North Carolina EMS Providers' Experiences and Attitudes Regarding Workplace Violence and Safety

Introduction: Many EMS providers consider violence to be the number one cause of stress on the job, with nine out of ten reporting being victims of violence in their career. Understanding the types of violence experienced by EMS providers, attitudes regarding workplace safety, and the perceived ability to manage violence on the job is a first step towards designing and implementing interventions aimed to improve the health and safety of this critical workforce.

Objective: To assess the proportion of EMS providers in North Carolina who reported one or more forms of assault while on duty in the past 24 months and to identify demographic and work-related factors associated with the report of being assaulted. Secondarily, EMS providers' attitudes regarding workplace safety and management of workplace assaults events were examined.

Methods: This retrospective observational study examined all responses obtained from an online survey distributed via multiple listservs for EMS providers in North Carolina in June and July of 2018. Surveys were distributed using a modified Dillman's Method. The primary outcome of interest was experiencing any workplace assault in the last 24 months (yes/no). Secondary study outcomes included: 1) feeling safe/free from violence working in EMS/first response, 2) self-reported ability to manage a patient or bystander who becomes verbally aggressive, and 3) self-reported ability to manage a patient or bystander who becomes physically violent. Demographic (sex and age) and work-related (main role, years of EMS experience, and the community size in which they worked) questions were included. To facilitate analysis, age was categorized in quartiles (18 to 30 years, 31 to 39 years, 40 to 48 years, 49 to 72 years). Main role was dichotomized as EMS or dual-/multi-role provider (EMS and fire, EMS and rescue, EMS and fire and rescue). Community size was dichotomized as rural or urban based on the North Carolina county in which the individual worked and OMB/USDA Urban Influence Codes. Years of EMS experience was categorized in quartiles (0 to 6 years, 7 to 14 years, 15 to 24 years, 25 to 50 years). Questions relating to attitudes were reported on a 5-point Likert scale, with 1 = 'Strongly Disagree/Not Confident', 3 = 'Neutral', and 5 = 'Strongly Agree/Very Confident'. To facilitate analysis, Likert scale responses were transformed into 3 categories with 1 and 2 representing did not feel safe/not able to manage, 3 representing neutral, and 4 and 5 representing felt safe/able to manage. Chi-square tests were performed to evaluate relationships with the study outcomes and the independent variables of interest.

Results: A total of 1,203 responses were received. Missing data was less than 15% for all variables. One-third of respondents were female (33% [n=340/1,031]). Regarding main role, more than three quarters were EMS providers (76%, [n=791/1,047]) and all others were dual-/multi-role providers (24%, [n=256/1,047]). Most worked in urban communities (75%, [n=782/1,037]). The average years of EMS experience was 15.9 years (standard deviation 10.9) with a range of less than 1 year to 50 years.

Over two-thirds (67% [n=686/1,022]) of those who responded to the question regarding workplace violence in the last 24 months indicated that they experienced an assault. Of these, over two-thirds reported experiencing both physical violence and verbal assault (64%, [n=441/686]) followed by verbal assault alone (34%, [n=231/686]). Physical violence alone was reported by 2% (n=14/686) of respondents. Workplace violence experience differed across age groups ($p<0.01$). A larger proportion of those 31 to 39 (76%, [n=193]) reported experiencing violence, followed by those 18 to 30 (72%, [n=184]), those 40 to 48 (67%, [n=162]), and those 49 to 72 (53%, [n=135]). A higher percentage of those in urban areas reported experiencing one or more forms of assault compared to those in rural areas (69% [n=521] vs. 62% [n=155], respectively; $p=0.04$). When evaluating years of EMS experience, any assault was experienced by a larger proportion of those with 7 to 14 years of service (74%, [n=192]) followed by those with 15 to 30 years (72%, [n=178]), 0 to 6 years (67%, [n=173]), and 25 to 50 years (56%, [142]), ($p<0.01$). There was no statistically significant difference noted when evaluating the relationship between experiencing any assault and sex or main role ($p>0.05$).

There were 1,042 (87%) who completed the question regarding feeling safe working in EMS. When categorized, 25% (n=260) did not feel safe, 38% (n=396) were neutral, and 37% (n=386) felt safe. There was a statistically significant difference in perceptions of safety between age groups ($p<0.01$). More of those between ages 31 to 39 did not feel safe 31% (n=81), followed by those ages 18 to 30: 24% (n=62), 40 to 48: 23% (n=58) and those 49 to 72: 21% (n=53). A slightly higher percentage of those in urban areas did not feel safe (26%, [n=202]), compared to those in rural areas (21%, [n=54]), ($p=0.02$). Experiencing assault was associated with reduced perceptions of safety while working in EMS ($p<0.01$). Having experienced and assault was associated with over a three-fold increase in feeling unsafe working in EMS as 32% (n=221) of those who experienced assault indicated that they did not feel safe compared to 10% (n=33) of those who had not experienced assault.

The question inquiring about self-reported ability to manage patients or bystanders who become verbally abusive was completed by 1,029 (85.5%) of respondents. When categorized, 5% (n=48) indicated that they were unable to manage verbal abuse, 19% (n=196) were neutral, and 76% (n=785) indicated that they were able to manage verbal abuse. Main EMS role was associated with perceptions of being able to manage verbal abuse ($p<0.01$). A higher percentage of EMS providers with two or more roles indicated that they were unable to manage verbal abuse (8%, [n=20]) compared to those with the single role of EMS provider (4%, [n=28]). No statistically significant association was observed for experiencing assault and perceived ability to manage verbal abuse ($p>0.05$).

There were 1,031 (86%) respondents who completed the question regarding self-reported ability to manage a patient or bystander who becomes physically violent. When categorized, 20% (n=204) indicated that they were unable to manage physical violence, 25% (n=258) were neutral, and 55% (n=569) indicated that they were able to manage physical violence. A higher percentage of females indicated that they were unable to manage physical violence compared to males (27% (n=91) vs. 16% (n=108), respectively ($p<0.01$). Years of EMS experience was also associated with perceived ability to manage physical violence ($p<0.01$). A larger proportion of those with 0 to 6 years of experience reporting feeling unable to manage physical violence (26%, [n=68]), followed by those with 7 to 14 years of experience (21%, [n=54]), those with 25 to 50 years of experience (17%, [n=44]), and those with 15 to 24 years of experience (15%, [n=38]). Experiencing assault was associated with a reduced perceived ability to manage physical violence as 22% (n=153) of those who experienced assault felt able to manage physical violence compared to 14% (n=47) of those who had not experienced assault ($p<0.01$).

Conclusion: Over two-thirds of respondents indicated that they had been physically or verbally assaulted in the workplace in the last 24 months. A higher percentage of providers in urban environments reported being assaulted. Those who reported an assault in the last 24 months felt less safe at work and less able to manage physical violence, which could result in added work stress and an increased likelihood of leaving the workforce. Further, the perception of being less able to manage physical violence by those with the least years of EMS experience suggests an opportunity for improved training related to recognition and avoidance of workplace violence in EMS education programs. Lastly, the increase in perceived ability to manage violence by those who had not experienced violence may mean that providers are overconfident or unaware of potential threats. Further study is needed to identify interventions that can increase EMS provider recognition and preparedness for workplace violence. Additionally, strategies are needed to increase formal reporting of EMS workplace violence events.