An Emergency Department or a Convenient Pediatric Walk in Clinic

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ABSTRACT

Objectives: To describe the rate and pattern of the Emergency Department use by non-urgent pediatric cases and to find out the main determinant factors of these visits.

Methods: This study conducted at Princess Haya Military Hospital in Aqaba city during the period between December 2006 and May 2007. Data was collected from all pediatric cases that attended the Emergency Department and was evaluated by pediatricians. Results were analyzed descriptively.

Results: A total number of 8,100 children aged 14 years and below attended the Emergency Department during the study period for different complaints. Around 71% of the total cases were considered to be non-urgent as assessed by the attending pediatrician. About 77% of cases were medically insured by public health insurance. Being less than six years old and living inside the city was associated with more non-urgent visits. Generally unemployed and educated caregivers were more likely to make non-urgent visits. Most common presenting complaints were respiratory problems followed by gastrointestinal problems.

Conclusion: Findings showed that a significant proportion of pediatric visits to the Emergency Department were non-urgent and could be handled in primary health care settings. Efforts and measures should be attempted to decrease emergency department use by non-urgent pediatric cases, both for financial reasons, as well as time and effort saving.

Key words: Emergency Department, Children, Non-urgent attendandce

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Introduction

Emergency Department (ED), as the name implies, is intended to provide immediate and continuous health care for patients with urgent medical or surgical conditions. The fact that many patients use the ED for non-urgent medical services has been well documented in medical literature and is a universal phenomenon.[1-2]

From a medical perspective perhaps a non-urgent visit is troubling, while parents may perceive this to be a convenient use of their time. Such unnecessary visits may lead to overcrowding in the ED that in turn has its own draw backs like an increase in waiting time and a delay in caring for serious cases. Also in such a crowded atmosphere, doctors may make incorrect diagnoses due to the lack of time, and that may lead to either over hospitalization or not detecting serious cases.[3-4] This study will discuss the rate and the possible determinants of such visits. The emergency department in our hospital contains eleven beds, two cubicles, three nurses for each shift and it provides medical services for all age groups. One pediatrician is allocated to the department from 4:00pm till 8:30am.

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Table I. Demographic characteristic of children and their caregivers in urgent and non-urgent visits

Characteristics	Non-Urgent ED visits (%) (*n*=5,751)	Urgent ED Visits (%) (*n*=2,349)
Age of Children (Years)		
<1	1,553(27)	705(30)
1-6	2,128(37)	564(24)
7-10	1,323(23)	610(26)
11-14	748(13)	470(20)
Gender		
Male	3,048(53)	1,263(54)
Female	2,703(47)	1,086(46)
Residence		
Within the city	4,946(86)	876(37)
Outside the city	805(14)	1,473(63)
Insurance Status		
Public governmental insurance	4,428(77)	1,597(68)
Private	1,093(19)	470(20)
Uninsured	230(4%)	282(12)
Educational Level of Caregiver (Usually Mothers)		
Illiterate	518(9)	418(18)
Up to high school education	1,898(33)	1,232(52)
High school graduate	2,358(41)	470(20)
College or university graduate	978(17)	235(10)
Employment Status of Parents		
Unemployed	863(15)	235(10)
One parents employed	3,451(60)	1,362(58)
Both parents employed	1438(25)	752(32)

Table II. Number and percentage of non-urgent cases attending ER according to presentation

Presenting condition	Number of patients	%
Respiratory	2,013	35
G.I.	920	16
Dermatology	748	13
Genitourinary	460	8
Musculoskeletal	460	8
Minor surgical condition	172	3
Ophthalmology	403	7
Others	575	10
Total	5,751	100

Table III. Number and percentage of urgent cases attending ER according to presentation

Presenting condition	Number of patients	%
Respiratory condition	1,034	44
G.I	540	23
Neonatal condition	188	8
C.N.S	141	6
Marines animal injury	117	5
Poisoning	71	3
Others	258	11
Total	2,349	100

Methods

This study was conducted at Princess Haya Hospital during the period between December 2006 and May 2007. This hospital is a general hospital that provides medical services for the whole population in Aqaba governorate in conjunction with two other small private hospitals and many primary care settings that provide medical services during day and night**.**

Participants were all children aged 14 years and below who attended the ED from 4:00pm until 8:30am the following morning. Children were examined and evaluated by pediatricians, who classified their cases as urgent or non-urgent. Variables regarding children and their caregivers thought to be most determining of non-urgent visits were recorded. These included age, sex, nature of complaints, residency, recent contact with primary care setting, family size, educational attainment of primary caregiver (usually the mother), employment status of parents, and health insurances type (public, private, none).

Results

Table I shows the demographic characteristic of children and their caregivers with urgent and non-urgent visits.

The total number of children who attended the ED during the study period was 8,100 which represent 42% of total ED visits. About 5,751 (71%) of the cases were considered to be non-urgent. Children aged below six years represented 65% of our patients and males were more common than females in a ratio of 1.1:1.

About 4,428 (77%) of non-urgent cases were medically insured by public health insurance, 1,093 (19%) had private insurance, and 230 (4%) were uninsured

History of contacting a primary health care setting was evident in 2,300 (40%). Families who lived within the city represented 4,946 (86%) of the sample, the rest were residents of villages and towns around Aqaba city, both groups used their own vehicles or public transportation to reach the hospital. Families in which both parents were employed represented 1,438 (25%) of the cases, while families with only one parent employed (usually father) numbered 3,451 (60%), resulting in 4,313 (75%) of the primary caregivers being unemployed. Of the total cases, 5,233 (91%) included caregivers/mothers who had attained a certain level of education (less than high school graduate, high school graduate, college or university) while 518 (9%) of them were illiterate mothers. Respiratory problems were the most frequent complaints, followed by gastrointestinal complaints, and dermatological lesions. While minor surgical illnesses represented the least presenting complaints (Table II).

Truly urgent cases constituted 29% of the children, where 18% of them were admitted to the pediatrics ward for different reasons and 3% were admitted to the intensive care unit. The most common chief complaint was respiratory problems (Table III).

Discussion

It is well known that the ED provides important public health services. Many children were more likely to receive emergency department services for problems and conditions which may have been cared for in the non-urgent clinic setting. The misuse of such services appeared to be a significant problem, and it is highlighted and discussed by this study.

The proportion of non-urgent visits in our sample reached 71% in rate, such a high figure is in concordance with most similar literature,[2,5-6] while few authors recorded lower rates.[1,7] Some studies showed that living relatively close to the hospital (distances were not mentioned) is associated with an increase in non-urgent visits,[8,9-10] this finding was similar to our findings. Also the fact that most patients with truly urgent cases originated from outside the city supports this finding. We found that 40% of cases in our sample had previous contact with a primary health care setting (mostly general practitioner working in Ministry of Health Medical Centers) and the majority of them were offered some form of treatment prior to their visit to our ED, again the finding of prior treatment was almost consistent with other studies.[11,12]

An important variable is the status of health insurance. Our findings reported that 77% of non-urgent visitors were medically insured by public health insurance, such relatively high rate was inconsistent and even contradicted many studies,[2,7-8] while only one study was in accordance with our findings.[5] Inconsistent rates of different studies may be explained by the difference in health insurance systems in various countries. Children aged less than six years constituted a large majority of the sample which is in agreement with the findings of another study.[1] One should note that all children below the age of six years enjoy free health insurance in Jordan.

Generally speaking, we found that slightly greater than half of the sample included primary caregivers educated past the high school level. Of these, only 17% had a college or graduate degree. These findings could suggest that the uneducated primary caregivers and those who have not finished high school, are less likely to come to the ED for non-urgent complaints. In contrast, this same group were most likely to use the ED for a truly urgent case. Most studies gave divergent results in this aspect.[5,11-13] Furthermore, three fourths of the primary caregivers who made non-urgent visits to the ED were unemployed which supports and contrasts similar studies.[11,5] Similarly, 68% of truly urgent cases were also made by unemployed primary caregivers. It was undetermined as to why the unemployed caregivers did not visit the outpatient clinic during normal working hours. A future study could explore this unknown.

We could not find a relationship between family size and rate of non-urgent visits in this study, while few studies claimed such a relationship.[12] The most common presentations were respiratory complaints, probably due to the fact that the study was held mainly during Winter time.

Conclusion

This study clearly shows that there is a significant misuse of this ED which impacts negatively both on health workers and on the quality of services provided.

We believe that adoption of some measures and policies may be of value to tackle this dilemma. For example the provision of mass media health education of the lay community, expansion and improvement of the primary health care centers and clinics, particularly in the vicinity of the ED, which can alleviate such undue pressures and lastly the establishment of a competent triage system in the ED, could be helpful.

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References

1. **Pileggi C, Angelillo IF, Raffaele G.** Pediatric utilization of an emergency department in Italy. *European Journal of Public Health* 2006; 16(5): 565-569.
2. **Fong C.** The influence of insurance status on non urgent pediatric visits to the emergency department. *Acad Emerg Med* 1999; 6: 744-748.
3. **Derlet RW, Richards JR, Kravitz RL.** Frequent Overcrowding in U.S. emergency department. *Academic Emergency Medicine* 2001; 8(2): 151-155.
4. **James CA, Bourgeois FT, Shannon MW.** Associations of race / ethnicity with emergency department wait times. *Pediatrics* 2005; 115(3): 310-315.
5. **Phelps K, Taylor C, Kimmel S, *et al*.** Factors associated with emergency department utilization for non urgent pediatric problems. *Arch Fam Med* 2000; 9: 1086 –1092.
6. **Isaacman DJ.** Pediatric emergency medicine: state of the art. *Pediatrics* 1993; 91(3): 587-590.
7. **Luo X, Liu G, Frush K, *et al*.** Children's health insurance status and emergency department utilization in the United States. *Pediatrics* 2003; 112: 314-319.
8. **Halfon N, Newacheck PW, Wood DL, *et al*.** Routine emergency department use for sick care by children in the United States. *Pediatrics* 1996; 98(1): 28-34.
9. **Johnson WG, Rimsza ME.** The effects of access to pediatric care and insurance coverage on emergency department utilization. *Pediatrics* 2004; 113(3): 483-487.
10. **Prince M, Worth C.** A study of inappropriate attendances to a pediatric accident and emergency department. *Journal of Public Health* 1992; 14(2): 177-182.
11. **Doobinin KA, Heidt-Davis PE, Gross TK, *et al*.** Non urgent pediatric emergency department visits: care-seeking behavior and parental knowledge of insurance. *Pediatric Emergency Care* 2003; 19(1): 10-14.
12. **Hendry SJ, Beattie TF, Heaney D.** Minor illness and injury: factors influencing attendance at a pediatric accident and emergency department. *Archives of Disease in Childhood* 2005; 90: 629-633.
13. **Brousseau DC, Hoffmann RG, Nattinger AB, *et al*.** Quality of primary care and subsequent pediatric emergency department utilization. *Pediatrics* 2007; 119(6): 1131-1138.