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Pelvic Binding Protocols in EMS

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Introduction

Pelvic trauma is associated with approximately 9% of trauma patients in U.S hospitals, with an overall mortality of 10-16%, making them an important contributor of death¹. Due to the nature of the injury, Emergency Medical Service (EMS) providers are often the first to administer treatment to patients with suspected pelvic fractures. While difficult to make a proper diagnosis in the field, it is essential to properly stabilize the pelvis whenever a fracture is suspected in order to increase the chance of survival and lower potential for complications².

Between my own personal experience as an EMT and that of my colleagues, I have noticed a trend in which minimal effort is made to teach and demonstrate proper pelvic immobilization. This is concerning as rapid pelvic stabilization is deceptively simple. As such, the primary purpose of this study is to determine whether a training discrepancy regarding pelvic immobilization exists.

The secondary objective of this study is to examine the representation of minorities within the prehospital field. No current literature exists on the topic.

Methods

A survey was sent to prehospital providers in Virginia (n=63). Questions addressed sociodemographic characteristics, EMS experience, EMS locality, and the level of training exposure to pelvic binding. Recruitment was conducted by forwarding an encrypted online survey link to EMS agencies and providers via VCU RedCap. Data was inputted and variables were recoded using IBM SPSS Statistics version 26. A bivariate analysis comparing the frequencies of the trained in pelvic binding variables with the other questions was conducted. A chi-square test was conducted to determine significance among possible correlations. For cell sizes under 6, Fisher's Exact Tests were run. Due to the small sample size, the cut off p-value for significance was 0.10.

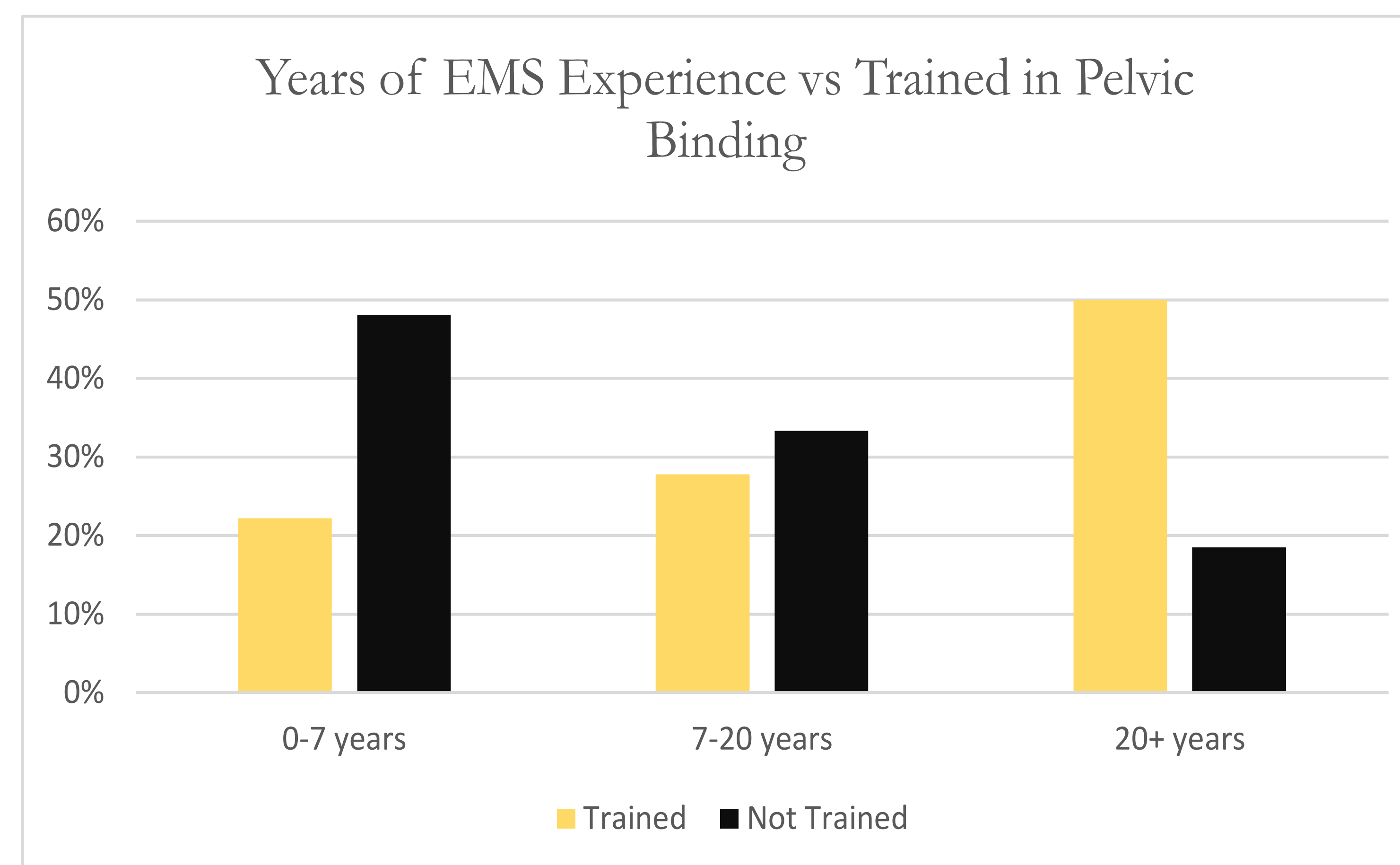
Results

Of the EMS providers surveyed in this study, almost half (42.9%) have never been formally trained in pelvic binding. Fifty percent of those who were never formally trained in the technique reported low confidence in their ability to pelvic bind. Furthermore, a majority (81%) of providers in this study believed that not enough emphasis is currently placed on pelvic binding training in the prehospital setting.

Results

There may be a significant correlation between EMS experience along with level of certification and pelvic binding training. Half of those who had over 20 years of EMS experience have been formally trained in pelvic binding, whereas 48.1% of providers with less than 7 years of experience were not. Additionally, 69.4% of those trained in pelvic binding were certified at the paramedic level or above.

The sample was not racially diverse. Of the respondents, 85.7% identified as white. Minority groups as a whole contributed to 14.3% of the sample. Further, there were zero respondents who were African American or Pacific Islanders.



Key Characteristics of the Sample (N=63)

	N	%
Race		
White	54	85.7
Non-White	9	14.3
EMS Experience		
0-7 years	21	33.3
7-20 years	19	30.2
20+ years	23	36.5
EMS Certification Level		
EMR or EMT-B	15	23.8
EMT-I or AEMT	10	15.9
Paramedic +	38	60.3
Trained in Pelvic Binding		
Yes	36	57.1
No	27	42.9
Pelvic Confidence (n=62)		
Low confidence	19	31.1
Medium confidence	23	37.7
High confidence	19	31.1
Enough Emphasis on Pelvic Training		
Yes	12	19
No	51	81

Discussion

Despite the small sample size, several trends are apparent in accordance with the theory behind pursuing this study. I expected that a lack of emphasis on pelvic binding protocols would present itself within a substantial portion of the respondents. This is concerning as evidence indicates that the misplacement of pelvic binders can reduce the degree of fracture reduction, and subsequently be less efficient in quelling hemorrhage³. Furthermore, an overwhelming majority (81%) of providers in this study believed that not enough emphasis is currently placed on pelvic binding training in the prehospital setting.

These findings provide evidence of a deficit in pelvic binding training protocols across VA. The technique itself is simple, and it should be an easy skill to implement since it is within the scope of practice of all levels of prehospital providers. To increase the preparedness of EMS providers in all scenarios, there should be an increase in education surrounding pelvic immobilization within local EMS agencies.

The lack of racial diversity in this sample highlights another issue. Other studies have already illustrated the importance of workforce diversity in other healthcare fields in improving healthcare treatment for minorities⁴. It can be assumed that these same healthcare benefits extend to the EMS prehospital setting. Moving forward, this lack of racial representation should be highlighted in order to promote the development of similar programs to increase prehospital workforce diversity.

Conclusion

Despite the small sample size, several statistically significant trends are present. A significant amount of the EMS providers sampled in the survey have never been formally trained on pelvic binding. Further, almost all of them believed that not enough emphasis is placed on pelvic immobilization training. There may also be a significant correlation between EMS experience and certification level and pelvic binding training. Those who had more EMS experience and a higher certification level were more likely to have been trained in pelvic binding. Additionally, the lack of racial diversity within the sample may highlight a lack of diversity within the prehospital workforce. In the future, this study will be repeated with a much larger sample size in order to establish a stronger foundation behind these trends.

Works Cited

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