Journal of Caring Sciences, 2017, 6(2), 119-125
doi:10.15171/jcs.2017.012
http:// journals.tbzmed.ac.ir/ JCS

The Effect of Start Triage Education on Knowledge and Practice of Emergency Medical Technicians in Disasters

Mahboub Pouraghaei, Jaafar Sadegh Tabrizi, Payman Moharamzadeh, Rozbeh Rajaei Ghafori, Farzad Rahmani*, Baharak Najafi Mirfakhraei

Emergency Medicine Research Team, Tabriz University of Medical Sciences, Tabriz, Iran

ARTICLE INFO

Article Type:
Original Article

Article History:
Received: 13 Apr. 2016
Accepted: 13 Jul. 2016
ePublished: 1 Jun. 2017

Keywords:
Education
Triage
Disasters
Emergency medical technicians

ABSTRACT

Introduction: Pre-hospital triage is one of the most fundamental concepts in emergency management. Limited human resource changes triage to an inevitable solution in the management of disasters. The aim of this study was to evaluate the role of education of simple triage and rapid treatment (START) in the knowledge and practice of Emergency Medical Service (EMS) employees of Eastern Azerbaijan.

Methods: This is a pre-and post-intervention study conducted on two hundred and five (205) of employees of EMS sector, in the disaster and emergency management center of Eastern Azerbaijan Province, 2015. The utilized tool is a questionnaire of the knowledge and practice of individuals regarding START triage. The questionnaire was filled by the participants pre- and post-education; thereafter the data were analyzed using SPSS 13 software.

Results: The total score of the participants increased from 22.02 (4.49) to 28.54 (3.47). Moreover, the score of sections related to knowledge of the triage was a necessity and the mean score of the section related to the practice increased from 11.47 (2.15) to 13.63 (1.38), and 10.73 (3.57) to 14.93 (2.78), respectively, which were statistically significant.

Conclusion: In this study, it was found that holding the educational classes of pre-hospital triage before the disasters is effective in improving the knowledge and practice of employees such as EMS technicians and this resulted to decreased error in performing this process as well as reduced overload in hospitals.

Please cite this paper as: Pouraghaei M, Tabrizi JS, Moharamzadeh P, Rajaei Ghafori R, Rahmani F, Najafi Mirfakhraei B. The effect of start triage education on knowledge and practice of emergency medical technicians in disasters. J Caring Sci 2017; 6 (2): 119-25. doi:10.15171/jcs.2017.012.

Introduction

Triage is one of the most important management and decision-making concepts in emergency wards and disasters.[1-3] There are two sub-categories of triage namely hospital and pre-hospital triage.[4] Generally, when there is an overflow of patients in the emergency ward of hospitals or when there are numerous casualties and injured people at the accident scene, triage is the only way of developing the maximum facility for the maximum number of patients.[5-6] The three major principles at the occurrence of a disaster are triage, transfer, and treatment.[7] One of the triage systems widely accepted and used to manage disasters is the simple triage and rapid treatment (START) system, first applied in the US in the 1980s. In other words, START was done at the scene of unexpected incidents in a preliminary fashion and involves passing alongside some casualties who died; hence attempts are merely directed towards people who have a higher chance of survival.[8] As a result of the simplicity of the START system, learning of it is fast and easy. However, as other quick triage protocols, it has some limitations including negligence of the injury mechanism, limited assessment, and failure to monitor patients with a mild or moderate injury, whose transfer is delayed.[9]

The triage of injured people is a vital skill. Although there are systems for guiding emergency medical service (EMS) employees in decision-makings on triage, there are a few evidences which confirm the validity of these

***Corresponding Author:** Farzad Rahmani, (MD), email: rahmanif@tbzmed.ac.ir. This study was approved and funded by the deputy of research of Tabriz University of Medical Sciences (Project number: 92/3-7/35).

systems.[10] Sedaghat et al., concluded that the level of awareness and performance of EMS personnel about pre-hospital triage in Northern Khuzestan is low.[11] Also, Aghababaeian et al., concluded that awareness of EMS about the START system is less than optimal.[12]

As a developing country, Iran has always been subject to disasters over the past years.[11] The solution required for solving the problems associated with these disasters and incidents include preparedness and planning, application of advanced systems, ensuring the policy of accountability, existence of a successful scientific and executive program and availability of sufficient resources of emergency and trained as well as skilled human resources.[12] A large number of victims during mass-casualty incidents are referred to emergency wards and this event may disrupt the normal flow of patient in a crowded emergency ward.[13] Ideal management of disaster is not the only addition of methods to dealing with urgencies; rather all casualties should be assessed for the provision of treatment and transfer. The issue of casualty prioritization for treatment, should also be investigated.[14]

After the occurrence of Varzeghan and Ahar earthquakes on Aug. 2012 in East Azarbaijan, IR Iran, it was observed that the knowledge and practice of EMS employees about triage in disaster (START) were very low based on the patients were transported to our emergency ward of Emam Reza hospital by EMS.[15] Thus, a study on START triage education to EMS employees was conducted. The aim of this study was to determine the role of education in improving the awareness and performance of pre-hospital EMS employees in Eastern Azerbaijan Province in 2015, considering START and doing jaw trust (airway maneuver at the time of crisis and during START triage).

Materials and methods

This research is a one group pre- and the post-test study conducted in 2015 in the disaster and emergency management center of Eastern Azerbaijan Province, affiliated to Tabriz University of Medical Sciences. Five cities of the province were selected based these cities are auxiliary cities in our province namely Tabriz, Ahar, Marand, Maragheh, and Mianeh cities and all employees of pre-hospital emergency service in these cities and cities around them were selected. Auxiliary cities in our province were selected by Tabriz University of Medical Sciences from about 30 years ago, and the education programs of the health care providers in these cities and around of them were conducted in auxiliary cities. This process is based on the decentralization policy. The inclusion criteria included being a member of pre-hospital emergency services while the exclusion criteria were the reluctance to continuing the cooperation in the study and not filling the post-test questionnaire. In these cities, 250 people of the EMS personnel were included in the study, but according to the exclusion criteria, the results of 205 individuals were assessed. A written informed consent form was taken from all the participants based on explanation of the study conditions. The current study was confirmed by the ethical committee of Tabriz University of Medical Sciences under the code "TBZMED. REC. 1394. 2" 19. 04.2015.

In order to evaluate the level of awareness and performance of participants, a multiple choice question test (MCQ) was added in the form of a pre-test. Similarly, to assess the skills of managing the jaw trust airway maneuver a healthy person was used and hypothetical conditions were developed using simulated patient (following the acquisition of informed consent). The questionnaire consists of three parts. The first part of the questionnaire was about the demographic features of participants (age, gender, level of education, and years of work experience), the second part was about knowledge of participants (15 questions) and the third part is about the practice of participants (19 questions). The Validity and reliability of questionnaire that we used in this study had already been examined and confirmed in the study by Aghababaeian et al.,