

USE AND MISUSE OF ACCIDENT AND EMERGENCY SERVICES AT QUEEN ALIA MILITARY HOSPITAL

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ABSTRACT

Objective: To determine the characteristics of attendees and to assess the misuse of the Accident and Emergency department at Queen Alia Military Hospital.

Methods: The records of 29463 attendees to the Accident and Emergency Department at a general military hospital during the period January -June 2002 were retrospectively reviewed. For each attendee the following information was recorded: age, sex, day of the week, hour of attendance, required emergency service, class of urgency and disposition. Patients were classified according to their presenting problems to life-threatening, very urgent, urgent and trivial conditions. They were classified according to age into three groups: Below 30 years, 30-60 years and above 60 years. Data were retrieved and analyzed.

Results: From the total of 29463 attendees, 15207 (51.6%) were males and 14256 (48.4%) were females. The month of May generated visits more than any other month. Saturday and Thursday were the busiest days of the week. The majority of the patients (88.7%) were classified as trivial conditions. A large percentage (47%) was of the age group 14-30 years, but elderly (above 60 years) represented a considerable number (32%). Most of the patients visited Accident and Emergency Department in the second and first shifts (39% and 37%) respectively. Fifteen hundred and thirteen patients were admitted, of them 832 (55%) were males and the rest (45%) were females. The admission rate was 5.1%. About half the patients (51%) sought medical emergency services and (49%) were seeking surgical emergency services.

Conclusion: The increasing number of attendees, especially elderly patients, has its implications on future planning of Accident and Emergency Department. We observed that the Accident and Emergency Department is largely misused, thus, non-urgent visits adversely affect the quality of provided emergency care and patients' satisfaction.

Key words: Accident and Emergency, Attendees, Characteristics Burden.

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Introduction

Accident and Emergency (A&E) department is considered the main gate to every hospital; it provides an access to treatment for those who are in need to urgent hospital care and facilities.

Easy access, free services, and daylong availability result in misuse and overcrowding of the A&E department, which leads to improper care, and patient dissatisfaction^(1,2). This is attributed to improper use of A&E department by patients, and some authors

have recommended a user fee to control this improper use⁽³⁻⁵⁾.

It is likely that many of the self-referred patients could have been managed by a general practitioner; others believe that the number of emergency department visits will decline as the primary care physicians' offices increase⁽⁶⁻⁸⁾.

In Jordan, this problem is not fully investigated, but many believe that a large percentage of the visitors to emergency rooms have trivial and non-urgent

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conditions ^(2,9,10). This study has the goal to study the characteristics of A&E attendees and to try to estimate the misuse of the A&E department at Queen Alia Military Hospital (QAMH).

Methods

Charts of 29463 attendees to A&E department during a 6 month-period (January - June 2002) were retrospectively reviewed by all authors and a group of well trained A&E staff supervised by a senior emergency physician. This study was conducted at QAMH, Amman, and it took a period of three months to review charts. The hospital is a general military one, serves mainly the population of eastern and northern Amman, The A&E department is a thirteen bed facility, open 24 hours a day, working in three shifts and maintained by at least two emergency medicine specialist during the first shift, and 2-3 medical and surgical residents in the second and third shifts.

The A&E department provides services for personnel of Jordan Armed Forces, Security departments, Civil Defense department, and their dependents. Non-eligible emergency patients are seen, assessed, and stabilized before they are discharged home or referred to other civilian hospitals.

For each attendee the following information was recorded: Age, sex, day of the week, hour of attendance, diagnosis, class of urgency and disposition. Patients were classified subjectively, by the physicians' according to their presenting problems to life threatening, urgent, non-urgent, and trivial conditions. Also they were classified according to age into three groups: - below 30 years, 30-60 years and above 60 years. Data were retrieved and analyzed manually using Fisher's exact test, and the characteristics of the study population were determined. Children, Gynecological patients, and Delivery cases were excluded from this study because these cases were seen directly in Pediatrics and Gynecology wards respectively.

Results

Twenty nine thousand four hundred sixty three patients visited the A&E department during the study period. There were 15207 males and 14256 females, and the male: female ratio was 52:48. A large percentage of patients (47%) were of the age group 14-30 years; about one-third was above the age of 60 years, and the rest 21% were in the range of 30-60 years. Most of the patients (39%) attended during the second shift (4 pm - 12 midnight), 37% attended during the first shift (8 am - 4 pm) and the rest 24% came to the A&E during the night shift (12 midnight - 8 am). The study showed no difference in proportion of urgent cases by shifts.

Of the total, 1513 patients were admitted, of them 832 patient (55%) were males and 681 patients (45%)

were females, thus the admission rate in general was 5.1%. Table I summarizes the demographic characteristics of the study population.

Respiratory conditions were the most common presenting problem (24.5%), followed by trauma (21.3%), and gastrointestinal problems (18.6%). Table II shows the common presenting health problems and its matching percentages.

As shown in Table III, according to the degree of urgency; only about 10% were of urgent need to A&E visit but the majority (70.8%) was non-urgent, 17.9% were trivial and only 1.3% was presented with life-threatening conditions.

Although not much more than March and April, May generated visits more than any other month; (5009, 5048 and 5816 visits respectively). Saturday and Thursday were the busiest days of the week and time between 9 am and 2 pm was the time when the A&E department is heavily busy and crowded, Fig. 1.

Discussion

In the last few years, the use of hospital accident and emergency departments has increased dramatically, and a large number of patients come by their own initiative. With regard to this problem, we have considered it suitable to carry out this study, in order to identify the characteristics of emergency service users, and to estimate the growing misuse of this service.

This study highlighted that 55% of the total of attendees were men; this is close to other studies, which showed no significant difference between the two genders ^(6,9). Many studies have shown considerable variability in the rates of non-urgent visits, ranging from as low as 7% to as high as 94 % ^(1,3,11), compared with 70.8% in this study. This wide variability can only be explained by a different definition of the appropriateness of the use of the A&E, taking to consideration the patient's and the physician's perception in estimating the presenting problem ^(1,3,10). In a Canadian study, Afilalo and his colleagues found that 34-44% of the misuse of A&E department is based on the physician judgment of the degree of emergency ⁽³⁾.

It is clear that the majority of patients (47%) were of the young age group (14-30 years); this observation is similar to other studies ^(2,3,11,12). This could be attributed to the fact that our hospital is located in an area with a plenty of military units.

More than three quarters of the patients attended in the first two shifts (37% and 39% respectively), this is most probably due to the availability of more services including laboratory and radiology and this by itself is another indicator that a large number of these cases were non-urgent. In addition to that, although many needed stabilization and management, about 95% of the attendees were discharged home; this supports the idea

that most of them were not urgent in terms of threat to life or limb. Socioeconomic and geographic factors namely the proximity of A&E to residential areas plays an important role in the growing number of non-urgent visitors. The rate of self-referral and inappropriate use of A&E is reported to be the highest ^(1,13). This seems to be important in term of saving time and resources and improving the quality of provided health care. In Jordan, we lack enough information in this field and only one study has been published by Al-Odwan and his colleagues that showed that 71% of cases were non-urgent and should have been managed at primary care centers.

About one half of the visits (45.8%) were due to respiratory illnesses and trauma conditions, which could be related to the fact that this study was performed partially during the winter period in which upper respiratory tract infections, road traffic accidents and slippery injuries are common. In his study, more than 50% of the attendances were due to upper respiratory tract infections and only about 10% due to trauma ⁽²⁾.

The fact that May generated visits more than any other month; (5816, mean is 4910) is most probably due to weather causes rather than any other explanation,

since May was the modest month regarding temperature, this would encourage people to visit hospital even for minor causes. The reason that the first day and last day of the week were the busiest days and time between 9 am and 2 pm was the time when the A&E department is greatly busy and crowded is still not clear, but the days before the holly Friday and before the first working day are the suitable days for the non urgent, unplanned visits.

Conclusion and Recommendations

Based on the results we conclude that the emergency service is obviously misused and this inappropriate use of A&E services causes a lot of confusion to the staff and dissatisfaction to patients.

The study addresses two recommendations: Firstly; to activate the triage system, which can be run by a trained nurse or physician, and has an objective to classify attendees according to the severity of their condition, to redirect non-urgent cases to appropriate out patient clinics. Secondly, to establish family medicine clinics to deal with the non-urgent cases and to implement a user fee for these cold cases.

Table I. Demographic characteristics of study population.

Sex	Age groups (years)				Time of visit (shift)			Admissions
	Overall	14-30	30-60	>60	1 st	2nd	3rd	
	29463 (52%)	7112 (24%)	3203 (11%)	4892 (17%)	10903 (37%)	11466 (39%)	7094 (24%)	1512 (5.1%)
Males	15207 (52%)	7112 (24%)	3203 (11%)	4892 (17%)	5610 (19%)	6187 (21%)	3697 (13%)	832 (2.8%)
Females	14256 (48%)	6736 (23%)	2985 (10%)	4535 (15%)	5293 (18%)	5279 (18%)	3397 (11%)	681 (2.3%)

Table II. Common presenting conditions and matching percentages.

Presenting Condition	Number	%
Respiratory	7218	24.5
Trauma	6275	21.3
GIT	5480	18.6
Unknown	4685	15.9
Urinary	2504	8.5
Orthopedics	1296	4.4
CVS	0737	2.5
Neurology	0561	1.9
ENT	0442	1.5
Skin &Soft Tissue	0265	0.9

Table III. Degree of urgency, numbers & percentage.

Degree of Urgency	Numbers	%
Life threatening	324	1.1
Urgent	3005	10.2
Non urgent	20860	70.8
Trivial	5274	17.9
Total	29463	100

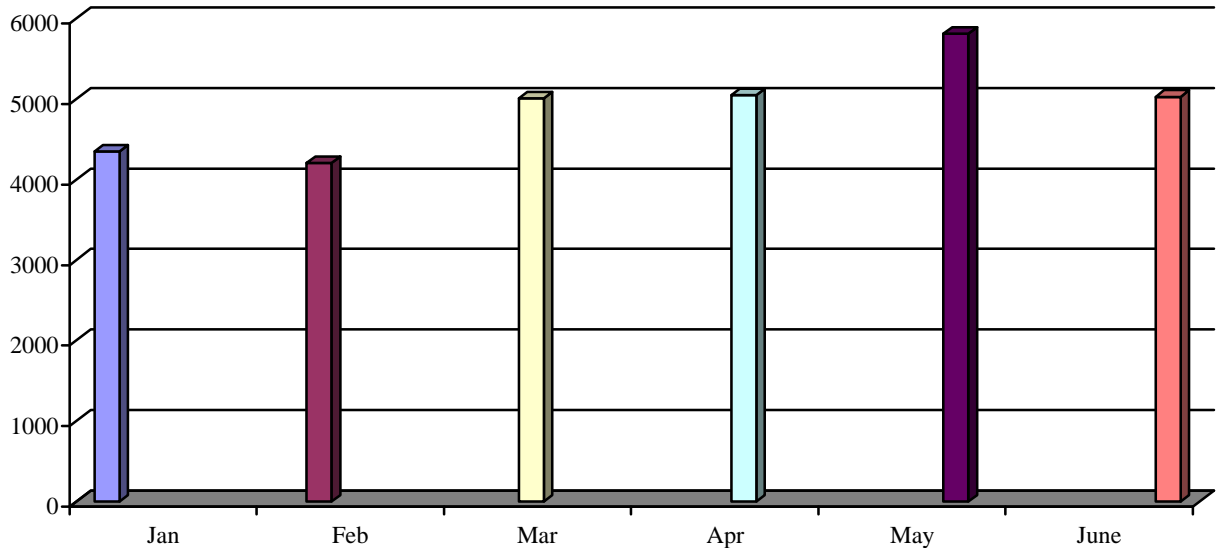


Fig. 1. Number of visits per month.

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