Non-urgent patients in an Emergency Medical Service

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Background: Emergency Medical Services (ES) are medical-surgical facilities where extremely ill patients, victims of accidents, intoxications and other urgent clinical situations should be rapidly and efficiently attended. However, a worldwide experience is that a large proportion of patients who require attention in an ES do not qualify as emergencies and they obstruct the possibilities of other patients that should be attended immediately. **Aim:** To evaluate the medical records in our ES and to assess whether patients understand what is a true emergency and which is the role of an ES. **Methods:** Patients attended in the ES of Haydarpasa Military Teaching Hospital in 2001-2002 were classified according to their diagnosis. A random sample of patients and relatives were surveyed about why they required medical attention in the ES. **Results:** 77,134 patients (39,327 female, 51%) were attended. The most common illness diagnosed was upper respiratory tract infection (18,423 patients, 23.9%). The true emergency condition rate in patients presenting to our ES was lower (44%) than the non-emergency condition rate. **Conclusions:** Improvements in public education are needed to solve this problem. Also, Primary Care facilities should be improved in order to reduce the demand for medical attention in ES by non-urgent patients (Rev Méd Chile 2004; 132: 1085-9). **(Key Words:** Emergency Medical Services; Emergency Service, Hospital; First aid; Health care facilities, manpower, and Services)

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Pacientes no-urgentes que consultan en un Servicio de Urgencia

Antecedentes: Los Servicios de Urgencia son unidades médico-quirúrgicas donde deberían atenderse rápida y eficientemente pacientes graves, víctimas de accidentes, intoxicaciones y otras situaciones clínicas urgentes. Sin embargo, es una experiencia mundial que una proporción importante de los consultantes en Servicios de Urgencia no califican como emergencias, pero dificultan las posibilidades de atención para otros pacientes que deberían ser atendidos de inmediato. **Propósito:** Evaluar las fichas clínicas en nuestro Servicio de Urgencia y averiguar si los pacientes comprenden cuál es una verdadera emergencia y

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cuál es la función de un Servicio de Urgencia. Métodos: Los pacientes atendidos en el Servicio de Urgencia del Hospital Clínico Militar Haydarpasa (Estambul, Turquía) en 2001-2002 fueron calificados retrospectivamente según sus diagnósticos. Una muestra al azar de pacientes y sus parientes acompañantes fueron encuestados sobre sus razones para solicitar atención en el Servicio de Urgencia. **Resultados:** Se atendieron 77.134 pacientes (39.327 del sexo femenino, 51%). El diagnóstico más frecuente correspondió a infección del tracto respiratorio (18.423 pacientes, 23,9%). La proporción de pacientes que calificaron como reales urgencias (44%) fue menor que los calificados como no-urgentes. **Conclusiones:** Para disminuir la demanda de atención en Servicios de Urgencia por pacientes no-urgentes se requiere mejorar la educación del público y aumentar la disponibilidad de policlínicas de atención primaria, ampliando su horario de atención.

Emergency Medical Services (ES) are among the most important hospital departments. In order to serve critical patients in a much more qualified and effective way, Emergency Medical Service personnel should not be unnecessarily engaged in the care of patients with minor problems which distracts the personnel's attention, impairs their concentration, and exhausts them physically as well. Non-urgent patients (patients apt to receive regular outpatient treatment) may adversely influence the treatment of critical patients. Emergency Medical Services worldwide are subject to misuse by patients who could be treated in outpatient clinics or in primary health care settings¹⁻³. The aim of this study was to evaluate the degree of emergency condition in patients referred to the ES of GATA Haydarpasa Teaching Hospital during 2001-2002. For this retrospective evaluation we used the available medical records.

MATERIAL AND METHODS

Classification of the clinical diagnosis was made retrospectively by reviewing the medical charts of all the patients that presented to the ES of GATA Haydarpasa Teaching Hospital between January 1, 2001 and December 31, 2002. Each medical record had been filled-in by a triage general practitioner, a physician and a surgeon. The triage general practitioner elicited the patient's chief complaint, obtained a brief history, determined the vital signs and performed a directed examination to determine the urgency of the patient's condition. The physician and surgeon wrote the final diagnosis of the patients. We classified as urgent when «treatment was required immediately» or «treatment was required within a few hours», and as non-urgent

when «treatment can be safely delayed». As a brief, a non-urgent visit was defined as a patient who had a problem or condition that could wait until the following day (ie, 12 to 24 hours) for treatment. Among the 43,205 patients having the diagnosis of a non-urgent illness, 9,000 patients or accompanying relatives were asked about the reason for presentation to ES (by using a poll) and their responses were categorized.

RESULTS

77,134 patients (39,327 male, 50,9%) presented to the ES during the study period. A significantly higher rate of presentation was detected in patients older than 40 years compared to those younger than 40 years (p <0.05). Table 1 shows some demographic characteristics of these patients. 15,498 patients (20.3%) were hospitalized. The number of patients who qualified as having non-urgent conditions was 43,205 (56 %), whereas 33,929 (44 %) were urgent. One hundred

Table 1. Demographic characteristics of patients attended at the ES

	Years		Total
	2001	2002	
Female	19.254	20.073	39.327
Male	16.953	20.854	37.807
Total	35.920	41.214	77.134
0-40 years old	23.410	22.920	46.330
>40 years old	12.510	18.294	30.804
Total	35.920	41.214	77.134

ninety eight dead on arrival patients (0.3%) were brought to the ES. The ES case mortality rate was 0.03% (21 cases). The causes of death are shown in Table 2. Forensic report cases were 3,253 (42%). The most frequent single diagnosis was upper respiratory system infections (URSI), in 18,423 patients (23.9%). The most frequently examined group was pediatrics, with 17,994 patients (23.3%). The main reason for presentation concerning internal medicine was hypertension, with 2,706 patients (3.5%); minor surgical interventions (operations) were done in 1,934 patients (2.5%). The most frequently detected diagnosis of referrals are shown in Table 3.

The three most common diagnoses related to internal medicine were hypertension in 2,706 (3.5%), arrhythmia in 1,137 (1.5%), and intoxications in 851 (1.11%). For surgery, the three most frequent problems were minor surgical interventions in 1,934 (2.5%), renal colic in 1,418 (1.8%) and head trauma in 1,182 (1.5%). A summary of diagnosis is shown in Table 4. Among patients examined in our ES, 2,499 (3.2%) had no sign of any illness.

The interview in randomly chosen 9,000 patients or accompanying relatives revealed that 40% of them had never thought of presenting to the primary care outpatient clinics and 35% had come to the ES because they thought that their present illness could be managed only in the ES

Table 2. Causes of on arrival mortality in patients attending an ES

	Years		Total
	2001	2002	
Heart failure	6	5	11
Stroke	3	2	5
Myocardial Infarction	2	1	3
Shock (Gun Shot Wound)	1	1	2
Total	12	9	21

condition. The remaining 20% of the group declared that they have always presented to ES for any health problem. Several patients said that they did this because their management could be achieved easier and faster in the ES. The presentation rate to ES of patients who did not like waiting in the outpatient clinics or were not able to make an appointment for examination was 4%. The rate of presentation of patients who applied to ES due to the difficulty of obtaining permission from their work place to leave for medical examination or who depended on a family member to come back from work to be able to take the patient for medical attention in the evening was 1%.

Table 3. The most common diagnoses in the ES

Diagnosis	Year		Total
	2001	2002	
Upper Respiratory Tract Infection	8.655	9.768	18.423
Myalgia/back pain	1.539	1.765	3.304
Soft Tissue Injury	1.369	1.465	2.834
Urinary Tract Infection	1.128	1.354	2.482
Non-Specific Abdominal Pain	899	875	1.774
Acute Bronchiolitis	645	804	1.449
Peptic Ulcers Activation	535	754	1289
Conversion	500	695	1.195
Alcohol report	495	363	858
Non-Specific Head Ache + Migraine	485	371	856
Anxiety	336	403	739
Luxation	251	324	575
Allergy	148	205	353
Chronic Obstructive Lung Disease	138	193	331

Table 4. Specific diagnoses in the study patients

Diagnosis	Year		Total
	2001	2002	
Hypertension	1.247	1.459	2.706
Minor surgery	891	1.043	1.934
Renal colic	629	789	1.418
Head trauma	588	594	1.182
Arrhythmia	550	587	1.137
Intoxication	404	447	851
Gastroenteritis	357	403	760
Upper Extremity Fracture	357	402	759
Ischemic Heart Disease	336	390	726
Acute abdomen	333	392	725
Gastro Intestinal System Bleeding	241	259	500
Myocardial Infarcts	187	193	380
Low Extremity Fracture	157	205	362
Heart Failure	113	147	260
Cerebro Vascular Accident	99	103	202
Multiple Trauma	91	101	192
Gun Shot Wound	53	67	120
Anaphylaxis	7	12	19

DISCUSSION

Leeuwen et al, investigated the characteristics of patients who presented to ES in the year 2000¹. They reported that 48% of patients did not first consider consulting family medicine, and that 30% thought they could be better treated in the hospital. Both figures are similar to our results.

Vazquez et al, investigated the presentation rate to ES in 2000, and looked at patients who presented to ES on their own initiative². This group of patients comprised 77% of all presenters. The reasons for patients to present to ES were as follows: 32% were unaware of the existence of other urgent care facilities other than that in the hospitals, 26% thought that ES had better technical equipment, 21% for faster medical intervention, 11.4% thought their problem was urgent, and 8% knew other services offered less qualified service to them. These rates are also similar to our results.

Bradshaw determined that the non-urgent presentation rate was 26%³. Among the reasons for presentation, 33% were anxious to wait, 32% claimed that the working hours in the ES were longer, and 25% of the patients felt that their illness was serious or their trauma was acute. Peterson had determined the presentation rate of

non-urgent cases was 50% and did not identify any correlation regarding age, marital status, health and infectious disease⁴. Liu noted that more than 50% of patients presenting to ES were not urgent according to his studies over 4 years^{5,6}.

Northington also determined that the majority of patients presenting to ES were acute cases⁷. The remaining cases noted that they preferred the ES as they could get any kind of medical service in the ES. Northington noted that the use of health insurance and examination by the same surgeon every time could decrease the presentation rate of non-urgent patients.

Ersoy showed that 37,316 patients presented to ES at Mediterranean University Medical Faculty Hospital in the year 2000. Six thousand and twenty five patients (16.2%) were admitted from ES⁸. This study showed different reasons for presentation than our present report. In Ersoy's report reasons for presentation to ES were: 45% reliability, 21% warm-hearted, 18% being a research hospital, 8% suggestion, 6% other causes. In 1995, Hu et al reported that 77% of patients managed in their ES were trauma cases⁹. The remaining cases were chronic cases (4%), unimportant diagnosis (2.6%), alcohol intake test (2.3%), severe mental illness (2.3%), suicides (2.2%), and cardiac arrest in 1.8%.

Kellermann and Mc Caig commented that the reasons for presentation to ES were related to finances^{10,11}. Patients who did not have health insurance presented to ES for nonemergent health problems.

Burnett et al reported that the main reason for presentation to ES was that patients believed that it was the best location to solve their health problem (60%)¹². This result is in accordance with our data. Baker et al also found similar results¹³.

Leeuwen et al reported that usually young adults who live close to the hospital recur to the ES immediately after minor traumas instead of to family medicine or the general medicine clinics.

Vazquez Quiroga et al², Bradshaw³ and Bond¹⁴ have reported that the ES are considered by patients as fast clinics. Patients who wish to be evaluated in a short period of time present to ES. In addition, he suggested that better medical education to the ES patients must be offered to reduce their attendance to ES.

Bradshaw³, Liu⁴, Petersen⁵ and Gill¹⁵ notified that the non-urgent presentations are principally associated with socio-demographic factors. They

suggested that primary health care locations should be increased in number. The larger proportion of elderly population attended in our ES is in accordance with the literature.

We determined that the non-urgent presentation rate was 56%. Among them, 40% had never thought of presenting to the primary care outpatient clinic and 35% had come to the ES because they thought that their present illness could be managed only in the ES condition.

In conclusion, the number of unnecessary visits to ES could be reduced through an improvement in the cultural and educational level of the community. An expansion of primary health care facilities would also affect this process positively. Also, if the working hours of the out-patient clinics are increased, the non-urgent presentation rate in ES should decrease.

Further studies are needed, using medical documentation data, the methods to determine the number of specialists necessary for arranging the rotational system, more objective assessment of supplies and medications, and the development of more effective Emergency Medical Services.

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