

Reasons for Overcrowding in the Emergency Department: Experiences and Suggestions of an Education and Research Hospital

Acil Serviste Aşırı Kalabalığın Nedenleri: Bir Eğitim Araştırma Hastanesinin Deneyimleri ve Önerileri

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SUMMARY

Objectives

In this study, we aimed to determine the causes of overcrowding in the Emergency Department (ED) and make recommendations to help reduce length of stay (LOS) of patients in the ED.

Methods

We analyzed the medical data of patients admitted to our ER in a one-year period. Demographic characteristics, LOS, revisit frequency, and consultation status of the patients were determined.

Results

A total of 163,951 patients were admitted to our ED between January 1, 2013, and December 31, 2013. In this period 1,210 patients revisited the ED within 24 hours. A total of 38,579 patients had their treatment in the observation room (OR) of the ED and mean LOS was found to be 164.1 minutes. Cardiology was the most frequently consulted specialty. Mean arrival time of the consultants in ED was 64 minutes.

Conclusions

Similar to EDs in other parts of the world, prolonged length of stay in the ED, delayed laboratory and imaging tests, delay of consultants, and lack of sufficient inpatient beds are the most important causes of overcrowding in the ED. Some drastic measures must be taken to minimize errors and increase satisfaction ratio.

Key words: Consultation; emergency department; overcrowding.

ÖZET

Amaç

Bu çalışmada, acil serviste aşırı yoğunluğun nedenlerini belirlemeyi ve hastaların acil serviste kalış sürelerini azaltmaya yönelik önerilerimizi sunmayı hedefledik.

Gereç ve Yöntem

Bir yıllık sürede acil servise başvuran hastaların tıbbi bilgileri incelendi. Hastaların demografik özellikleri, kalış süreleri, tekrar başvuru sayıları ve konsültasyon durumları belirlendi.

Bulgular

1 Ocak 2013 ile 31 Aralık 2013 tarihleri arasında toplam 163951 hasta acil servise başvurdu. Bu süre içinde, 1210 hasta 24 saat içerisinde tekrar acile başvurdu. Toplam 38579 hasta tedavisini acil servisin gözlem odasında aldı ve ortalama kalış süresi 164.1 dakikaydı. En fazla konsültasyon istenen bölüm kardiyoloji idi. Konsültanların acil servise varış süresi ortalama 64 dakikaydı.

Sonuç

Dünyanın diğer bölgelerindeki acil servislere benzer şekilde, acilde aşırı yoğunluğun en önemli nedenleri acil serviste uzun kalış süresi, gecikmiş laboratuvar ve görüntüleme testleri, konsültanların gecikmesi ve yeterli hastane yatağı olmamasıdır. Hataları en aza indirmek ve memnuniyet oranını artırmak için, ilgili farklı birimlerle temas halinde, bazı sert önlemler alınmalıdır.

Anahtar sözcükler: Konsültasyon; acil servis; aşırı yoğunluk.

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Introduction

The Emergency Department (ED) is one of the most overcrowded units in the inpatient service delivery system. Delays in services in the ED may have unpleasant consequences for patients.^[1] Crowding in the ED is defined as having more patients than treatment rooms or more patients than staff should ideally care for, and overcrowding was defined as dangerously crowded, with an extreme volume of patients in ED treatment areas which forces the ED to operate beyond its capacity.^[2,3]

In the Emergency Medicine literature, overcrowding in EDs is described as a major public health problem due to degradation of the quality of care (prolonged waiting times, delays to diagnosis and treatment, delays in treating seriously ill patients), increased costs (leading to unnecessary diagnostic investigations), and patients' dissatisfaction.^[4,5] Although the most important cause of bottleneck in the ED seems to be a growing population with non-urgent complaints. Overcrowding in EDs is a multi-factorial problem worldwide, occurring as a result of prolonged length of stay (LOS) in the ED, inadequate healthcare personnel appointment, delayed response to ED consultations, repeated ED visits (including inappropriate use), and hospital-specific factors (size and location, lack of available inpatient beds). In this article, we investigated ED systems of different countries and aimed to find a solution to overcrowding in the ED in the light of statistical data of Samsun Education and Research Hospital (SERH) Emergency Department. We also presented our recommendations to prevent overcrowding in the ED.

Materials and Methods

We retrospectively collected the medical data of the pa-

tients admitted to SERH Department of Emergency Medicine in a one-year period between January 1, 2013, and December 31, 2013. Data was collected using analysis of electronic medical records from the ED over a 12-month period. Besides demographical findings, annual ED admission count, seasonal distribution, number of repeated visits within 24 hours, LOS of the patients in the ED observation rooms, and period of arrival of consultants were investigated. Demographical findings of the patients were collected by reviewing the medical reports. Other information, such as consultation call time, start and finish time of the consultations, and LOS of the patients, was collected. Status was determined and compared with other facilities from the perspective of preventing overcrowding in the ED. Medical data was recorded on Statistical Package for the Social Sciences (SPSS) 15.0 programme. Data were presented as frequency. After statistical analysis, graphics were obtained using Microsoft® Office Excel Programme. Study was conducted with the permission of SERH Administration.

Results

A total of 163,951 patients were admitted to our ED in a one-year period. Of these patients, 87,549 (53.3%) were male and 76,402 (46.7%) were female. The proportion of those under the age of 18 was 16,743 (10.2%). Consultation with at least one department was required in 18.1% of the patients. Among all patients admitted to the ED, 1.3% did not have health insurance. In this period 1,210 (0.7%) patients revisited the ED within 24 hours. With 16,095 patients and 139 revisits, the month of August was the most crowded in the ED. Table 1 demonstrates the number of monthly visits, revisits, and frequencies. A total of 38,579 patients had their treatment in the observation room (OR) of the ED and mean

Table 1. Number of patients admitted to the ED and revisits monthly

Month	Number of revisits	Number of patients admitted	Ratio (%)
January	71	11688	0.61
February	106	12991	0.82
March	101	13745	0.73
April	95	12972	0.73
May	128	13508	0.95
June	85	13724	0.62
July	107	13721	0.78
August	139	16095	0.86
September	78	13454	0.58
October	85	15640	0.54
November	124	12973	0.96
December	91	13458	0.68

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