

Non-Urgent Visits among Patients Seen at the Emergency Department of King Hussein Medical Center

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ABSTRACT

Objective: The purpose of this study was to determine the frequency of non urgent visits among patients attending the Emergency Department at King Hussein Medical Center, and to describe the common presenting conditions for non urgent visits among the study group.

Method: This study was conducted at the Emergency Department in King Hussein Medical Center during April 2013. According to the Emergency Department statistics a total of 12,483 patients were seen at Emergency department between 1st to 30th of April 2013. A sample of 665 patients were randomly selected through systemic sampling method. All days of the week (day and night shifts including weekends) were included. A specially designed medical record abstract form was used to collect the relevant data. Simple descriptive statistics (frequency, percentage and mean) were used to describe the study variables.

Result: A sample 665 patients were studied; 65.6% were male, and 34.4% were female. The age range of patients was 11-90 years. Non urgent cases constituted 440 patients (66.2%), life threatening were 40 patients (6.0%), and urgent cases were 185 patients (27.8%). Among the study group, the admission frequency to the hospital wards as follows: different hospital wards 183 (27.5%), CCU 20 (3.0%), ICU 22 (3.3%), and discharge frequency (66.2%). Trauma (16.4%), cardiovascular (13.7%), respiratory (12.9%) were the most common conditions among the study group, while endocrine (1.1%) and ophthalmology (2.9%) were the least common. The number of non urgent visits was higher in males than females (66.6% versus 33.4%). Non urgent Emergency Department visits was higher in the younger age group (<30 years) compared with the older age group (>50 years). The commonest presenting condition among non urgent patients was minor trauma (20.2%) and the least was eye allergy (1.6%). The discharge frequency among non urgent visit was 66.2%. Non urgent Emergency Department visits were most frequent during 1st shift, 2nd shift and weekends compared with night shift.

Conclusion: About two thirds of Emergency Department visits were considered to be non-urgent. Use of the Emergency Department for non urgent conditions may lead to excessive healthcare expenditure, unnecessary testing and treatment. Further analytical studies should be conducted to describe the difference between the study variables.

Key words: Non-urgent visits, Emergency Department, KHMC.

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Introduction

The use of the hospital emergency department for non urgent health problems has been a subject of considerable controversy, in part because there is no widely accepted definition of "non urgent."⁽¹⁾ According to an extensive literature review, non urgent are defined as those "who could have been treated by a general practitioner".

For several decades, hospitals have faced overcrowding in Emergency Departments (ED). This phenomenon in some emergency departments is mostly due to a misuse of ED on the part of patients who use EDs for non-urgent problems, non urgent patients' use of ED, rather than primary health care settings, provides the opportunity to be cured without an appointment, in a place that has modern and high quality technologies.⁽²⁾ It should be noted that in some countries, such as the USA, emergency department overcrowding is mostly due to lack of in patient beds and increasing severity and complexity of cases rather than mainly due to non urgent visits.

Non urgent EDs have become a serious problem in several developed countries. This problem has been extensively described in the Emergency Medicine literature several preventive measures have been developed, including patient education programs on non urgent ED use.⁽³⁾

The non-urgent cases usually attend in the early morning and late evening and during weekends. In Jordan, few studies reported that large groups of attendees are non-urgent cases.⁽⁴⁾ Our study was conducted to characterize the non urgent visit among patients attending the emergency department at King Hussein Medical Center.

Methods

This study was conducted between 1st and 30th of April 2013. A total of 12,483 patients (civilians, military personnel and their dependents), were seen at Emergency department. A sample of 665 were included in this study, patients were randomly selected through systemic sampling method. All days of the week (day and night shifts including weekends) were included. A specially designed medical record abstract form was used to collect the relevant data.

All selected patients presenting to the King Hussein Medical Center (KHMC) Emergency Department were interviewed by a triage nurse and assigned a Canadian Triage and Acuity Scale level immediately after registration.^(6,12)

The triage nurse classifies every patient for treatment according to the severity. The criteria of severity were categorized as follows:

- The most severe category is life-threatening cases that require immediate treatment or resuscitation (anaphylaxis, acute respiratory distress, and coma, loss of consciousness, acute coronary syndrome and acute heart failure).
- Urgent cases were defined as one in which the patient requires immediate attention for acute illness or injury that threatens life or function. Delay would be harmful to the patient. (Arrhythmia, shock, electrolyte alteration, acute abdomen, road traffic accidents).
- Non urgent cases were defined as one in which the patient does not require attention immediately or within a few hours, these cases may be acute but not urgent and may be part of a chronic problem but without evidence of deterioration. The investigations or interventions for these illnesses or injuries could be delayed; some examples of non urgent cases include minor trauma, sore throat, common cold, vomiting, or diarrhea.

Simple descriptive statistics (frequency, mean and percentage) were used to describe the study variables. The statistical analysis used SPSS software.

Results

Out of the sample of 665 patients who were studied 65.6% were males, and 34.4% were females. The age group were old age, adult, young (>50, 30-49, <30) and constituted 49.8%, 25.3%, 25.0% respectively. The peak arrival times and the number of ED visits during the 1st shift were 26.3%, 2nd shift 25.7%, night shift 7.9% and weekends 40.0% successively.

The mean of time spent per visit (from registration to release) was three hours and 55 minutes. Among the study group the frequency of admission to the hospital wards was as follows: different hospital wards 27.5%, CCU 3.0%, ICU 3.3%. The majority (66.2%) who had

Table I: Degree of Urgency among the study group

	Frequency	%
Life threatening	40	6.0
Non urgent	440	66.2
Urgent	185	27.8
Total	665	100

Table II: Frequency of the common presenting conditions among patients attending the Emergency Department at KHMC, April 2013

Presenting conditions	Frequency	%
Cardiovascular	91	13.7
CPR	2	.3
Endocrinology	19	2.9
ENT	22	3.3
Gastro Intestinal	65	9.8
Nephrology	64	9.6
Neurology	42	6.3
Non-specific abdominal	13	2.0
Non-specific- Chest pain	27	4.1
Ophthalmology	7	1.1
Respiratory	86	12.9
RTA	9	1.4
Trauma	109	16.4
Tumors	29	4.4
Others	80	12.0
Total	665	100

Table III: Degree of Urgency among different age groups

Age group		Frequency	%
>50	L	29	8.8
	N	166	50.1
	U	136	41.1
	Total	331	100
30-49	L	6	3.6
	N	128	76.2
	U	34	20.2
	Total	168	100
<30	L	5	3
	N	146	88
	U	15	9
	Total	166	100
	All	665	

L: life Threatening, N: non urgent, U: Urgent.

normal physical examination and other investigations were reassured and discharged respectively. The degree of urgency among the study group was as follows: Non urgent visits 440 (66.2%), life threatening 40 (6.0%), urgent 185 (27.8%) (Table I). The commonest presenting conditions among study group were trauma (16.4%), cardiovascular (13.7%), respiratory (12.9%). The least were endocrine (2.9%) and ophthalmology (1.1%) (Table II).

The number of non urgent visits was higher in males than females (66.6% versus 33.4%). The number of non urgent ED visits was higher in the younger age group (<30 years) 88.0%, urgent (9.0%), life threatening (3.0%), while in adult (30-49 years), the non urgent visits (76.2%), urgent (20.2%), life threatening (3.6%), compared with the older age group (>50 years) non urgent visits (50.1%), urgent (41.1%), life threatening (8.8%) (Table III).

Table IV: The commonest presenting condition among non urgent patients

Presenting conditions	Frequency	%
Mild hyperglycemia	13	3.0
Sore throat	22	5.0
Mild diarrhea or vomiting	42	9.5
Mild UTI	44	10.0
Migraine	15	3.4
Non-specific, abdominal pain	16	3.7
Non-specific chest pain	50	11.3
Eye Allergy	7	1.6
Common cold	70	15.9
Minor trauma	89	20.2
Others	72	16.4
Total	440	100

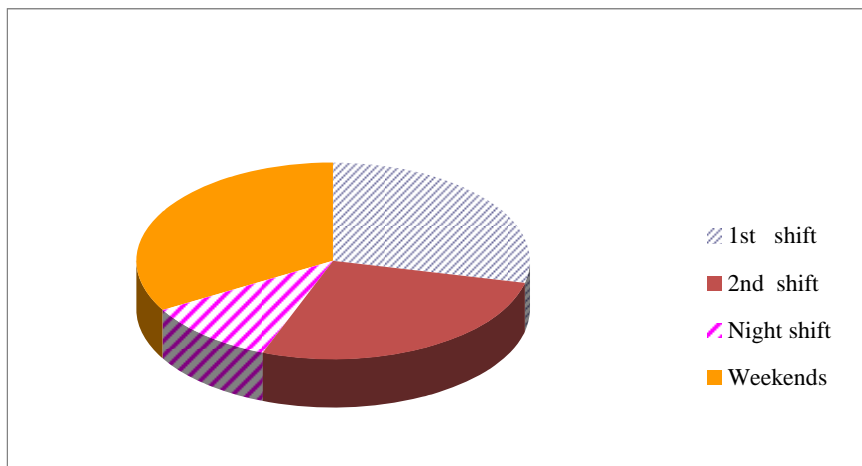


Fig. 1: Time of visit among non urgent patients

Table V: Common presenting conditions among different age group

Presenting conditions	Age Group			Total
	30-49	>50	<30	
Diagnosis				
Cardiovascular	17	74	0	91
CPR	0	2	0	2
Endocrinology	6	13	0	19
ENT	8	9	5	22
Gastro Intestinal	16	34	15	65
Nephrology	16	31	17	64
Neurology	6	28	8	42
Non-specific, abdominal pain	2	6	5	13
Non-specific- Chest pain	9	14	4	27
Ophthalmology	1	0	6	7
Respiratory	25	41	20	86
RTA	7	1	1	9
Trauma	29	18	62	109
Others	25	34	21	80
Total	168	331	166	665

Table VI: Admission frequency among different age group

		Frequency	In Group %
<30	Admission ward	15	9
	CCU	0	0
	Discharge	146	88
	ICU	5	3
	Total	166	100
30-49	Admission ward	33	19.6
	CCU	4	2.4
	Discharge	129	76.8
	ICU	2	1.2
	Total	168	100
>50	Admission ward	133	40.2
	CCU	16	4.8
	Discharge	167	50.5
	ICU	15	4.5
	Total	331	100
All	Total	665	

Table IV shows that the commonest presenting condition among non urgent patients was minor trauma (20.2%) followed by common cold (15.9%), non specific chest pain (11.3%), mild urinary tract infection (10.0%) without fever and normal KFT, mild diarrhea or vomiting (9.5%) without signs or symptoms of dehydration, however the least is eye allergy (1.6%) with discharge frequency 66.2%.

Non urgent ED visits were most frequent during 1st shift, 2nd shift and weekends compared with night shift as demonstrate in (Fig. 1). The commonest presenting condition among young age group (<30) was minor trauma (37.3%), while the least was cardiovascular. The commonest presenting condition among adult age group (30-49) was trauma (17.3%) followed by respiratory (14.9%), however in the older age group (>50 years); the commonest presenting conditions were cardiovascular (22.4%), respiratory (12.4%) revealed respectively as (Table V).

The number of discharge among young age group (<30) was higher (88%) than in adult (76.8%), however the discharge frequency among older age group (>50 years) was (50.5%) respectively as shown in (Table VI).

Discussion

Non urgent emergency department visits are typically defined as visits for conditions for which a delay of several hours would not increase the likelihood of an adverse outcome. Visiting the ED instead of another care site for a

non urgent condition may lead to excessive healthcare spending and unnecessary testing and treatment.⁽⁵⁾

There is widespread interest in interventions to discourage non urgent ED visits, however despite these efforts, non urgent ED visits have continued to rise.

Our results showed that the number of non urgent visits is high (66.2%). A study conducted by Liu showed more than 54.7% of the ED visits were considered non urgent.⁽⁶⁾ Another study conducted by Tsai in Taiwan found that more than half of ED visits were considered to be non-urgent,⁽⁷⁾ also a study conducted by Thomson showed that 60.7% of the ED visits were considered non urgent and 66.1% were men,⁽⁸⁾ which is consistent with our study, however a study in France conducted by Lang reported that 14% of the visited ED as a regular source of care.⁽⁹⁾

Our study demonstrates that non urgent visits were slightly more common among young patients (<30 years) compared with those older than 50 years. In the study conducted by Walter a higher proportion of ED visits made by the elderly patients were considered urgent, the youngest patients had the lowest proportion of urgent visits, but there was no difference between the old and very old patients in percentages of urgent visits.⁽¹⁰⁾

Robert suggest that young adults are increasingly relying on emergency departments for health care while being seen for less urgent indications, and were less likely to result in

admission than other age groups.⁽¹¹⁾

However our study showed that the frequency of non urgent ED visits was different between men and women, although it was slightly higher in men (66.6%), which coincides with a study conducted by Anne-Claire which shows that the frequency of non urgent ED visits were slightly higher in men (54.6%), and not in agreement with a study conducted by Jalili in Iran, where the women visits are higher.⁽¹²⁾

Our study showed that significantly higher proportions of non urgent visits presented to the ED during the first and second shifts and also during weekends compared with night shift, while other studies have failed to show any difference in patient's tendency during various shifts. Guterman in his study reported that the first shift was demonstrably the busiest; the midnight to 8:00 AM shift, however, had proportionately more sick patients.^(12,13)

Afilalo reported in his study, that the most commonly reported chief complaints for the urgent group were abdominal pain and chest pain were in the non urgent group, the most frequent chief complaints was minor trauma, also Afilalo reported that non urgent patients were younger than urgent patients and the non urgent group had better health and were less often admitted from the ED, while Walter demonstrates that the elderly group had more cardiac and pulmonary disease, where as the nonelderly group had a higher proportion of acute injuries and infectious.^(10,14)

In our study, the commonest presenting conditions among non urgent patients were as follows: minor trauma (20.2%), common cold (15.9%), however the least was eye allergy (1.6%). The commonest presenting condition among young age group was minor trauma, while the least is cardiovascular, however among older age group (>50 years) the commonest presenting condition were cardiovascular and respiratory (22.3%, 12.3%).

A study conducted by Mark showed that 60% of patients felt that the emergency department was the best place for them to receive care for their medical problem; also Mark reported that the peak arrival times at the emergency department were 10 am and 1 pm. The mean amount of time spent per visit was four hours and 55 minutes,⁽¹⁵⁾ while in our study the peak

arrival times at the emergency department during (1st - 2nd shift), and the mean amount of time spent per visit (from registration to release) was three hours and 55 minutes.

Several studies have addressed the reasons why patients use the ED for non urgent problems. A study conducted by Bianco in Italy showed that the most frequent reason given by patients for their visit to the emergency department was that they felt their problem was an emergency.⁽¹⁶⁾

Our study showed that the main reasons for non urgent visit is to obtain rapid treatment and short waiting time, which coincides with two studies, conducted in the United States and revealed that shorter waiting time was one of the reasons for non urgent visits.^(12,17)

Limitations of the Study

1. Relatively smaller sample representing one month in a year and short duration of the study.
2. The most important limitation is the methodology we used to determine the appropriateness of an ED visit. We relied on the nurses' classification of patients. Although our nurses have been trained to use this triage scale, the accuracy of their performance has not been formally studied.
3. This study may not show the overall appropriateness of ED use in Jordanian hospitals.
4. Our study is limited by its descriptive nature and does not use multivariate analysis.

Conclusion

About two thirds of Emergency Department visits were considered to be non-urgent. Use of the Emergency Department for non urgent conditions may lead to excessive healthcare expenditure, unnecessary testing and treatment. Further analytical studies should be conducted to describe the difference between the study variables.

References

1. **Cunningham PJ, Clancy CM, Cohen JW, Wilets M.** The use of hospital emergency department for non urgent health problems: a national perspective. *Med Care Res Rev* 1995, 52:453-74.

2. **Gentile S, Vignally P, Durand AC, Gerbeaux P.** Non urgent patients in the emergency department? A French formula to prevent misuse. *BMC Health Serv Res* 2010; 10:66, doi:10.1186/1472-6963-10-66.
3. **Claire A D, Sylvie P, Nicolas T.** Non urgent patients in emergency departments: rational or irresponsible consumers? Perceptions of professionals and patients. *BMC Research Notes* 2012, 5:525
4. **Jerius M, Esalim A, Tarawneh M.** Inappropriate utilization of Emergency Department medical services at Prince Ali military hospital. *JRMS* 2011;
5. **Lori U, Jesse P, Arthur K.** Emergency Department Visits for Non urgent Conditions: Systematic Literature Review. *Am J Manag Care* 2013; 19(1):47-59).
6. **Liu T, Sayre MR, Carleton SC.** Emergency medical care: types, trends, and factors related to non urgent visits. *Academic Emergency medicine* 1999 Nov; 6(11):1147-52.
7. **Tsai JC, Liang YW, Pearson WS.** Utilization of emergency department in patients with non-urgent medical problems: patient preference and emergency department convenience. *J Formos Med Assoc* 2010; 109(7): 533-542.
8. **Thomson H, Kohli H.S, Brookes M.** Non-emergency attenders at a district general hospital accident and emergency department. *Journal of Accident and Emergency Medicine* 1995; 12: 279-281.
9. **Lang T, Davido A, Diakité B, Agay E.** Using the hospital emergency department as a regular source of care. *Eur J Epidemiol* 1997 Feb; 13(2):223-228.
10. **Walter H, Julie A, Patricia J.** Patterns of Use of the Emergency Department by Elderly Patients. *Journal of Gerontology* 1987; 42(6): 638-642.
11. **Robert J, Brett W, Nandini M.** Dependence on Emergency Care among Young Adults in the United States. *Gen Intern Med* 2010; 25(7): 663-669.
12. **Jalili M, MD, Shirani F, Hosseinijad M.** Emergency Department non urgent visits in Iran: prevalence and associated factors. *Am J Manag Care* 2013; 19(1):e1-8.
13. **Guterman JJ, Franaszek JB, Murdy D.** The 1980 patient urgency study: further analysis of the data. *Ann Emerg Med* 1985 Dec; 14(12):1191-1198.
14. **Jonathan A, Adrian, Marc A.** Non urgent emergency department patient characteristics and barriers to primary care. *Acad Emerg Med* 2004; 11(12):1302-1310.
15. **Mark G, Steven A.** Use of the Emergency Department for non urgent care during regular business hours. *CMAJ* 1996 May 1; 154(9): 1345-1351.
16. **Bianco A, Pileggi C, Angelillo IF.** Non-urgent visits to a hospital emergency department in Italy. *Public Health* 2003; 117(4):250-255.
17. **Howard MS, Davis BA, Anderson C.** Patients' perspective on choosing the emergency department for non urgent medical care: a qualitative study exploring one reason for overcrowding. *J Emerg Nurs* 2005 Oct; 31(5):429-435.