

TITLE

PARAMEDIC STUDENT EXPOSURE TO WORKPLACE VIOLENCE DURING
CLINICAL PLACEMENTS – A CROSS-SECTIONAL STUDY

RUNNING TITLE

Paramedic student exposure to workplace violence

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TITLE

Paramedic student exposure to workplace violence during clinical placements – A cross-sectional study

ABSTRACT

Paramedic students are hesitant to formally report exposure to acts of workplace violence as they feel it may jeopardise their chance of getting a job. The objective of this study was to identify the type and number of workplace violence acts experienced by undergraduate paramedic students whilst on an ambulance clinical placement. This was a cross-sectional study using the Paramedic Workplace Violence Exposure Questionnaire to obtain student exposure to acts of workplace violence which occurred whilst on ambulance clinical placements. The survey response rate was 29.8%. The students' average age was 24.1 years, median age of 23 years, range 18 to 47 years. There were 32.6% of students who were exposed to at least one act of workplace violence with 56% of these being females. Verbal abuse 18%, and intimidation 17% were the common acts of workplace violence students were exposed to. One female, a nursing/paramedic student, was exposed to sexual harassment on more than one occasion. The findings from this study suggest that paramedic students are exposed to similar rates of workplace violence as full time practising paramedics. Further research is required into workplace violence against students from all professions and what detrimental effect this may have on them.

KEYWORDS

cross-sectional; paramedic; student; workplace violence

HIGHLIGHTS

- Students need to be better educated about workplace violence during clinical placements
- Students need to know how to deal with workplace violence before placements
- Students need to know why it is necessary to report acts of workplace violence

INTRODUCTION

Findings from studies undertaken in Australia, the United Kingdom, and the United States of America suggest occupations that have significant face-to-face contact with the general public were more likely to be exposed to acts of workplace violence (Mayhew and Chappell, 2001). Chappell and colleagues, in a report for the International Labour Organisation, found that females were more likely to be exposed to a greater number of verbal and sexual related acts of workplace violence compared to males who were more likely to be exposed to explicit threats and physical acts of violence (Chappell et al., 2006).

A previous Australian study investigating the exposure of paramedics to acts of workplace violence (WPV) found that approximately 88% of paramedics experienced acts of WPV against them with verbal abuse being the most common act (Boyle et al., 2007). To date, no study has been published internationally which has investigated the exposure of undergraduate paramedic students to acts of workplace violence during any form of clinical placement.

From past anecdotal experience we know that paramedic students are hesitant to formally report acts of workplace violence against them during ambulance service clinical placements as they do not want to put their chance of getting a job at risk. Furthermore, the ambulance service will not investigate and act upon an allegation of workplace violence within the ambulance service unless it is in writing.

Previous studies have identified that nursing students are exposed to acts of WPV, including verbal abuse, bullying and physical abuse, by people such as educators, other healthcare professionals, the patient, and the patient's relatives/friends (Clarke et al., 2012; Cooper and

Curzio, 2012; Cooper et al., 2011; Hakojärvi et al., 2014; Hinchberger, 2009; Magnavita and Heponiemi, 2011). There have been three studies that have investigated midwifery student exposure to acts of WPV (Gillen et al., 2009; Lash et al., 2006; McKenna and Boyle, 2016). These midwifery studies concentrated on verbal abuse or bullying and found high numbers of the perpetrators were other healthcare professionals or mentor midwives.

Limited work has been done on student exposure to WPV and the effect it has on their view of the profession and overall career. The ability of the student to learn and progress their learning through the course can be affected by the way in which they are treated by other healthcare professionals (Hakojärvi et al., 2014). The way in which the student views the profession they are studying to be a part of may also be tainted by their clinical experience (Hakojärvi et al., 2014). A study involving physiotherapy students found there were “negative psychological consequences” as a result of their exposure to acts of WPV during clinical placements (Stubbs and Soundy, 2013). Likewise a study from the UK identified 20% of nursing students considered leaving the profession as a result of WPV exposure during clinical placements (Tee et al., 2016).

The aim of this research was to ascertain the scale of workplace violence acts against undergraduate paramedic students during ambulance based clinical placements. Therefore, the objective of this study was to identify the type and number of workplace violence acts experienced by undergraduate paramedic students whilst on an ambulance clinical placement.

RESEARCH DESIGN

Study Design

This study employed a cross-sectional design using a paper-based questionnaire to identify paramedic student exposure to workplace violence whilst on ambulance clinical placements.

Definitions

We used the International Labour Office (ILO) definition for violence, the definition is:

“The intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, which either results in or has a high likelihood of resulting in injury, death, community, which either results in or has a high likelihood of resulting in injury, death, physiological harm, maldevelopment, or deprivation.” (International Labour Office et al., 2002)

We have also recognised and utilised the definition of workplace violence by the World Health Organization (WHO) and ILO in the *Framework Guidelines for addressing workplace violence in the health sector*:

“Workplace violence covers a spectrum of unacceptable behaviours. It includes incidents where staff are abused, threatened, discriminated against or assaulted in circumstances related to their work, including commuting to and from work, and which represent a threat to their safety, health, and well-being.” (International Labour Office and World Health Organisation, 2014)

In this study, the workplace is considered to be an ambulance station or any healthcare facility, offices where ambulance management are housed, the ambulance itself, a room attached to the healthcare facility, and the incident/patient location being attended by the ambulance crew. The acts of workplace violence are defined in Table 1.

Participants

Students enrolled in the Bachelor of Emergency Health (Paramedic) [BEH] and Bachelor of Nursing/Bachelor of Emergency Health (Paramedic) [BN/BEH] courses at a large Australian university were eligible for inclusion in the study. Table 2 lists the students eligible for inclusion in the study. First year BEH and second year BN/BEH students undertake the same clinical placements, second year BEH and third year BN/BEH undertake the same clinical placements, whilst third year BEH and fourth year BN/BEH students undertake the same placements. A convenience sample of students was used thereby allowing us to establish an incident rate for further studies with undergraduate paramedic students.

The BEH or BN/BEH is one of many undergraduate courses available in Australia and undertaken as a prerequisite to gain employment as a paramedic in Australian states and territories.

Instrument

The Paramedic Workplace Violence Exposure Questionnaire (PWVEQ) was used as this had been used previously in an Australian paramedic population and has demonstrated face and content validity with no other metrics reported (Boyle et al., 2007). The PWVEQ consists of five segments. The first segment covers participant demographic information which includes gender, age, course being studied, and year of the course.

The second segment covers the five acts of workplace violence - verbal abuse, intimidation, physical abuse, sexual harassment, and sexual assault. Information requested for each violent act included whether the student was exposed to the act, the number of exposures, the location the act took place, e.g. public place, patient's home, the person who perpetrated the act,

gender of the perpetrator, any underlying factors, e.g. perpetrator affected by alcohol and/or drugs, and the student's immediate response to the act and the associated level of fear.

The third segment seeks the student's written experience about how they felt personally after experiencing the violence. The fourth segment sought information about the student's response to the violent incident(s) using a Likert Scale with the responses ranging from "never" to "always". The final segment covers the impact of the violence using the Impact of Event Scale which sought information using a Likert Scale with responses ranging from "not at all" to "often" (Horowitz et al., 1979). The test-retest reliability score for the complete scale was 0.87, for the intrusion sub-scale it was 0.89 and for the avoidance subscale it was 0.79 (Horowitz et al., 1979).

Procedure

At the end of a lecture students were informed about the study by a non-academic staff member and were invited to stay and participate in the study. The participating students were given an explanatory statement about the study before commencing the survey. Information from the explanatory statement about the survey being voluntary and anonymous was highlighted. Consent to participate in the study was implied by completing the survey and placing it in a drop box prior to leaving the lecture theatre. As part of the informed consent process students were advised they could cease participation in the study, without penalty, prior to submitting the survey. As the survey form had no student identifying features it could not be withdrawn after being placed in the drop box. Depending on the student's previous exposure to workplace violence, the questionnaire took between 10 and 20 minutes to complete.

Data Analysis

Data analysis was undertaken using SPSS (Statistical Package for the Social Sciences Version 22, (IBM Corporation, Armonk, New York, U.S.A.). Descriptive statistics are used to summarise the demographic and basic response data, with inferential statistics used to compare year levels and gender using a two-tailed *t*-test for two groups or Analysis of Variance (ANOVA) with post hoc tests, if needed, for groups of more than two.

Ethics

Ethics approval for the study was granted by the Monash University Human Research Ethics Committee (MUHREC).

RESULTS

There were 133 students who participated in the study, 107 (80.5%) from the BEH course and 26 (19.5%) from the BN/BEH course. The overall response rate was 133/446 (29.8%) with 107/285 (37.5%) for the BEH and 26/161 (16.1%) for the BN/BEH students. In total there were 52 (39.1%) males and 81 (60.9%) females. The average age of all students was 24.1 years, a median age of 23 years, and age range of 18 years to 47 years. Most students were in third year of the BEH and fourth year of the BEH/BN course, see Table 3.

The most common act of workplace violence was verbal abuse followed by intimidation, see Table 4.

When comparing the BEH to BN/BEH students there was one act of WPV where there was a statistically significance difference, sexual harassment, $F=4.349$, $p=0.039$, with no statistically significant difference for the other acts of violence,

There were 32.6% of students surveyed who had been exposed to at least one act of violence associated with an ambulance clinical placement, of this group 25 (56%) were females. There were no statistically significant differences between male and female exposure to acts of workplace violence during the ambulance clinical placement.

The students were also asked to state the occurrence of workplace violence acts during the ambulance clinical placement, see Table 5. It is clear that students experienced verbal abuse and intimidation on more than one occasion.

DISCUSSION

This study is the first of its kind internationally to specifically investigate the exposure of undergraduate paramedic students to acts of workplace violence during ambulance clinical placements. This study has demonstrated that like their paramedic counterparts undergraduate paramedic students are exposed to similar levels of workplace violence during their ambulance clinical placements.

To date there has been two studies within Australia that have investigated the exposure of paramedics to acts of workplace violence (WPV) and the effects the exposure has had on paramedics (Boyle et al., 2007; Brough, 2005). The literature covering paramedic exposure to WPV dates back to the early 1990s where a study from the U.S.A. by Tintinalli first described the issue (Tintinalli and McCoy, 1993). We will use the previous Australian studies into WPV as comparators due to a lack of international studies into paramedic student exposure to WPV.

The exposure to WPV by paramedic students appears low in comparison to full time paramedics in Australia (Boyle et al., 2007), however, their potential exposure time is also considerably less. The first year students have approximately a 1% exposure time whilst the second and third year students have a 10% exposure time compared to full time paramedics in Australia. However, when the student hours are extrapolated to those that a fulltime paramedic works the student WPV exposure rates demonstrate similar levels to those described by Boyle et al (Boyle et al., 2007).

In this study, 28 (21%) paramedic students were exposed to verbal abuse. This rate is similar when compared to the study by Grange et al (Grange and Corbett, 2002) but less than other international studies investigating verbal abuse against paramedics (Bigham et al., 2014; Boyle et al., 2007; Mock et al., 1998; Suserud et al., 2002). Given the rate of verbal abuse paramedic students are exposed to it is difficult to know what long term effect the verbal abuse will have. Something that was not asked in the survey was if the verbal abuse was racially motivated or directed at the student because they were a female or because they were introduced to the patient and relatives as a student. The paramedic students come from diverse racial backgrounds with some students experiencing forms of racial abuse in their normal living environment, therefore racially orientated verbal abuse may need to be measured in future research.

When comparing verbal abuse against paramedic students, 21% in this study, to nursing and midwifery students internationally there is a vast range in findings, from 17% (McKenna and Boyle, 2016) to 100% (Lash et al., 2006) for midwifery students, and from 34% (Magnavita and Heponiemi, 2011) to 100% (Celik and Bayraktar, 2004) for nursing students. The studies

identified medical staff and nursing supervisors as the main perpetrators of the WPV, this was especially so in countries that do not have strict workplace laws.

Intimidation was the second most common act of WPV with 13 (9.9%) students experiencing it in this study. The number of students exposed to intimidation was low in this study compared to two other studies that involved paramedics (Bigham et al., 2014; Boyle et al., 2007), however, when the student time is extrapolated out to equal that of a fulltime paramedic the numbers (Bigham et al., 2014; Boyle et al., 2007) are similar. It is not easy to compare rates of intimidation with other international studies as some definitions include intimidation under a broader act of WPV, such as “bullying” (Jennifer et al., 2003), physical threats (Hills et al., 2013), sexual violence (Krantz and Garcia-Moreno, 2005), verbal abuse and victimisation (Whitley et al., 1996) and physical intimidation (Etienne, 2014; Hills et al., 2013; Jennifer et al., 2003). This issue demonstrates that there needs to be better and more consistent definitions of WPV acts internationally so study comparisons can be easily undertaken. When compared to paramedic students, midwifery students were exposed to high rates of intimidation, ranging from 63% (Gillen et al., 2009) to 90% (Foster et al., 2004) with the perpetrators being predominately other healthcare workers.

There was one act of physical violence identified in this study. When compared to the study by Boyle et al (Boyle et al., 2007) the exposure to physical violence by paramedic students is low even when the hours exposed are extrapolated out. Paramedic students are more likely protected by the paramedics they are working with which may explain the low physical violence numbers. The paramedic students do not normally work nightshifts and work predominately day shifts which finish by early evening at the latest. The majority of physical violence against paramedics occurs on night shifts, late in the evening or in the early morning.

Exposure to physical violence by paramedics internationally varies considerably, from 2.9% to 79.5% (Bigham et al., 2014; Boyle et al., 2007; Grange and Corbett, 2002; Maguire et al., 2005; Mechem et al., 2002; Mock et al., 1998; Pozzi, 1998; Suserud et al., 2002; Tintinalli and McCoy, 1993) with some studies reporting specifically on physical violence with weapons. For nursing and midwifery students their exposure to physical violence ranged from 3% (McKenna and Boyle, 2016) to 43% (Magnavita and Heponiemi, 2011). The definition of physical violence varied in most studies making direct and accurate comparisons difficult.

Another Australian student paramedic study identified 16% of students were exposed to unwanted sexual behaviour, however, this study was looking at adverse health events whilst a student was on clinical placement not WPV (Sheen et al., 2012). However the study by Sheen et al used a more vague definition of sexual behaviours which did not differentiate between sexual assault and sexual harassment (Sheen et al., 2012). Only one other international study on paramedic exposure to WPV has reported on acts of sexual harassment or sexual assault against paramedics (Bigham et al., 2014). The other study that investigated paramedic exposure to acts of sexual harassment or sexual assault is an Australian study by Boyle et al (Boyle et al., 2007). In this study one female student was exposed to sexual harassment with the most disconcerting issue being that it occurred on more than one occasion and it appears the incidents went unreported. For nursing students 5.8% (Magnavita and Heponiemi, 2011) were exposed to sexual harassment whilst 3% of midwifery students were exposed to sexual harassment (McKenna and Boyle, 2016). This appears to be an under researched topic area which requires additional work.

One of the major issues this study has highlighted is the need to better educate paramedic students about WPV before they attend any form of clinical placement. There is currently no formal education package about how to handle and cope with exposure to WPV for paramedic students to complete prior to attending any clinical placement in a majority of universities in Australia. First year BEH students are allocated up to four ambulance clinical placements within the first month of the course so they can see what the role of a paramedic entails. These placements are not necessarily related to any subjects they are studying at the time. The second year BEH/BN students also undertake the same number of ambulance clinical placements as the BEH students. The other paramedic students undertake their ambulance clinical placements from early in the semester, normally one day per week, and complete their placement numbers at the end of the semester, after the teaching and exam period are completed. The timing of ambulance clinical placements makes it difficult to provide the students with sufficient information about WPV, how to handle it, coping processes, why it should be reported, and to whom it should be reported.

Further research is required into why paramedic students are hesitant to formally report exposure to acts of WPV to faculty and if there is a preferred reporting mechanism that would persuade them to do so. The effect on the student of ambulance clinical placement WPV exposure is one of the unmeasurable aspects of their clinical placement experience, especially when the student is unwilling to report or discuss it. To date there is no evidence on paramedic student exposure to acts of WPV and the effect it may have on their desire to take up a career as a paramedic.

This study is potentially limited by the recall ability of students about their exposure to acts of WPV, given the time lapse between the exposure and completing the survey. The use of a

single self-reporting method without additional substantiated evidence may raise accuracy issues about the reported WPV exposure rates. The return rate, study design, and the students being from one university may mean the results are not a true representation of the total Victorian or Australian paramedic student population.

CONCLUSION

The findings from this study suggest that paramedic students are exposed to similar rates of workplace violence as full time practising paramedics. The findings suggest that students need to be prepared about the potential exposure to acts of workplace violence whilst on clinical placement and why the exposure should be reported. Further research is required into workplace violence against students from all professions and what detrimental effect this may have on them.

CONFLICT OF INTEREST STATEMENT

The authors declare they have no conflict of interest.

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Violence Type	Definition
verbal abuse	a patient/client, their friend/s, family member/s, other professional/s or work colleague/s using offensive language, yelling or screaming with the intent of offending or frightening. It can include threats or abuse over the phone, but excludes sexual harassment and sexual assault.
Intimidation	a patient/client, their friend/s, family member/s, other professional/s or work colleague/s purposely threatening, following, using gestures to purposely offend or frighten.
physical abuse	a patient/client, their friend/s, family member/s, other professional/s or work colleague/s physically attacking, or attempting to attack. It includes behaviours such as punching, slapping, kicking or using a weapon or other object with the intent of causing bodily harm.
sexual harassment	any form of sexual propositioning or unwelcome sexual attention from a patient/client, their friend/s, family member/s, other professional/s or work colleague/s. It includes behaviours such as humiliating or offensive jokes and remarks with sexual overtones, suggestive looks or physical gestures, inappropriate gifts or requests for inappropriate physical examinations, pressure for dates, and brushing, touching or grabbing excluding sexual touching (e.g. the genital or breast area).
sexual assault	any forced sexual act, rape or indecent assault perpetrated by a patient/client, their friend/s, family member/s, other professional/s or

work colleague/s. It includes brushing, touching or grabbing of the genitals or breast. It also includes attempted sexual assault.

Table 1: Workplace violence definitions (Boyle et al., 2007)

Course	Year 1	Year 2	Year 3	Year 4	Total students enrolled
Emergency Health (Paramedic)	97	115	76	N/A	285
Emergency Health (Paramedic)/Nursing	40	40	41	40	161

Legend: N/A = Not Applicable

Table 2: Student numbers by course by year

Course	Year 1 n(%)	Year 2 n(%)	Year 3 n(%)	Year 4 n(%)	Total n
Emergency Health (Paramedic)	21(19.6)	47(43.9)	39(36.5)	0	107
Emergency Health (Paramedic)/Nursing	0	0	2(7.7)	24(92.3)	26

Table 3: Study participants by course by year

Violence Type	Students Exposed (n=133)
	n(%)
Verbal abuse	28(21.2)
Intimidation	13(9.9)
Physical Abuse	1(0.08)
Sexual Harassment	1(0.08)
Sexual Assault	0

Table 4: Number of students who experienced each type of violent act

Violence Type	Once n(%)	A few times n(%)	About once a month n(%)	About once a week n(%)	Daily n(%)
	Verbal abuse	13(46.4)	10(35.7)	2(7.1)	3(10.7)
Intimidation	8(61.5)	3(23.1)	2(15.4)	-	-
Physical abuse	1(100)	-	-	-	-
Sexual harassment	-	1(100)	-	-	-
Sexual assault	-	-	-	-	-

Table 5: Frequency with which each type of abuse was experienced.