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The Effect of Displaying Educational Messages in the Emergency Department on Reducing Violence

Kamran Shirbache[1], Amir Ali Sohrabpour[2], Morteza Saeedi[3], Ali Shirbacheh[4], Sarvenaz Shahin[5], Zahra Lotfi[6], Aatefeh Janatalipour[7], Ghasem Pishgahi[8]

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Author's Affiliation: [1,5-8]General practitioner, [2]Associate Professor, Department of Medicine, [3]Professor, Department of Emergency Medicine, Liver and Pancreatobiliary Diseases Research Center, Digestive Disease Research Institute, Tehran University of Medical Sciences, Shariati Hospital, Tehran 14117, Iran, [4]General practitioner, Isfahan University of Medical Sciences, Iran.

Corresponding Author: Amir Ali Sohrabpour, Associate Professor, Department of Medicine, Tehran University of Medical Sciences, Shariati Hospital, Tehran 14117, Iran.

E-mail: aasohrabpour@tums.ac.ir

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Abstract

Objectives: The Emergency Department (ED) is one of the most important places in a hospital in which patients are full of pain and stress because of its hectic nature. Consequently, there are a lot of quarrels and fights in the emergency department. This study intends to assess the effect of exhibition of educational messages as a way to decrease the violence in the Emergency Room (ER).

Methods: We conducted a cross-sectional prospective survey at the Emergency Room (ER) of Shariati hospital of Tehran in September 2016. Data collection was carried out via distributing a qualitative questionnaire among the Emergency Department (ED) staff at baseline and 3 months after the educational intervention. We measured the total and mean number of various types of violence per survey. We utilized SPSS software version 16 in analysis of data using Mann-Whitney Test.

Results: The analysis showed 47.5% verbal violence before the intervention vs 60% after that (p-value=0.598), 20.8% financial violence pre-intervention versus 43.8% post intervention (p-value=0.253), both of which were not significant statistically; however, physical violence considerably decreased from 83.9% to 47.6% during the study (p-value=0.01). During the semi-structured interviews with personnel, it was found that this presentation had some positive effects on controlling the stress of the environment practically, although it did not appear in the analysis.

Conclusion: This type of public education in the hospital does not seem to be independently effective in reducing the violence in the Emergency Room (ER). According to the results, most violence indexes, except Physical violence, have not been mitigated after the intervention significantly. Perhaps, it could be more efficient by using audiovisual media, animation, and other captivating methods.

Keywords: Public education; Emergency department management; Hospital violence.

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Introduction

The emergency department is the point of contact of many people with a medical system, which is one of the most hectic parts of the hospitals.[1] Workplace violence means any situations or incidents in which personnel are subjected to verbal or physical threats due to the situations in their jobs.[2] Job satisfaction of the Health staff and safety feeling at workplace are important issues.[3] Due to the disparity between the number of patients and the facilities of the hospital, as well as insufficient attention paid to improving the quality of services, frequent verbal and physical conflicts happen between patients and their companions with hospital personnel. This vicious cycle would exacerbate the poor condition of the ER subsequently.[4]

Patients have always been one of the important indices of the quality of health services.[5] People believe that talking to nurses and getting information will reduce their anxiety and relax them.[6] Studies have shown that by educating patients and their companions as well as explaining issues to them, many of these quarrels can be prevented.[7] National engagement and widespread culture as well as public education can be partly fulfilled by providing the clients in the emergency department,[8] especially ER, with visual and written messages.[9] Educating clients in the hospital would help to promote culture, calming the hospital environment, and eventually improve the quality of service delivery.[10]

In the present study, we aimed to assess the effectiveness of displaying educational and comforting messages around the ER on the occurrence of violence.

Material and Methods

The present study is a cross-sectional prospective survey at the ER of Shariati hospital of Tehran in September 2016. We firstly identified the most significant causes of fights (among patients and also between patients and the personnel), using interviews. Thereafter, we designed educational and comforting messages in the form of posters and displayed them around the ER for 3 months. Data collection was carried out via distributing a qualitative questionnaire among the ED staff on all shifts for 4 alternate days on one week period at baseline and 3 months after the intervention. Inclusion criteria were being personnel working at least one year at the ER and the exclusion criteria were psychiatric illnesses such as anxiety disorders. We asked related questions before participating in the study. Then, we measured the total and mean number of various types of violence per survey and defined these scores as violence indexes. We have chosen all the staff working at the ER as sample size in order to collect data as much as possible. To have explained the study method obviously, it is categorized to two steps which is described below:

1-Preparation of the messages

First of all, having prepared the proper messages, the most important reasons of the conflict and the quarrel at the hospital ER were identified conducting a deep and semi-structured interview with different levels of emergency hospital staff as emergency medical assistants and nurses, receptionist and cashier. Open ended questions about the most current and significant causes of the brawls at the ER were asked and the staff explained their experiences and the possible solutions to the conflicts happening at the ER in detail. The greatest number of conflicts were associated with the inadvertence of personnel toward patients, lack of verbal explanation, public ignorance of rules and procedures at the emergency room. Various sentences were compiled to resolve these problems based on the collected data. Having promoted the efficiency of these messages, the professors' judgment of different departments of Medical Ethics, Emergency Medicine, and Psychology were involved to achieve suitable sentences. The quality and transparency of the sentences, as well as their prioritization, were measured by distributing a qualitative questionnaire among the same staff working at the ER in order to identify the quality, transparency and priority of each message. The professional staff gave scores to each statement from different points of view and by rating the different aspects of messages one by one, the terms were graded based on their importance.

Moreover, through interviewing and displaying messages to the companions of the patients, almost identical to the same statistical sample as the patients, the audience's conception from the messages was found and minor edits were carried out, then the final revision was made. Eventually, they were presented in the form of posters, banners, and photos at Dr. Shariati Emergency Hospital. (Fig. 1, Fig. 2)

Fig. 1: Poster related to the arrival of the patient's companions in the emergency room.

2-Assessment of the violence in ER

Before presenting the messages, the tranquility of the environment and number of conflicts in the ER during the past month were evaluated by means of a qualitative survey consisting of sixteen questions to which staff give a score. The questions related to different brawl events defined certain types of violence and the damaging consequences. Questions were about the number of verbal and physical brawls between patients and staff or between clients themselves, observed by individuals. The questionnaire was edited during the distribution by individuals' comments and its construct validity was confirmed subsequently by supervision of the professors from emergency medicine and medical ethics department cooperating in the project.

Some demographic data, including position and educational degree were collected. All the respondents were nurses with more than one year experience in the ED. All the participants who attended this project to fill the questionnaires have been asked about their consent in advance, then they have been included in the study. As long as there was not any obligation on the participants to fill the surveys and the patients and personnel have not been impacted by any specific intervention

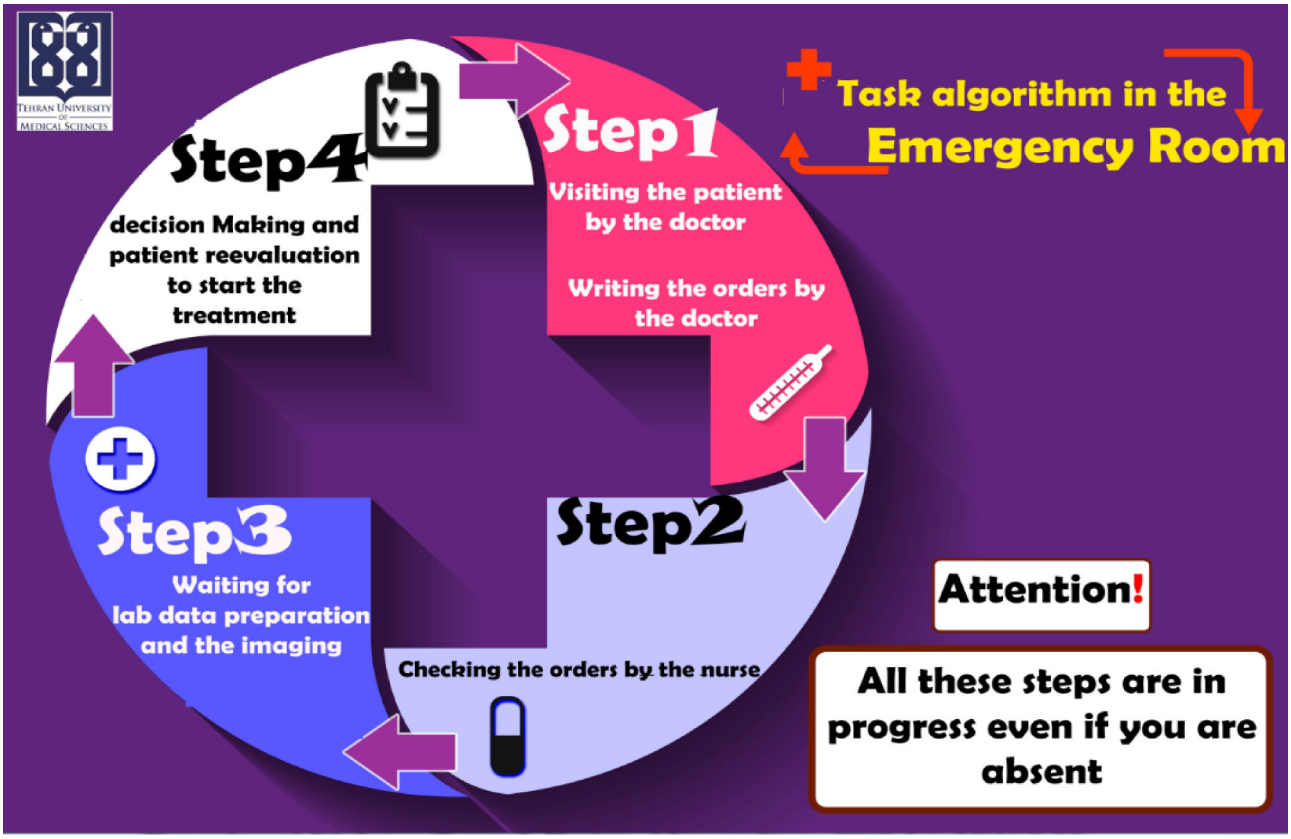

Fig. 2: Poster related to the sequence of tasks in the emergency room.

during the project, we proclaim that all the ethical aspects have been considered. Having reduced the bias perfectly, we included the same staff in both pre and post intervention.

The staff were asked to quantify the amount of physical, financial and verbal violence either experienced by their own or witnessed during the past month. This included a description of various features such as spitting, hitting, threats, choking, screaming and money offering. There were also three other qualitative questions evaluating the referrals pertaining to serum matters, facilitation requests and follow up affairs conducted repeatedly by clients. There was a seemingly irrelevant question about the most accident prone part of the ER; however, it was beneficial to concentrate on the hot zones for placing the messages and also useful for future studies.

We defined three main categories as "verbal violence", "physical violence" and "financial violence" among the emergency personnel over the past month in which individuals give exact scores to the questions relating to each item. Forty-six persons, including the ER staff on all shifts for 4 alternate days in a one week period, were included in the primary survey. After three months of installing messages, these parameters were measured again at the same place, distributing the former questionnaire among the individuals dropping to twenty seven as the post intervention survey. We utilized SPSS software version 16 in analysis of data using Mann-Whitney Test. In this article, we used *strobe* guideline while drafting the documents.

Results

Seventy three surveys were completed. The analysis showed 47.5% verbal violence before the intervention vs 60% after that (p-value=0.598). Overall, staff reported or witnessed verbal violence more than 15 times a month, which was about 50% of cases, which shows a high rate of violence and quarrels in the ER. Related to physical violence and damage to the ER, the results were significant which decreased from 83.9% to 47.6% during the study (p-value=0.01). Even though the total number of reports of this type of violence is considerably less than verbal violence.

Regarding financial violence and bribe offerings by clients to expedite their patient affairs, the study disclosed that this phenomenon exists in the emergency department, and many people even mentioned this more than 5 cases per month. Financial violence proportion was 20.8% versus 43.8% in post intervention surveys which was not significant (p-value=0.253).

Table 1: Extent of different violence before and after the intervention

	Before intervention %	After intervention %	P value
Verbal violence	47.7	60	0.598
Physical violence	83.9	47.6	0.01
Financial violence	20.8	43.8	0.253

The most frequently mentioned location for quarrels was the triage room at which we placed several posters in order to concentrate on. Patients' referral to the nurse station to ask about IV fluids and other related matters and also the rate of complaints about different services were not reduced significantly according to our results (P-values= 0.953, 0.450, 0.973 for the related questions). Overall, the patients' awareness of emergency problems such as overcrowding and shortages of manpower and equipment, increased after the intervention based on general ideas of the personnel in the later interviews; however, this information has not been documented in the results.

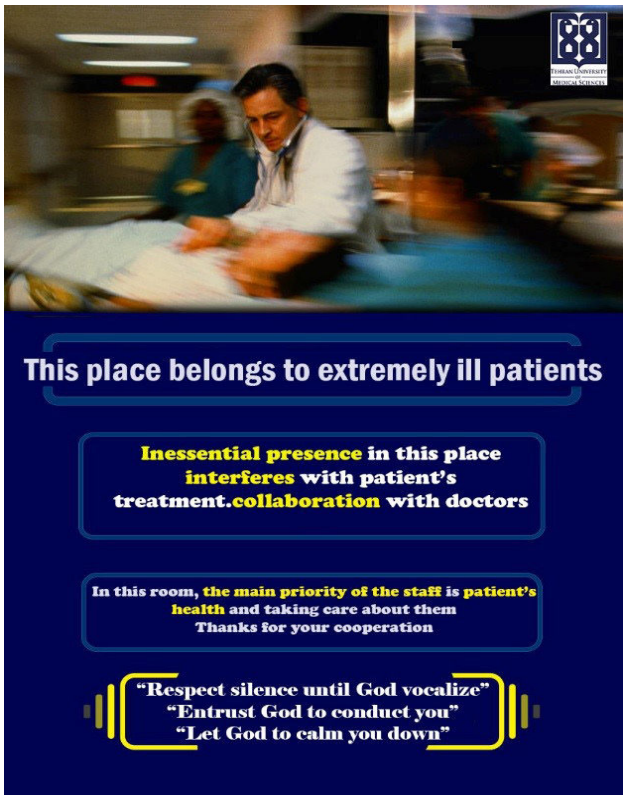

Fig. 3: Rehabilitation Room Poster

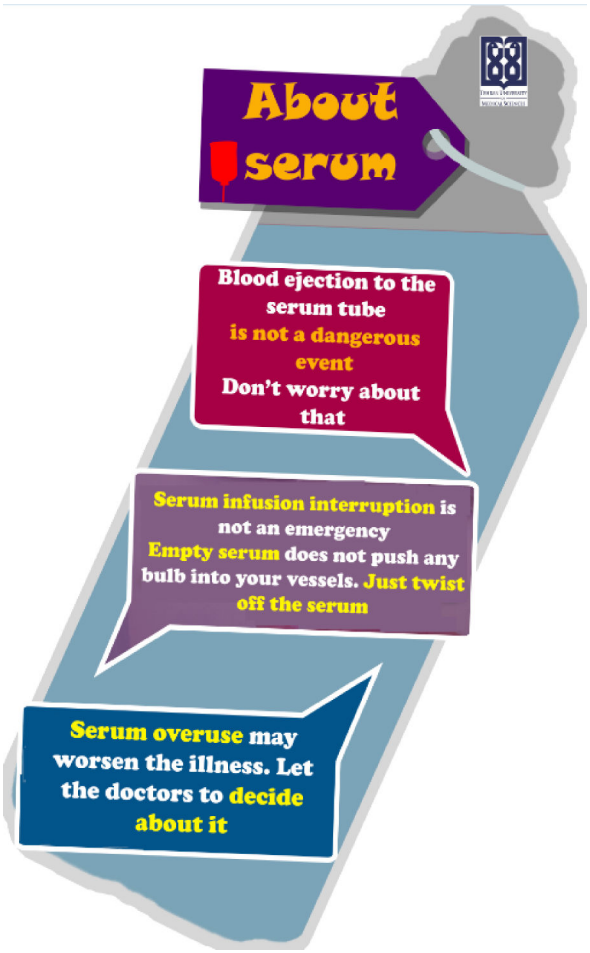

Fig. 4: Serum poster

Discussion

As far as it was intended to reduce the number of quarrels in the emergency room with posters and photo postings, the results of the study showed that our intervention did not have any significant effects on emergency situations to improve its conditions, except for the physical contact which was reduced significantly.

While the most severe type of violence is its physical form, perhaps it could be construed that public informing impacts on the incidence of the highest level of anger the most. (Fig. 3, Fig. 4)

To have discovered why this intervention was not statistically significant in reducing the severity of the chaos at the ER, it is worthy to consider to the study carried out by Ramacciati et al. in 2016, in which ten intervention studies were reviewed pertaining to reduction of the risk of violence toward emergency department staff as current approaches. The author categorized seven of them as sectoral based interventions and the others as comprehensive actions.[10] The first intervention was "Guiding principles for mitigating WPV (Workplace Violence)" that the American Organization of Nurse Executives and the Emergency Nurses Association proposed eight guiding principles related to five focus areas including: "encouraging respectful communication and behavior", "creating outcome metrics of the program's success", "ensuring ownership and accountability", "offering training and education on WPV" and "establishing a zero-tolerance policy". The article proclaimed that this intervention was beneficial to increase the partnership between the hospital leaders and staff, eventually mitigating patient and family violence in the hospital.[11,12] The second item was "Scenario based training methods" in which Kotora et al. proposed a simulation training approach in order to enhance behavioral awareness among the health care workers for an extreme situation that may occur in the ED. They used pre-test and post-test surveys accompanied by educating 32 resident nursing and medical students with case based scenarios. Finally, it proved effective to teach the health care workers how to manage an active shooting incident;[13] however, it has not been evaluated whether it would decrease the violence in the long term or not.[10] The next method was "Rapid training program" which included educational interventions promoting communication skills and use of de-escalation techniques in order to prevent patient agitation. Gerdtz et al. provided a quick and wide educational program dividing these contributing factors into three categories: patient/biomedical causes (internal), environmental causes (external), and situational causes (interactional). By administering a pre and post-test immediately before and 6–8 weeks after training, they assessed their intervention. Nonetheless, the participants confessed that they feel uncertain about whether or not it would be possible to prevent attacks of patient aggression.[14] The fourth plan was Hybrid educational intervention in 2014 conducted by Gillespie et al. using three online modules of educational programs as the first, prevention of violence insisting on risk assessment, environmental safety, and proper communication skills with clients, the second, safe management of violence through an organized team approach and the last, post-incident response which means reporting and caring for victims. The effectiveness was evaluated by three tests in different stages (at baseline, post-test, and 6 months post-test) which concluded that this educational prevention program can be beneficial for the achievement of satisfactory learning outcomes.[15] The next intervention was related to "rapid response teams" which evaluate

the effect of security guard presence in the ED on reducing violence. Gillespie et al. in a qualitative study in 2012 showed that the emergency staff confirm the merits of the security officers support, even though their effectiveness in maintaining a safe workplace is not approved.[16] Kelley, in 2014, studied the usefulness of a rapid response team consisting of physicians, social workers, nurses, technicians, human resources personnel, members of administration, and risk management personnel beside the security guards which turned out to be significantly efficient in reducing violent behavior.[17] Comprehensive approach could be mentioned as the sixth method on which Gillespie et al. have worked in 2014. They defined three fundamental interventions including "implementing any necessary environmental changes", "laying down policies and procedures" and "offering education and training" to prevent violence perfectly; however, it was not supported in their study that the intervention sites would have a significantly more decrease in violence episodes compared to control sites. The authors contended that two out of three intervention sites recorded a significant reduction in violent attacks.[18] Kowalenko et al., in a similar study in 2012, proclaimed that training medical staff, modifying the physical structure of the ED, and improving the local and national policies or action plans could bring a meaningful impact on reduction of violence.[19] Yet, these literatures could not illustrate any evidence of effectiveness for the mentioned actions.[10] As the last category in Ramacciati's study, action research approach should be notified which has been proposed by Gates et al. in 2011, combining various contributing factors such as the epidemiologic concepts of host, machine, vector, and environment with different levels of prevention (primary, secondary, and tertiary) in a qualitative study. The 12 focus groups conducted in this study confirmed that the planned intervention strategies were feasible, acceptable, effective, and understandable for all the staff.[20] According to the results of aforementioned studies, only a minority of the intervention could approve their authenticity with qualitative methods resembling the result of our study which could not absolutely reflect the effectiveness of displaying posters and messages.

Zulfiqar A in 2020, studied a postgraduate training program emphasizing on a positive and healthy educational environment. He evaluated conception of autonomy, teaching and social support by focusing on Postgraduate Hospital Educational Environment Measure (PHEEM). Through analysis of questionnaires completed by postgraduate residents in two different countries, UEA and Pakistan, he found a significant association between gender and country of training and healthy environment. It expresses the importance of a proper environment in order to educate efficiently.[21] Similarly in our project, the lack of suitable space to demonstrate the posters was a deterring factor.

Limitations

It is worth while to investigate the weak points of the project. Firstly, the interval of three months to examine the effects of such an intervention leading to behavioral change was too short; it takes about one year time to get better results because attitude changing will not happen unless patients visit the emergency repeatedly and re-expose to these messages frequently. Secondly, it seems that there is a cultural barrier in most Iranian people, especially those who come to the emergency departments of public hospitals. Mostly, they are from peripheral locations of Tehran with a low educational level. Admittedly, the obstacle is low reading per capital and low willingness to read messages in this community class. During a few patients 'surveys, it became clear that despite the large and understandable poster in front of the patients' eyes, which is about serum information and how to deal with its problems, some people still prefer to ask questions from the physicians and the nurses, instead of reading messages. They said it was more confident asking the staff. Thirdly, the lack of appropriate space for posters to be installed was another obstacle during this study. Even though it was tried to use attractive colors and interesting themes in poster designing as much as possible; however, the inappropriate and turbulent space of the emergency as well as the very large number of letters and other posters on the emergency walls, which is mostly for informing the personnel, reduced the sensitivity of the clients to follow the educational messages. Lastly, our measurement tools might have not been as efficient as what was needed; that is to say, since we did not check reliability for the questionnaire, perhaps the individuals could not comprehend it precisely and this led to inaccurate comparison.

Conclusion

As noted earlier, many quarrels in the emergency department are due to common and recurrent reasons, which occur due to the lack of facilities, overcrowding, and unawareness of the clients repeatedly. Based on the analysis of the results and contemplating in the interviews, the presentation of educational messages could not decrease the violence at the ER singly; however, it seems to be more effective by using audiovisual media,

animation, etc. These new methods are more attractive to change people's behavior. This study can be a topic for future studies.

Consent to Participate: All the participants who attended this project to fill the surveys have been asked about their consent in advance, then they have been included in the study.

Ethical Approval: Our project was supervised by the Department of Medical Ethics at TUMS in order to avoid any unethical event in the educational messages or the questionnaire. As long as there was not any obligation on the participants to fill the surveys and the patients and personnel have not been impacted by any specific intervention during the project, we proclaim that all the ethical aspects have been considered.

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