Are EMS Provider Characteristics Associated With Appropriate Responses During Violent Encounters

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DISCLOSURES

- No conflicts of interest
- I would like to acknowledge Tammy Patton, Chris Keller, Nikki Burakowski, Greg Guillaume, Jason Jones, and Tiffany Lyewsang who were the evaluation team. This project would not have been possible without their hard work.

BACKGROUND

- Violence against Emergency Medical Services (EMS) providers is increasing.
- Little is known regarding providers' response during threatening encounters.
- Recognition and management of threatening situations is key to provider and patient safety.
STUDY AIM / HYPOTHESIS

- Our **objective** was to evaluate the association between provider characteristics and response to escalating threats of violence during EMS calls.
- We **hypothesized** that providers with greater EMS experience and training would be more likely to escape threatening situations.

METHODS

**Study Population & Design**
- EMS providers of a large county-based system participated in specially-developed patient care simulations.
- Each scenario included the same phases of escalated threats of violence so that providers **should** escape the scene for safety.
- Trained evaluators recorded performance per provider on 51 standardized data elements including time, de-escalation attempts and escape.

**Outcome Measures**

- Primary outcome: whether the provider escaped the unsafe scene before the scenario ended.
- Secondary outcome: whether a provider made an adequate de-escalation attempt.

**Independent Variables**

- Years of EMS experience
- Military background
- Crisis Intervention Training (CIT)
METHODS

Data Analysis
- Descriptive statistics
- Univariable odds ratios (OR, 95% confidence interval)

RESULTS

- We evaluated 272 EMS providers as individual members of two-person crews.
- <3% missing data.

RESULTS

- 55% of providers escaped the unsafe scene
- 45% of providers made an adequate de-escalation attempt
RESULTS

Escaped Unsafe Scene
- 45%

De-escalation Attempt
- 44%
- 45%

Of those who did not escape the unsafe scene, 44% did not make an adequate attempt to de-escalate the scenario.

De-Escalation
- Crisis Intervention Training (CIT) was associated with over a two-fold increase in odds of adequately attempting de-escalation (OR: 2.13, 95%CI: 1.15-3.93).
- EMS experience (p=0.31) and military background (p=0.39) were not associated with odds of de-escalation.

RESULTS

Escape Unsafe Scene
- As years of EMS experience increased, there was a step-wise decrease in the proportion of EMS providers that escaped the unsafe scene (p-trend=0.01).
RESULTS

Characteristics Associated with Escaping the Unsafe Scene

<table>
<thead>
<tr>
<th>Variable</th>
<th>Univariable OR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMS Experience</td>
<td></td>
</tr>
<tr>
<td>0-5 years</td>
<td>Referent</td>
</tr>
<tr>
<td>5-10 years</td>
<td>0.87 (0.44-1.70)</td>
</tr>
<tr>
<td>10-20 years</td>
<td>0.86 (0.43-1.73)</td>
</tr>
<tr>
<td>20+ years</td>
<td>0.36 (0.17-0.76)*</td>
</tr>
<tr>
<td>Military Background</td>
<td>0.38 (0.18-0.84)*</td>
</tr>
<tr>
<td>Critical Incident Training</td>
<td>0.37 (0.20-0.75)*</td>
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</tbody>
</table>

* p<0.05

DISCUSSION

• Our hypothesis was incorrect as providers with greater experience were less likely to escape a threatening situation.
• Military training and Critical Incident Training were also associated with lower odds of escape.
• Possible explanations include differences in training culture over time and provider confidence.

LIMITATIONS

• These results were obtained in a controlled training environment.
• Providers were aware that they were being observed.
• Single EMS agency.
CONCLUSIONS

- Nearly half of EMS providers failed to escape a simulated scene with threat of physical violence.
- Experienced providers and those with military background or Critical Incident Training had lower odds of escaping.
- Future research should focus on developing training to improve recognition of failed de-escalation and the need to escape an unsafe scene.

Thank You