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Preventing EMS workplace violence: A mixed-methods analysis of insights from assaulted medics

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ABSTRACT

Objective: To describe measures that assaulted EMS personnel believe will help prevent violence against EMS personnel.

Methods: This mixed- methods study includes a thematic analysis and directed content analysis of one survey question that asked the victims of workplace violence how the incident might have been prevented.

Results: Of 1778 survey respondents, 633 reported being assaulted in the previous 12 months; 203 of them believed the incident could have been prevented and 193 of them (95%) answered this question. Six themes were identified using Haddon's Matrix as a framework. The themes included: Human factors, including specialized training related to specific populations and de-escalation techniques as well as improved situational awareness; Equipment factors, such as restraint equipment and resources; and, Operational and environment factors, including advanced warning systems. Persons who could have prevented the violence were identified as police, self, other professionals, partners and dispatchers. Restraints and training were suggested as violence-prevention tools and methods

Conclusions: This is the first international study from the perspective of victimized EMS personnel, to report on ways that violence could be prevented. Ambulance agencies should consider these suggestions and work with researchers to evaluate risks at the agency level and to develop, implement and test interventions to reduce the risks of violence against EMS personnel. These teams should work together to both form an evidence-base for prevention and to publish findings so that EMS medical directors, administrators and professionals around the world can learn from each experience.

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Introduction

Background

Studies from the United States (U.S.) show that emergency medical services (EMS) personnel have high rates of occupational injury and fatality [1–6]. In Australia, paramedics have a higher injury and fatality rate than any other occupational group [7].

Violence and assaults are a significant component of those risks [8–15]. Risk of violent assault might be heightened because EMS personnel work in isolated and uncontrolled environments, are in contact with the public and people in distress, and are associated with possessing valuable or desirable items such as drugs, syringes/needles and expensive equipment [10,16,17]. Due to the nature of their work and close proximity to patients, patient-initiated violence can occur quickly [18]. A wide variety of weapons have been reportedly used by patients to attack EMS personnel; they have been described as ranging from firearms to household items such as kitchen knives [19]. Although there are limited historical data, reports indicate that the risks for EMS personnel may be increasing [20,21] and, a recent study showed that the rate of violence related injuries among paramedics in Australia has tripled over the past decade [22]. According to the

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U.S. Occupational Safety and Health Administration (OSHA), there are a number reasons driving the increased risk to health workers: increased prevalence of handguns in the general population, chronically ill mental patients, gang activity, poor communication and limited back-up support [23].

When faced with a threatening situation, EMS personnel have been advised to defuse the situation through active listening, non-defensive posturing and being respectful while at the same time seeking and maintaining a safe exit strategy [24]. They have also been advised to wait for law enforcement and have a 'panic button' communication step to alert fellow crew that there is a danger and it is time to exit [25]. In some jurisdictions legislators have proposed increased penalties for persons convicted of assaulting EMS providers. While some of these measures may be helpful, there is no peer-reviewed literature evaluating evidence-based practices to prevent violence against EMS personnel [26,27].

In order to inform the development of effective interventions, a greater understanding of the issue is needed from the perspective of assaulted EMS personnel [28,29]. To our knowledge this is the first international study to ask EMS personnel, who have themselves been victims of violence, how violent incidents might be prevented.

Methods

Study design

This study is a component of a larger international research project that aimed to improve our knowledge about violence against EMS personnel. We developed a survey based on a questionnaire created and used by the World Health Organization (WHO) to assess workplace violence against health professionals [30]. Our survey included 163 questions related to demographics, career experience, job title, hours worked, and violence-related experiences. While most questions were check boxes or short answers, some were open-ended and gave respondents the opportunity to respond in their own words.

Participants

We distributed the link to the survey using email, announcements at EMS meetings and conferences, magazine stories and social media. The survey was available online between April and November 2016; between February and November 2016, the lead author also elicited participation and shared the link during six presentations in four countries. There were 1778 EMS personnel from 13 countries who responded to the survey. The methods and overall quantitative results have been described previously [15].

Methods and measurements

Our survey included a definition of violence from the WHO: "Physical violence refers to the use of physical force against another person or group, that results in physical harm, sexual or psychological harm. It can include beating, kicking, slapping, stabbing, shooting, pushing, biting, and/or pinching, among others" [30].

This paper focuses on responses to one open-ended question that asked EMS personnel who had been victims of a physical violence, what they thought, in hindsight, about how their violent incident might have been prevented. Respondents who indicated that they had been physically attacked while on duty over the previous 12 months were asked:

Do you think the incident could have been prevented? If yes, please describe how.

The full-text responses to the specific question were extracted from the survey responses into Excel format. The researchers

independently read and reread the data to become familiar with the content. BJO entered the data into NVivo10 and generated 33 codes that were then grouped under four themes; BJM identified 20 codes and four themes; POM independently developed four themes. The researchers then discussed their themes and agreed to use Haddon's Matrix as a framework for organizing the findings into six themes, using the headings: Human factors, equipment factors, operational environment factors, and social environment factors during the pre-event and the event stages.

Haddon's Matrix is a conceptual model for examining injury prevention; developed by William Haddon in 1970, the matrix focuses on the role of victim, energy and environment before, after and during the accident process [31]. The matrix has previously been used to address EMS personnel safety issues [32].

In addition to the themes, we examined two other constructs: "Locus of Control" and "Key Words". Locus of Control helps to identify specific individuals that the respondent believed were responsible for, or who could have prevented, their incident. Key Words are specific words that respondents used to identify tools or methods that might have prevented the incident. The researchers determined that this combination of information could be helpful in developing preventative interventions.

Outcomes

BJM, POM and BJO conducted a directed content analysis [33] of the data examining the six themes, Locus of Control and Key Words. The three authors coded each response to identify the number of instances that each of the Themes, Locus of Control and Key Words were used by each respondent. The authors used expert judgement in assigning these codes; for example, the Locus of Control was keyed as "Police" even if the respondent's text used the words "Law enforcement", "Garda", or "CPD", but, the three references to "security guards" were keyed as "Other". The key word "restraint" required little interpretation but did include words such as hand-cuffs. "Agency policy" was entered whenever the text indicated or implied that some different policy at the agency level might have prevented the incident.

Analyses

The researchers adopted pragmatism as their worldview for this study, as this theoretical perspective allows for using a mixed-methods approach to answer the research question [34,35]. To determine common themes on how respondents believed violent acts against EMS personnel could have been prevented, three members of the research team (BJO, BJM, POM), analyzed the data guided by the steps for thematic analysis outlined by Braun and Clarke [36].

Excel was used to both manage the data and perform the data analyses. Each response was keyed for every Theme, Locus of Control and Key Word it contained. Summation by column and row created the tables.

Researcher characteristics

O'Brien et al. notes that researchers' characteristics may influence qualitative research [37]. Our team includes three members who have experience working in the pre-hospital environment (one of them is now a psychologist with a background in crisis intervention and two are now full time academics and researchers), one is an expert statistician and one an expert in qualitative research methods who also has a background in nursing. The lead author likely interacted with some of the respondents during international presentations prior to and during the time of the project.

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