

Perspectives of Emergency Department Staff on Triage Practice

Acil Servis Personelinin Triaj Uygulamasına Bakış Açısı

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Abstract

Objective: The aim of this study was to evaluate pre-training perspectives of the staff, who were scheduled to undertake triage in hospitals of Ministry of Health, working in collaboration with university hospitals on the triage system.

Materials and Methods: This study included 33 workers who volunteered to participate. A questionnaire consisting of 19 questions on demographic characteristics and perspective on triage system was prepared.

Results: Of the sample group, 75.8% were female and the average age was 28.94±6.11 years. All participants in the study considered that emergency department was overused by the society. When the percentage of patients who were admitted to the emergency department for causes complying with the emergency criteria was questioned, 54.5% stated that 10% or less of the admissions were actual emergency cases. Triage practice was suggested by 54.5% of the participants to reduce crowding in emergency departments.

Conclusion: Triage practice which allows correct identification of patients who need the most urgent intervention in emergency departments is important in terms of both giving the right care to the right patients and quality of service provided by healthcare workers. Community-based education as well as training of workers on this subject is a necessity.

Keywords

Emergency department, triage, crowded

Anahtar Kelimeler

Acil servis, triaj, kalabalık

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Öz

Amaç: Üniversite hastaneleriyle ortak hizmet veren Sağlık Bakanlığı Hastaneleri'nde triaj hizmeti vermesi planlanan personelin eğitim öncesinde bu uygulamaya bakış açısının değerlendirilmesidir.

Gereç ve Yöntemler: Bu çalışmaya gönüllü 33 çalışan dahil edildi. Anket formu sosyo-demografik bilgiler, acil sağlık hizmetleri ve triaja ilişkin konularda görüş isteyen 19 sorudan oluşan yargısal anket ölçeğiyle hazırlanmıştır.

Bulgular: Örneklem grubunun %75,8'i kadın ve yaş ortalaması 28,94±6,11 idi. Çalışmaya dahil olan tüm katılımcılar acil servisin toplum tarafından gereksiz kullanıldığını belirtti. Acil servise herhangi bir nedenle başvuran hastaların ne kadarının acil kriterlerine uygun olduğu sorgulandığında ise %54,5 katılımcı bu oranın %10 ve daha az olduğunu bildirdi. Grubun %54,5'i, triaj uygulamasının acil servis kalabalığını azaltacağını düşünmekteydi.

Sonuç: Triajın acil serviste uygulanması hem öncelikli hastaların bakımı hem de sağlık çalışanlarının sunduğu hizmetin kalitesini açısından önemlidir. Bu konuda çalışanların eğitimi kadar toplumsal bazlı bilgilendirmenin de yapılması gerekmektedir.

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Introduction

With increasing world population, as in all fields of the society, an imbalance has emerged between givers and receivers in healthcare. Triage systems have been developed particularly in the emergency departments, which are at the forefront in hospitals, in order to avoid demand and supply gap, to determine the priorities, and to guide on how the available sources should be used. Triage was originally developed for use in military in the 18th century (1,2). Civilian emergency departments' use of triage was first described in 1964 under the influence of military experience (3). In time, numerous systems have been used and necessity for development of current systems has emerged (4-6).

In our country, standardization studies had been initiated in 2003 by the Service Quality Standards for Emergency Department, by defining "Triage Classification System" for every hospital within the context of "Ministry of Health of the Republic of Turkey, Health Transformation Project". In 2009, this system was improved as triage practice and color-coding (7). However, in our country, there are variations in terms of the preferred triage system and the personnel in charge, similar to that observed throughout the world. In particular, variations in practice are present between university hospitals and hospitals run by the Ministry of Health. Therefore, in January 2015, it was aimed to plan training on triage practices provided in emergency departments of hospitals run by the Ministry of Health and to initiate standardized practice across Turkey.

The aim of this study was to evaluate the pre-training perspectives of healthcare professionals who were scheduled to undertake triage in hospitals of Ministry of Health, working in collaboration with university hospitals on the triage system.

Materials and Methods

The study was conducted in January-March 2015, with voluntary participation of 33 workers out of 42, who were providing healthcare services in the emergency department at Rize Recep Tayyip Erdoğan University and Erzincan University Medical Faculties, working in collaboration with hospitals run by the Ministry of Health, following triage training of the trainees, which had been organized by the Turkish Ministry of Health, Public Hospitals Institution,

Division of International Relationships and Emergency Health Services. The group of participants consisted of nurses, health officers, and emergency medical technicians who had direct communication with the patients in the line of duty, and who were scheduled to provide triage services.

A questionnaire consisting of 19 questions on demographic characteristics and perspective on triage system was prepared.

Statistical Analysis

The analysis of the data was performed with Statistical Package for the Social Sciences version 17 software (SPSS v.17, Chicago, IL, USA). The acquired data were interpreted and the average, standard deviation, minimum-maximum values and frequency charts were used as descriptive statistics.

Results

Thirty-three participants (25 females, 8 males) consisting of nurses, health officers, and emergency medical technicians, who were scheduled to provide triage service in emergency departments, were included in the study on a voluntary basis. These volunteers constituted %78.6 of the population of the study. The average age of the participants was 28.94 ± 6.11 (range: 19-42) years. The average professional service period was 7 years 8 months (range: 1 month-21 years), whereas the average length of service in the emergency department was found to be 5 years 5 months (1 month-20 years). When the schools that the workers had attended for professional training was questioned, it was found that 14 participants were vocational health high school graduate. Demographic characteristics of the participants are shown in Table 1.

All participants in the study were in the opinion that emergency departments were overused by the patients. Fifteen participants reported that the reason for overuse was ignorance, 14 - short waiting time and 14 - shorter access time for investigations. When the percentage of patients who were admitted to the emergency department for causes complying with the emergency criteria was questioned, 18 person stated that 10% or less of the admissions were actual emergency cases. In order to avoid inappropriate use, 48.5% (n=16) of the workers suggested that triage practice should be used; 36.4% suggested that with more effective use of peripheral and second-level

hospitals and with adopting cost sharing or payment strategies may non-emergency use of emergency departments may be avoided (Table 2).

Triage practice was suggested by 18 participants to reduce crowding in emergency departments. Eleven were indecisive on this subject. They considered that this practice was not effective; 6 participants had the opinion that the reason was the misperception of the community about emergency department, and 15.2% suggested that the reason was ineffective work of other healthcare organizations. Twelve participants suggested that triage was helpful in reducing workload, 13 subjects were indecisive on this subject. Particularly, 12 participants shared their concerns on that instead of reducing workload; triage practice might increase the verbal and physical violence in emergency departments (Table 3). Twenty-nine participants stated that they had faced problems with patients and/or patients' relatives; 12 subjects reported facing this problem once in a

week. Regarding the causes, 18 participants reported delayed consultations requested by emergency department physicians, 15 participants suggested waiting periods and insufficient number of workers. While 26 participants, who were providing healthcare in the emergency department, considered that triage practice would increase the quality of patient care and 22 persons considered that it would increase the satisfaction of the healthcare workers, 24 persons had the opinion that patients would not get satisfaction with this practice (Table 3). 57.6% of the participants stated that triage practice should be performed by physicians for the prevention of verbal and physical violence encountered in emergency departments. Healthcare workers stated that they could have waited for an average duration of 28.6±21.9 minutes (minimum: 5, maximum: 90) in the emergency department, in case of any health problem they or their first degree relatives had encountered and depending on their reasons for admission.

Discussion

The purpose of emergency medical care is stabilization before the critical health problems lead to disabilities or death in case of life-threatening condition or injury, whatever the age, language, religion, race, or location of the patient is (8). Similar to that in many communities, access to medical care has become a major social expectancy in life-threatening situations in our country. However, this situation prevents providing proper and timely healthcare, by leading to crowding in emergency departments (9). The best indicator of this situation in our country is the increasing number of emergency department admission in years (10). All the emergency department workers who participated in our study considered that emergency departments were being used unnecessarily and 54.5% of them had the opinion that 10% or less of all admissions to the emergency department was actual emergency cases.

In order to overcome crowding in emergency departments, which has started to be a worldwide public health issue, and to provide reliable health service, it is necessary to develop triage systems (11). In our study, 48.5% of the participants considered triage practice a precaution to avoid inappropriate admissions, whereas 54.5% suggested that crowding might be reduced and the quality of patient care might

Table 1. Socio-demographic characteristics of the sample group

Characteristics	n
Age	
18-25	11
26-30	10
31-35	6
36-40	5
>41	1
Gender	
Female	25
Male	8
Professional service years	
0-12 months	4
13-36 months	4
37-60 months	8
5-10 years	6
Over 10 years	11
Placement years in the emergency service	
0-12 months	6
13-36 months	7
37-60 months	7
5-10 years	9
Over 10 years	4
Vocational education	
Health vocational high school	14
College	13
University	6

be improved, however, they had also the opinion that the satisfaction of patient/patient relatives might be decreased by this way.

One of the primary goals of the patients admitted to the emergency department is solving their distress through rapid processing (12). The circular issued by the Turkish Prime Ministry in 2008 led these areas providing service 365 days of the year and at all hours of the day and night (13) to be used by the community as areas open to inappropriate admissions. For example the patients sent from other hospitals try to be examined in emergency services they are not able to be examined when in polyclinics. In our study, emergency department workers considered that the cause of this inappropriateness was the ignorance of the community on this subject.

Thirty-three percent of the participants did not consider triage practice as a method that might solve the problem of crowding, due to misperception of the community about emergency, together with ineffective work of other healthcare centers. These concerns might be due to increased verbal and physical violence between workers and patients and/or their relatives. In the report published by the World Health Organization, International Labour Organization, and International Council of Nurse with the title "Workplace Violence in the Health Sector" in the year of 2002, it was stated that more than half of the health workers were exposed to violence during their active professional lives (14). 87.9% of our sample group stated that they had been exposed to physical or

Table 2. The opinions of emergency service workers on the patient group which they had provided health care

Variable	n
Have you encountered any problems with patients to whom you provided health care?	
Yes	29
No	4
If you have encountered problems, how often?	
Every shift	5
Once in a week	12
Once in a month	5
Once in a year	1
Very rarely	10
If you have encountered problems, which cause/causes were they related to?	
Delayed consultations	18
Prolonged waiting period	15
Inadequacy of auxiliary health care personnel and nursing staff	15
The physical conditions of the emergency service	11
Delays in medical procedures	6
In your opinion, what percentage of the patients admitted to the emergency service are real emergency cases?	
%10 and less	18
Between 10-30%	10
Between 30-50%	5
Do you think that the emergency service is used needlessly by the patients?	
Yes	33
Why is the emergency service being used by the patients out of its purpose?	
Because of the inadequacy of patients' knowledge on which conditions emergency service should be used	21
Shorter waiting period in the emergency service than the outpatient clinic	15
Access to the investigations in a shorter period	14
Unable to be examined in the outpatient clinics	6
Unsatisfaction with the service provided in the outpatient clinics	1
What can be done to prevent inappropriate use of emergency service?	
Triage	16
Increasing the costs and billing to the individuals in inappropriate admissions	12
Making the peripheral and second level hospitals more effective	12

verbal violence in the emergency department, in one way or another. This result is consistent with studies conducted both in other countries and in our country (15,16). We suggest that the provided service being healthcare, together with the care given group being patients and/or patient relatives, who are under stress due to their diseases, expectancies being high and absence of effective institutional and legal regulations are best indicators of the problems encountered with the crowding in the emergency department (17).

The violence encountered during providing healthcare led our participants to suggest that triage practice should be implemented by physicians. Especially anxiety due to violence faced by workers

leads to refraining from practices which may cause violence (18). We consider that the most important element for avoiding such undesirable incidents is community-based education and information. In this way, in-hospital mortality and morbidity can be prevented, using all the emergency care and treatment opportunities for the patient group identified as actual emergency cases (19,20).

When healthcare workers or their first-degree relatives experience any health problems, they expect to be examined within a period of 5 to 90 minutes. We consider that this was originated from the concern of the healthcare workers on the health problems being similar to that of all individuals within the society.

Table 3. The opinions of emergency service workers on triage practice

Variable	n
Can triage practice reduce the inappropriate use or crowdedness of emergency service?	
Yes	18
No	4
Indecisive	11
If you consider that triage practice will not reduce the crowdedness of emergency service, why?	
The perception of the emergency service being faulty in the population	6
The first level health services not being used effectively	5
Insufficient support of social media instruments	1
Absence of qualified staff, who were adequately trained on triage practice	1
Is triage practice is an implementation that reduces the workload of the health personnel?	
Yes	12
No	8
Indecisive	13
If you consider that triage practice will not reduce the workload of health personnel, why?	
More verbal or physical violence by patient and/or patient relatives will be exposed	12
Inadequate safety of emergency service workers	3
Inadequate education of patient and/or patient relatives on this subject	1
Is triage practice an implementation that increases the quality of patient care?	
Yes	26
No	1
Indecisive	6
Is triage practice an implementation that increases satisfaction of the patient/patient relatives?	
Yes	3
No	24
Indecisive	6
In your opinion, in which direction triage practice will affect the satisfaction of health-care workers?	
Improves	22
Worsens	4
Will not affect	7
By whom should the triage practice and data entry be performed?	
Physician	19
Nurse	14

Conclusion

As a conclusion, implementation of triage practice in emergency departments is important in terms of both the care of patients who need the most urgent intervention and the quality of service provided by healthcare workers. However, community-based education as well as training of healthcare workers on this subject is a necessity.

Ethics

Ethics Committee Approval: The study was approved by the Recep Tayyip Erdoğan University Faculty of Medicine Local Ethics Committee (protocol number: 46), **Informed Consent:** Consent form was filled out by all participants.

Peer-review: Internally peer-reviewed.

Authorship Contributions

Surgical and Medical Practices: Ö.B., A.O.E., A.K., **Concept:** Ö.B., G.E., **Design:** Ö.B., **Data Collection or Processing:** Ö.B., A.K., A.O.E., **Analysis or Interpretation:** Ö.B., G.E., **Literature Search:** Ö.B., A.K., **Writing:** Ö.B., G.E.

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References:

1. Waeckerle JF. Disaster planning and response. *N Engl J Med* 1991; 324: 815-21.
2. Kennedy K, Aghababian RV, Gans L, Lewis CP. Triage: Techniques and applications in decision making. *Ann Emerg Med* 1996; 28: 136-44.
3. Weinerman ER, Edwards HR. "Triage" system shows promise in management of emergency department load. *Hospitals* 1964; 38: 55-62.
4. Wuerz R, Fernandes CM, Alarcon J. Inconsistency of emergency department triage. *Emergency Department Operations Research Working Group. Ann Emerg Med* 1998; 32: 431-5.
5. Parenti N, Ferrara L, Bacchi Reggiani ML, Sangiorgi D, Lenzi T. Reliability and validity of two four-level emergency triage systems. *Eur J Emerg Med* 2009; 16: 115-20.
6. Travers DA, Waller AE, Bowling JM, Flowers D, Tintinalli J. Five-level triage system more effective than three-level in tertiary emergency department. *J Emerg Nurs* 2002; 28: 395-400.
7. Yataklı Sağlık Tesislerinde Acil Servis Hizmetlerinin Uygulama Usul ve Esasları Hakkında Tebliğ. Madde 8/Ek 7. 16.10. 2009 Resmi Gazete Sayı: 27378.
8. Razzak JA, Kellermann AL. Emergency medical care in developing countries: is it worth while? *Bull World Health Organ* 2002; 80: 900-5.
9. Kellermann AL. Crisis in the emergency department. *N Engl J Med* 2006; 355: 1300-3.
10. www.saglik.gov.tr./SHGM/belge/1-16057/istatistik-analiz-ve-bilgi-sistemleri-daire-baskanligi.html. Ulaşım 27-11-2015, 15:16.
11. Lin CH, Kao CY, Huang CY. Managing emergency department overcrowding via ambulance diversion: a discrete event simulation model. *J Formos Med Assoc* 2015; 114: 64-71.
12. Aydın T, Aydın ŞA, Köksal Ö, Özdemir F, Kırılç S, Bulut M. Evaluation of features of patients attending the emergency department of Uludag University Medicine Faculty Hospital and emergency department practices. *Eurasian J Emerg Med* 2010; 9: 163-8.
13. Acil Sağlık Hizmetlerinin Sunumu, Genelge, 2008/13, Resmi Gazete, Sayı: 26918, Son erişim tarihi: 01-11-2015. Ulaşım: <http://www.resmigazete.gov.tr/eskiler/2008/06/20080626-3.htm>
14. Nau J, Halfens R, Needham I, Dassen T. The De-Escalating Aggressive Behaviour Scale: development and psychometric testing. *J Adv Nurs* 2009; 65: 1956-64.
15. Güllalp B, Karcioglu O, Köseoğlu Z, Sari A. Dangers faced by emergency staff: experience in urban centers in southern Turkey. *Ulus Travma Acil Cerrahi Derg* 2009; 15: 239-42.
16. James A, Madeley R, Dove A. Violence and aggression in the emergency department. *Emerg Med J* 2006; 23: 431-4.
17. Çamcı O, Kutlu Y. Kocaeli'nde sağlık çalışanlarına yönelik işyeri şiddetinin belirlenmesi. *Psikiyatri Hemşireliği Dergisi* 2011; 2: 9-16.
18. Annagür B. Sağlık çalışanlarına yönelik şiddet: risk faktörleri, etkileri, değerlendirilmesi ve önlenmesi. *Psikiyatride Güncel Yaklaşımları* 2010; 2: 161-73.
19. Sprivilis PC, Da Silva JA, Jacobs IG, Frazer AR, Jelinek GA. The association between hospital overcrowding and mortality among patients admitted via Western Australian emergency departments. *Med J Aust* 2006; 184: 208-12.
20. Schull MJ, Vermeulen M, Slaughter G, Morrison L, Daly P. Emergency department overcrowding and thrombolysis delays in acute myocardial infarction. *Ann Emerg Med* 2004; 44: 577-85.