

Workplace Physical Violence against the Pre-hospital Emergency Staff in Guilan Province

Ali Golzare Zahmatkesh Sanggouei¹, Majid Pourshaikhian^{2*}, Mohammad Esmaeilpour Bandboni³, Mohammad Taghi Moghadamnia⁴, Ehsan Kazem Nezhad Leyli⁵, Fateme Hasandoost⁶

¹Nursing (MSN), School of Paramedicime, Guilan University of Medical Sciences, Langeroud, Iran

²Social Determinants of Health Research Center (SDHRC), Department of Nursing, Assistant Professor, Guilan University of Medical Sciences, Rasht, Iran

³Department of Nursing (Medical-Surgical), Assistant Professor, Guilan University of Medical Sciences, Rasht, Iran

⁴Social Determinants of Health Research Center (SDHRC), Department of Nursing (Medical-Surgical), Instructor, Guilan University of Medical Sciences, Rasht, Iran

⁵Social Determinants of Health Research Center (SDHRC), Bio-Statistics, Associate Professor, Guilan University of Medical Sciences, Rasht, Iran

⁶Ph.D Candidate Of Nursing Education, Tarbiat Modares University, Tehran, Iran.

*Corresponding author: Majid Pourshaikhian, School of Nursing and Midwifery, Rasht
Email: pourshaikhian_m@yahoo.com

Received: 03/14/2017; Accepted: 09/15/2017

Abstract

Introduction: Workplace violence is one of the problems faced by health care workers. Pre-hospital emergency staff is exposed to workplace violence, according to their working conditions. Understanding the nature of workplace violence plays a fundamental role in its prevention and management.

Objective: This study was conducted to determine the frequency of workplace physical violence against pre-hospital emergency staff and its relationship with some demographic variables.

Materials and Methods: This descriptive analytical cross-sectional study was performed on 130 pre-hospital emergency medical staff, selected on the basis of random sampling in the Guilan province in 2014, using a standard questionnaire on violence against health care staff, developed by the International Labour Organization, the Nursing High Council, the World Health Organization, and the International Public Service in 2002. The data analysis was performed using descriptive statistics, Chi-square and Fisher exact tests, as well as Logistic regression.

Results: The results showed that 34.51% of the subjects experienced physical violence in the past year. The findings also showed that there was a significant relationship between the incidence of physical violence and marital ($p = 0.008$), age ($p = 0.04$), and higher work experience variables ($p = 0.04$).

Conclusion: There is a prevalent workplace physical violence against pre-hospital emergency staff, causing individual and organizational complications. This issue should be addressed by emergency managers and preventive measures should be taken to improve the safety of the staff and the productivity of the organization.

Keywords: Physical Abuse, Workplace Violence, Emergency Medical Services, Workplace

Please cite this article as: Golzare Zahmatkesh Sanggouei A, Majid Pourshaikhian M, Esmaeilpour Bandboni M, Taghi Moghadamnia M, Kazem Nezhad Leyli E, Hasandoost F; Workplace Physical Violence against the Pre-hospital Emergency Staff in Guilan Province. J Holist Nurs Midwifery. 2018;28(1):56-63

Introduction

Workplace violence refers to any physical, psychological, and social aggression against the staff of the medical group serving the service. Pre-hospital emergency is an important part of the health care system, which is always subject to violent behaviors, due to the specific nature of emergency care [1]. The pre-hospital emergency staff is often the first to provide emergency care to the patients in need [2]. In all these cases, the pre-hospital staff is subject to violence for many reasons. In addition, the following factors also exacerbate threats made against the pre-hospital emergency staff: sole presence of these staff in the ambulance, anger and wrath of the patient's fellows, and, in some cases, the transfer of injured offenders [3].

The occurrence of workplace violence is a global phenomenon [4] and there have been numerous cases of violence against pre-hospital emergency staff in many countries [5, 6]. Several epidemiological studies have reported the occurrence of aggressive and violent workplace behaviors in pre-hospital emergency departments in Iran. The results of a study on the emergency medical staff in Azerbaijan showed that 75% of them experienced at least one type of workplace violence and physical violence was observed in 37.7% of the cases [7]. A further study in Kerman showed that 83.8% of the pre-hospital emergency staff experienced workplace violence at least once a year and the rate of physical violence was reported to be 22.58% in this study [8]. Some of the major causes of workplace violence in the pre-hospital emergency department include the delay in response time and the lack of a specific protocol for managing it [9].

Violence against pre-hospital staff is immediate and transient, but its complications and consequences can be

detrimental to a wide range of individual, professional, and organizational aspects [10]. Among the most prominent complications are a low morale at the time of providing care services, anger, loss of self-confidence, burn out, vacation inability and change in job status, intermittent headaches, gastro-intestinal problems, anxiety and depression, disappointment, lack of care for the attacker, and leaving a post or job [11].

At present, there are no specific regulations for the control of workplace violence by the hospital staff [12]. Considering the limited number of studies on workplace violence in the pre-hospital environment, the recognition of the violence frequency and pattern can help in providing grounds to prevent violence in the country. Although there are more than 50 road and urban emergency stations in the province of Guilan and despite the personal experiences and numerous reports of violence against pre-hospital staff, no studies have been carried out in this regard, yet. The aim of this study was, thus, to determine the frequency of workplace physical violence and the factors related to its occurrence against the medical emergency technicians in the province of Guilan, so that a step forward is taken to reduce the incidence of violence and the consequences that follow.

Materials and Methods

The present study is a descriptive-analytic cross-sectional study conducted in 2014. The research setting included 115 urban and road emergency stations in the province of Guilan and the research population consisted of all pre-hospital emergency technicians working in the province of Guilan. There were a total of 197 medical emergency staff members in the Guilan province at the time of data collection. The inclusion criteria included having more than one year of work

experience and a direct relationship with the patient. Considering the confidence interval (CI) of 95%, an error rate of 0.05, and a probability of violence of 50%, the sample size was calculated to be 130 subjects, 113 of whom completed the questionnaires, which were analyzed later response rate (response rate 87%). Thus, the technicians who met the inclusion criteria were randomly enrolled in the study (through a random number table), based on a list of the characteristics and the addresses of their workplaces from the emergency department of the province.

The data collection instrument was comprised of several parts: The first part was related to the socio-demographic data, including age, marital status, level of education, employment status, work experience, and work experience in a pre-hospital emergency department. The second part; the questions was related to exposure to workplace physical violence in the last 12 months. The third part consisted of questions on the incidence of verbal violence and the final part discussed the complications related to exposure to workplace violence. The study instrument was derived from the standard instrument, developed by the International Labour Office and the International Council of Nurse, World Health Organization, and International Public Services, which was published in 2004 to investigate violence against health care staff. To determine the validity as well as the Content Validity Index (CVI) and Content Validity Ratio (CVR), the instrument was provided to 15 faculty members of the nursing department. The results indicated that the instrument had good validity (CVR>0.86; CVI >0.8).

To determine the internal correlation of instrument questions, a pilot study was conducted on 20 employees working in pre-hospital emergency rooms and Cronbach's alpha coefficient of 0.86 was

obtained. After the approval of the Ethics Committee of the Guilan University of Medical University, the researcher attended the emergency departments of the province and completed the questionnaire later in an interview. Data was collected using SPSS ver. 21. To determine the frequency of physical violence, central indicators of descriptive statistics were used. Moreover, the Chi square and Fisher exact test and Logistic regression were used to determine the relationship between the demographic factors and the incidence of physical violence. The significance level of the tests was considered to be $p = 0.05$.

Results

The results of the present study showed that 34.5% of the pre-hospital emergency staff experienced physical workplace violence during the past year. The mean of the samples were 37.2 ± 7.3 years. Most of the subjects were married (89.2%) and subjects with diploma and bachlour degrees accounted for 41.7% and 30% of the total participants, respectively. In terms of employment status, 53.2% of contractual and 39.4% of permanent staff were accounted for, respectively. The mean of the work experience of the subjects was 11.34 ± 5.9 years. These values were reported to be 9.6 ± 7.4 years in terms of work experience in the emergency department.

The results of investigating the relationship between the demographic characteristics of Guilan's medical emergency technicians and the frequency of workplace physical violence showed that none of the single subjects had a history of physical violence. Accordingly, there was a significant relationship between the incidence of violence and marital status ($P = 0.008$). There was no statistically significant relationship between the education level and

Table1: Frequency distribution of physical violence and its relationship with individual and organizational variables

Variable	Exposure to physical violence during the last 12 months		Sig.
	Yes N (%)	No N (%)	
Marital status	Single	0 (0)	0.008*
	Married	38 (38.4)	
Job-related education level	Diploma	13 (30.2)	0.5**
	Associate's degree	6 (21.4)	
	Bachlour	11 (34.4)	
Job status	Permanent	19 (44.2)	0.1**
	Temporary-to permanent	3 (50)	
	Contractual	14 (24.1)	
	Under -a-contract	0 (0)	
Age group	≤35	39 (76.5)	0.043**
	35≤	35 (58.3)	
Work experience	≤10	48 (72.7)	0.045**
	10≤	25 (54.3)	
Work experience in emergency department	≤10	55 (69.6)	0.127**
	10≤	18 (54.5)	

* Fisher Exact Exam

** Chi 2Test

Table 2: Regression coefficient and relative odds of individual and social characteristics associated with physical violence

Variable	Regression coefficient	Standard error	Sig.	Odds ratio	CI 95%	
					Lower	Upper
Age group	0.170	0.640	0.791	1.185	0.338	4.155
Work experience in emergency department	0.165	0.710	0.816	1.180	0.293	4.748
Job status	-0.381	0.619	0.538	0.683	0.203	2.298
Education level	-0.055	0.319	0.864	0.947	0.506	1.770
Work experience of <10 years compared to >10 years	0.798	0.449	0.077	2.215	0.919	5.342
Constant	-1.242	0.315	0.0001	0.289		

employment status variables. The findings also showed that the frequency of occurrence of physical violence was significantly associated with age ($P = 0.043$) and work experience ($P = 0.445$), and younger people (less than 35) suffered less physical violence than older people (over 35 years of age). Moreover, people with work experience of less than 10 years reported fewer cases of physical violence during the past year than those who had more than 10 years of work experience (Table 1).

The results of Logistic regression on the predictors of physical violence among the variables, entered in the final model, showed that the work experience, given the fact that the p-value obtained ($P = 0.077$) is close to a significant level, is important as a clinical predictor. Based on this model, the likelihood of physical violence in people with work experience of 10 years and above is 2.2 times that of people with the work experience of less than 10 years (Table 2).

Discussion

The findings of this study revealed that more than a third of the subjects experienced physical violence during the past year. Most studies reported a high prevalence rate for physical violence among medical emergency staff. In a study, Rahmani et al. reported the physical violence rate of about 37.7%, in the past year, against the emergency medical staff of East Azerbaijan [14]. In a study in the pre-hospital emergency department of the province of Kerman, Sheikh Bardsiri et al. reported that 83.8% of the subjects experienced workplace violence at least once over the past year, and 22.88% of them suffered from physical violence [8]. Kuestani et al. also reported a violence rate of 20.08% against medical emergency students in the Arak University of Medical

Sciences in the last year [12]. The frequency of physical violence was reported to be 16% and 67% in two separate studies in Sweden, respectively (2, 5). According to a previous study in the United States, Corbett et al. stated that 48.9% of pre-hospital emergency staff experienced workplace physical violence within the last year [15]. In a study in Australia, Boyle et al. reported that 87.5% of pre-hospital emergency staff experienced workplace-related violence during the past year, and 37.6% of them suffered from physical violence [16].

The Guilan province, the research setting, has a good climate and beautiful tourist attractions. Therefore, it welcomes many travelers from all over Iran. As a result, many people from different cultures and with different customs travel through the province. The medical emergency staff, thus, encounters many ethnic groups who need pre-hospital care in emergency situations. This could be the reason for the higher incidence rate of workplace violence against medical emergency technicians in this province, compared to the other parts of Iran. Although, there was no significant difference between the level of education and the frequency of physical violence in this study, most of the staff members who were exposed to violence had an associate's degree or lower. In a study, Gunaydin and Kutlu showed that the incidence rate of physical violence has diminished with an increase in the education level [17]. The finding of the present study is consistent with the results of Talas et al. [18].

The low level of education may be a factor in increasing the error rate associated with emergency patients, who look for academic ability and quick decision-making. Thus, it seems necessary to take into account the academic ability of the emergency medical staff during the

recruitment process, and perhaps, the reconsideration of the criteria for the recruitment of emergency medical technicians could reduce the incidence of workplace violence to some extent. There was also no significant relationship between the frequency of physical violence cases with high work experience and age above 35 years. Moreover, the results of the Logistic regression table on the predictors of physical violence showed that the chance of exposure to physical violence in people with work experience of 10 years and above is higher than those with work experience of less than 10 years. In a study in Spain, Bernaldo et al. showed that younger people were more exposed to workplace violence [19]. Also, Adib et al. reported that there was a relationship between low work experience and an increased violence level [20]. The results of the present research are not consistent with the studies conducted by Bernaldo et al. and Adib et al. Perhaps, at first glance, the relationship between age and work experience with workplace physical violence seems to be illogical, based on the statistical analysis information; however, when we look at the problems related to employment and finding a job and the statistics of educated people, the low frequency of physical workplace violence in younger people with less work experience is less well-justified, because these people may report the incidence of violence less than the actual level due to the fear of losing their jobs [10]. The findings of this study revealed that the incidence of violence in married individuals is higher than for single individuals. In a study, Jahani et al. reported a statistically significant relationship between the incidence of physical violence and marriage [21].

Aghajanloo et al. stated in their study that about one in five single individuals were exposed to physical violence [11].

However, the results of Esmaeilpour et al. showed that workplace violence occurs in most cases against single employees [10], which may be due to differences in the cultural level of participants in various studies. The increased violence level observed among the married individuals in the present study may be due to the insults made by patients and their companions or other people in the emergency room against the family members of the staff, which may expose them to physical violence. Considering the prevalence of violence against pre-hospital services staff in the present research, it is recommended to consider formal education of violence management in the curriculum for medical emergency students.

According to the World Health Organization (WHO), workplace violence is one of the problems of most organizations. WHO seeks to minimize the occurrence of workplace violence, especially the physical type in emergency situations, because this dilemma causes serious problems in cases of emergency, in which minutes and seconds of time management are vital to the survival and transfer of the injured person, and any delay can unwittingly cause irreparable damage. It seems that the condition of the patient's transport fleet, the dispersion of urban and rural communities, good climate and beautiful tourist attractions, and the presence of many travelers with different cultures, traditions, and ethnic backgrounds have provided a ground for the occurrence of violence against medical emergency technicians more than ever in the Guilan province.

Since violence can lead to individual, organizational, and professional complications, training in communication principles, training in violence management for emergency medical staff, securing staffs' safety during emergency

operations, as well as public education and the formulation of supportive and deterrent laws can reduce the frequency of this professional problem and its consequences. Since the study instrument was designed to determine the past occurrence, recall bias may occur in them. On the other hand, some research subjects may not report all or all aspects of workplace violence due to cultural issues. In addition, the physical, psychological, and social status of the research subjects, when completing the questionnaire, can affect the responding manner and possibly the results of the research.

Acknowledgments:

This article is the result of a dissertation approved by the Vice-Chancellor for Research and Technology of Guilan University of Medical Sciences (93041703) for a Master's degree in Nursing, sponsored by the Vice-Chancellor. Thereby, the authors express their appreciation all authorities, professors of Shahid Beheshti Nursing Faculty of Rasht, Social Determinants of Health Research Center, considerate and patient medical emergency staffs of Guilan province for their sincere cooperation.

Conflict of interest

No conflict of interest has been declared by the authors.

Author contributions

All authors have agreed on the final version and meet at least one of the following criteria [recommended by the ICMJE

(<http://www.icmje.org/recommendations/>):

-Substantial contributions to conception and design, acquisition of data, or analysis and interpretation of data;

-Drafting the article or revising it critically for important intellectual content

Reference

1. Panahi F, Mohebbi H A, Azizabadi Farahani M, Khoddami Vishteh H R, Assari S.

- Prehospital Emergency Service for Internal Medicine Problems in Pediatrics, Causes, Time Indices and Outcomes. *Iran Journal Pediatr.* 2007; 17(2):179-185. Persian.
2. Petzall K, Tallberg J, Lundin T, Suserud B. Threats and violence in the Swedish pre-hospital emergency care. *Int Emerg Nurs.* 2011;19(1):5-11.
 3. Rafati Rahimzadeh M, Zabihi A, Hosseini SJ. Check nurses exposed to verbal and physical violence in hospitals. *Journal of Nursing and Midwifery.* Tehran University of Medical Sciences. 2011; (17) :5-11. Persian.
 4. Schopper D, Lormand JD, Waxweiler R, World Health Organization. Developing policies to prevent injuries and violence: guidelines for policy-makers and planners. Geneva: World Health Organization; 2006.
 5. Suserud BO, Blomquist M, Johansson I. Experiences of threats and violence in the Swedish ambulance service. *Accid Emerg Nurs.* 2002;10(3):127-135.
 6. Bigham BL, Jensen JL, Tavares W, Drennan IR, Saleem H, Dainty KN, et al. Paramedic self-Reported exposure to violence in the emergency medical services (EMS) workplace A mixed- methods cross-sectionale survey. *Prehosp Emerg care.* 2014;18(4):489-94.
 7. Rahmani A, Roshangar F, Dadashzadeh A, Namdar H, Akbari MA, Nabiollahi L. Verbal violence in working environment among Emergency medical personnel of Tabriz university and subsidiary provinces. *Journal of nursing and midwifery.* 2009(14): 33-39. Persian.
 8. Sheikh-Bardsiri H, Eskandarzadeh S, Aminzadeh M, Sarhadi M, Khademipour G, Mousavi M. The frequency of violence in workplace against Emergency care personnel in kerman, Iran, and the factors Affecting the Occurrence. *J Manage med inform Sch.*2014;1(2):95-101. Persian.
 9. Pourshaikhian M, Abolghasem Gorji H, Aryankhesal A, Khorasani-Zavareh D, Barati A. A Systematic Literature Review: Workplace Violence Against Emergency Medical Services Personnel. *Arch Trauma Res.* 2016 Jan 23;5(1):e28734. doi: 10.5812/atr.28734. eCollection 2016 Mar.
 10. Esmaeilpour M, Salsali M, Ahmadi F. Workplace violence against iranian nurses working in emergency department. *Int Nurs Rev.* 2011;58(1):130-7.
 11. Aghajanloo A, Haririan HR, Ghafurifard M. Violence during clinical training among nursing students of Zanjan universities of medical sciences. *IRANIAN JOURNAL OF NURSING RESEARCH.* 2010;5(17):47-54. Persian.

12. Koohestani HR, Baghchi N, Rezaii K, Ebrahimi Fakhar HR. Risk factors for workplace violence in emergency medical technician students. *Iran Occupational Health*. 2012; 9(2):68-75. Persian.
13. International Labour organization, International Council of Nurses, WHO. Geneva: WHO; 2002. Available From: <http://apps.who.int/iris/bitstream/10665/42617/1/9221134466.pdf>
14. Rahmani A, AllahBakhshian A, Dadashzadeh A, Namdar H, Akbari M. Physical violence in working environments: Viewpoints of EMT' personnel in East Azerbaijan Province. *Tabriz nursing and midwifery Journal*. 2009;3(11):33-41. Persian.
15. Corbett SW, Grange JT, Thomas TL. Exposure of prehospital care providers to violence. *Prehosp Emerg Care*. 1998;2(2):127-31.
16. Boyle M, Koritsas S, Coles J, Stanley J. A pilot study of workplace towards paramedics. *Emerg Med J*. 2007;24:760-763.
17. Gunaydin N, Kutlu Y. Experience of Workplace violence Among Nurses in Health-Care Settings. *J Psychiatr Nurs*. 2012;3(1):1-5.
18. Talas M, Kocaos S, Akguc S. A Survey of violence Against staff in the Emergency Department in Ankara, Turkey. *Asian Nurs Res*. 2011; 5:197-203.
19. Bernaldo-De-Quiros M, Piccni AT, Gomez MM, Cerdeira JC. Psychological consequences of aggression in pre-hospital emergency care: cross sectional survey. *Int J Nurs Stud*. 2015 Jan;52(1):260-70. doi: 10.1016/j.ijnurstu.2014.05.011. Epub 2014 Jun 5.
20. Adib S, Al-Shatti AK, Kamal S, Elgerges N, Alraqem M. Violence against nurses in health care facilities in kuwait. *Int J Nurs Stud*. 2002;39: 469-478. Persian.
21. Jahani S M, Paryad E, Kazemnejad Leili E, Akbari A, Ghanbari Kh. A, Bouraki S. Incidence of violence against nurses in the educational-medical centers in Rasht. *J Holist Nurs Midwifery*. 2015; 25(2): 16-23 Persian.