and lack of knowledge of formal support mechanisms [17-22]. This is a wider issue, with students from other healthcare courses, such as nursing and midwifery students, experience comparable levels of WPV during their clinical placement to student paramedics, with the majority of students not reporting incidents of WPV [36,37]. However, it is clear that there is a desire from student paramedics and researchers for reformed reporting systems that students are more likely to use, including anonymised reporting [17-22].

Ambulance service and higher education policy

An examination of ambulance services' policies relevant to education and practice-based learning revealed a significant lack of formal policies or standard operating procedures dedicated to supporting student paramedics in the event of WPV. Whilst some ambulance services apply existing support mechanisms to student paramedics, the inconsistency in practices, such as indicating when a student is on placement, heightens the risk of inadequate support. This inconsistency highlights the need for establishing clear, standardised policies that facilitate prompt and effective support for student paramedics exposed to WPV, ensuring communication and collaboration between practice placement providers and educational institutions. Addressing the issue of WPV against student paramedics extends beyond the establishment of policies within ambulance services. HEIs also have a responsibility, particularly in terms of establishing reporting systems and enhancing support structures for students who experience WPV and retention on the course [38]. Paramedic programs must tailor their support mechanisms to acknowledge the unique environments and risks their students face, particularly those related to WPV in high-risk healthcare settings. This means not only facilitating accessible reporting and support systems for students undertaking and returning from clinical placements, but also ensuring that these mechanisms are sensitive to the specific types of violence and challenges unique to the prehospital care context.

Policy development, while essential, may not be the sole solution to the problem [39]. The effectiveness of any policy is contingent upon its implementation and the culture within which it operates. For policies to be truly effective in mitigating WPV against student paramedics, they must be underpinned by a culture of safety, respect, and support that spans both the ambulance services and HEIs [40]. This cultural shift, and move away from normalisation of WPV, requires ongoing education, awareness-raising, and training for all stakeholders involved, including PEds and the student paramedics themselves. It also necessitates a collaborative approach that bridges the gap between policy and practice, ensuring that student paramedics feel empowered to report incidents of WPV and access the support they need without fear of stigma or reprisal.

Limitations

This scoping review, while comprehensive and systematic in its approach to identifying relevant literature, encountered several limitations. One of the primary constraints was the limited number of studies that met the inclusion criteria for this review. The scarcity of research specifically focused on WPV experienced by student paramedics significantly narrowed the scope of our findings and analysis.

This limitation is indicative of a broader gap in the literature and underscores the need for further empirical research. No review protocol was registered prior to conducting this review. Moreover, all identified studies were conducted in Australia. While these studies provide valuable insights into the experiences of student paramedics within the Australian healthcare context, the geographic concentration of the research limits the generalisability of the findings to other countries. Healthcare systems, educational frameworks, and WPV reporting mechanisms vary significantly across different regions and cultures. The focus on English-language publications may also narrow the scope of the review, potentially omitting valuable insights from non-English sources.

CONCLUSIONS

The exposure of student paramedics to violence during placements is a critical issue requiring immediate and coordinated efforts from stakeholders. The findings from this review call for a collaborative approach to policy formulation, educational programming, and workplace culture, aimed at safeguarding the educational journey and professional integrity of future paramedics. Addressing the gaps in recording WPV incidents and developing specific support policies for student paramedics are crucial steps towards creating a safer and more supportive learning environment. There is a clear gap in longitudinal research exploring the long-term effects of violence on paramedic students. Future studies should aim to unpick the contributing factors to violence and assess the effectiveness of various intervention strategies.

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