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Original Research Article

Epidemiological profile of non-urgent patient visits to emergency department in a tertiary care hospital in South India

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ABSTRACT

Background: Non-urgent visits to emergency department (ED) form a significant proportion of ED visits. The reasons vary from minor injuries, fever of short duration, parental anxiety, and even serious conditions like myocardial infarctions presenting atypically. Non-urgent visits stress the ED services while prolonged waiting affects the patients. The aim was to study the profile of non-urgent visits to emergency department of a tertiary care hospital in South India.
Methods: Prospective and descriptive study of patients aged 15 years and above categorized as non-urgent after triage was conducted. Data such as age, gender, reason for visit, time of presentation during the day, duration of ED stay and need for referral were recorded. Quantitative variables were presented as Mean±SD and frequency with percentage for qualitative variables.
Results: Non-urgent visits contributed to 47.1% of total ED visits. Reasons for non-urgent visits were fever (15.4%), vomiting (13.9%), breathlessness (7.6%), minor trauma (7.3%), giddiness (7.0%) and dysuria (5.5%). 80.8% of all non- urgent visits were seen by ED doctor within two hours of being triaged. Most patients were treated for their immediate symptoms and 64.8% needed follow-up out-patient appointments. Admission rate was 1.2%. Majority of non-urgent visits (55.7%) were daytime visits and 13% were after-hours.
Conclusions: Non-urgent visits contribute to about half of all ED visits and can stress ED. A local triage guideline is necessary to run these services in ED. Extended general practice or family physician run urgent care can relieve the stress on ED while rendering to patients accessible and affordable care.

Keywords: Non-urgent visit, Triage, Emergency department

INTRODUCTION

The emergency departments (ED) provide immediate intervention to the sick and also access to specialist care at this time of need. It serves as a point of integrated approach for the most sick which is attained by proper prioritization and attention to the most sick. The triage plays this vital role in emergency department to classify patients based on their severity of symptoms and clinical presentation. Triaging ensures the sicker receive immediate attention than the less sick. The low priority illness presentations to emergency department are termed as non-urgent visits (NuV). The NuV's contribute to a significant proportion of visits to any emergency department. NuV patients are vitally stable and can be managedon a non-urgent manner or can be managed by a primary care physician, if his services are available. NuV's can contribute to overcrowding and cause inefficiency of the system. The common reasons for NuV's are minor injuries, need for adequate pain control,

self-perception of illness severity, inability to obtain an early specialist appointment or due to unavailability of regular primary care services due to out of hour presentations. The NuV patients contribute to increased workload among triage nurses, emergency doctors, technicians and allied health workers. Even-though the triage system prioritizes visits, these patients cannot be discharged without being seen by the doctor. This creates inefficiency of the emergency system and also patient dissatisfaction who has poor knowledge of the triage system. This study aims to describe the characteristics NuV patients, the common types of clinical conditions, their distribution during 24 hour period which in turn can be used for better planning and management of NuV's.

METHODS

This prospective descriptive study was conducted at ED of Christian Medical College and Hospital, Vellore, South India which is tertiary care teaching hospital. It is 45 bedded departments with an average of 200 visits daily.

Inclusion criteria

All patients 15 years and more, presenting to ED between 18th April 2016 and 18th May 2016 and categorized as NuV's.

Exclusion criteria

All patients less than 15 years, as there was separate pediatric ED and those patients categorized as other urgent priorities.

After informed consent the patients were seen by ED registrar who recorded the symptoms and management in patient records which was studied by the researcher. The following information was collected: demographics, age, sex, time of visit, reason for visit, investigations ordered, waiting time to see doctor, treatment provided and referral or discharge plan. All analyses were done using Statistical Package for Social Services (SPSS) software Version 21.0 (Armonk, NY: IBM Corp). Mean (SD) were presented for the continuous variables. The categorical variables were expressed in proportion and Chi-square test and Fisher exact test was used to compare dichotomous variables. All tests was two-sided at α=0.05 level of significance. This study was approved by the Institutional Review Board and patient confidentiality was maintained using unique identifiers and by password protected data entry software with restricted users.

RESULTS

The study was conducted from April 2016 to May 2016. A total of 967 patients were included. 551 (56.98%) were males and 416(44.02%) were females. Almost one fifth of them were from each of the three age groups, 45-54 years (22.02%), 35-54 years (19.85%) and age group from 25-34 years (19.75%). Those over 65 years were 10.34% which is sharp contrast to most of the other countries where a significant proportion of NuV's is by people over 65 years. Young adults from 15 to 24 years constituted 13.02% of the visits (Table 1).

Table 1: Baseline characteristics.

Characteristics	Number	Percentage (%)
Sex		
Male	551	56.98
Female	416	43.02
Total	967	100.00
Age group (in years)		
15-24	126	13.02
25-34	191	19.75
35-44	192	19.85
45-54	213	22.02
55-64	145	14.99
>65	100	10.34

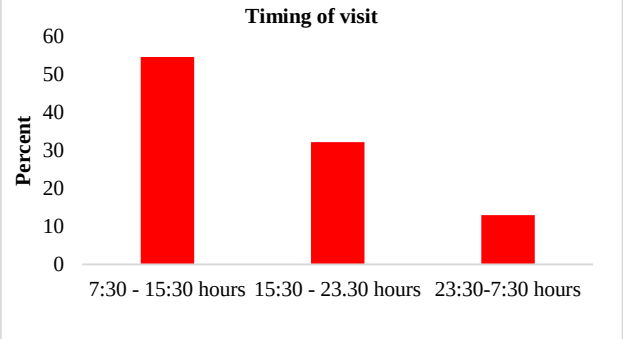

Figure 1: Time of presentation.

The majority of NuV's (n=529, 54.7%) presented to ED, between 07.30 hours and 15.30 hours. A significant proportion (n=312, 32.3%) of the NuV's happened between 15.30 -23.30 hours, while those who presented between late night and early morning (23.30-07.30 hours) were 13% of the total NuV's (Figure 1).

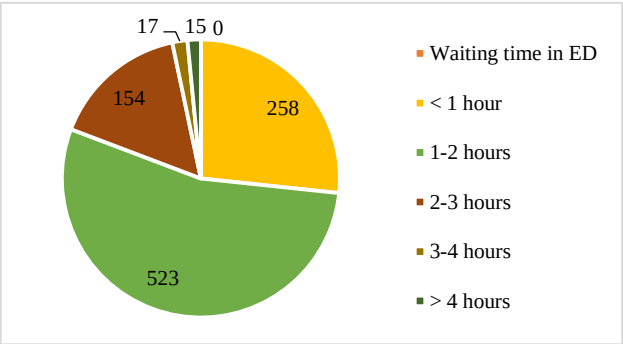

Figure 2: Waiting time.

The waiting times for NuV's can vary depending on how many very sick patients presented to the emergency department on that particular day. Average waiting time

in this study was 2 hours. Around a quarter (27%) of all NuV's were seen in the 1st hour of them presenting themselves to ED. The Majority (54%) of all NuV's were seen within 2 hours of ED visit. Sixteen percent of the patients had to wait up to 3 hours, while a minimal of 2% and 1% had to wait upto and beyond 4 hours respectively (Figure 2).

Table 2: Reason for non-urgent visit.

Reason	No. of patients	Percentage (%)
Fever	146	15.4
Vomiting	132	13.9
Breathlessness	73	7.6
Minor trauma	70	7.3
Giddiness	67	7.0
Dysuria	52	5.5
Cold	48	5.0
Loose stool	43	4.5
Urinary retention	33	3.7
Bleeding per vaginum	20	2.1
Hematuria	18	1.9
Jaundice	15	1.5
Rash with itch	15	1.5
Urinary incointinence	06	0.6
Chronic wound	04	0.4
Percieved illness	742	
Others*	225	
Total	967	100
***Known patient asked to follow up in ED**	89	
Had treatment and its complications	57	
Not getting OPD appointment	48	
First visit	31	

Top five patient perceived reasons for NuV's were fever (15.4%), vomiting (13.9%), breathlessness (7.6%), Minor trauma (7.3%) and giddiness (7.0%). Dysuria, common cold, loose stools, urinary retention, bleeding per vaginum, hematuria were other common reasons for non-urgent visits to emergency department. There were also fewer numbers of patients who reported for urinary incontinence, jaundice, skin rash with itch, and chronic wounds. A significant proportion of patients (225, 23.26%) presented to the ED because of logistical reasons (Table 2).

Majority of patients (568, 58.74%) were evaluated and referred to the outpatient departments for further care, while one third (328, 33.92%) of them were treated and discharged from the service. A small number (12, 1.24%) of patients were admitted to the hospital for further continuation of care. A few of the patients (59, 6.10%) left the ED before their assessment could be completed in the ED at their own decision (Figure 3).

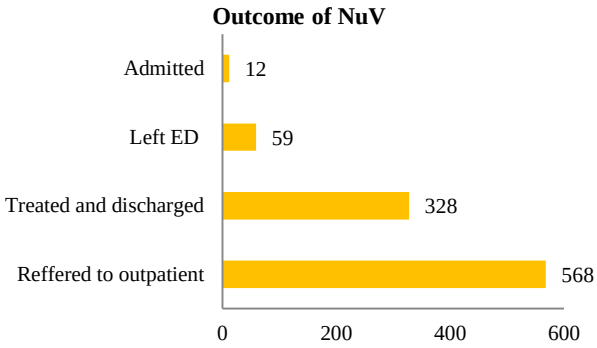

Figure 3: Outcome of non-urgent visit.

DISCUSSION

The objective of this study was to study the profile of non-urgent visits to the emergency department of a tertiary care hospital in south India. The low priority illness presentations to emergency department are termed as NuV's and contribute to a significant proportion of visits to any emergency department.[1]

In this study there was a male preponderance (56.98%), which was similar to a study conducted at an emergency department in Saudi Arabia by Bakarman et al.[2] A study from Sweden by Backman et al reported age group distribution which was similar to this study except for those aged more than 65 years, their study found that 21% of their non-urgent visits were by those aged 65-80 years, while in our study those over 65 years were 10.34%.[3]

The timing of ED presentations of NuV's observed according to Honigman et al were, 13.0% of them presented between 00:00-07:59 hours, 45.7% presented between 08:00-15:59 hours, and 41.3% presented between 16:00-23:59 hours, but in our study there was a difference observed to the above, majority of them (54.7%) presented between 07.30 hours and 15.30 hours, followed by one third of them (32.3%) presented between 15.30-23.30 hours, and13% presented between 23.30-07.30 hours.[4]

In this study the average waiting time was 2 hours, 27% of NuV's were seen in the 1st hour and 54% were seen within 2 hours of presentation ED, but the waiting time in ED varies from country to country and also differs between the public and private hospitals. A report from Australia reports around 90% of non-urgent patients were seen within first 2 hours of reporting to the ED, which is very similar to our study.[5] In another study published from a developing country by Banerjea et al reports that their ED's waiting time was considerably longer than established standards.[6]

The reasons for non-urgent visits were many and varied from country to country. In a study conducted in a middle income country by Bahadori et al it was concluded that

the major reasons for non-urgent visits were for seeking prompt and cheaper care.[7] Another study conducted by Idil et al identifies that musculoskeletal system pain (25.2%) and upper respiratory tract infections symptoms (19.7%) as most common reasons followed by headache, acute gastroenteritis, eye complaints, fatigue, skin lesions with itching, dizziness, flank pain and dyspeptic complaints as other reasons for non-urgent visits.[8] In this study the top five patient perceived reasons for NuV's were fever (15.4%), vomiting (13.9%), breathlessness (7.6%), minor trauma (7.3%) and giddiness (7.0%). Dysuria, common cold, loose stools, urinary retention, bleeding per vaginum, hematuria, urinary incontinence, jaundice, skin rash with itch, and chronic wounds were the other reasons (Table 2). We had a significant proportion of patients (225, 23.26%) who presented to our ED because of logistical reasons. In this case the reasons are that we are located in a busy tertiary care hospital and referrals come from far off places, even from neighboring countries and patients are unaware of the appointment system that exist locally and end up being triaged in ED (Table 2).

The emergency department where the study was conducted is one of the pioneering departments in the country which runs a 24 hour dedicated service for NuV's, because of which the waiting times and outcomes meet international standards. Around 4% to 5% of NuV's were admitted to hospital according to a reports from other countries compared to 1.24% of admissions in this study.[4-9]

Non urgent visits to ED pose certain challenges like increased workload for ED staff, dilution of attention given to the most sick, patient and career dissatisfaction due to increased waiting time etc. Many developed countries have developed systems to face these challenges. Provision of 24 hours walk-in General practitioner led urgent care clinics, home doctor services, telephone triage service and better co-ordination between the above and emergency services are few of the systems developed to face this challenge related to non-urgent visits.[10]

Limitations

The study is limited as it did not provide information into the reasons for referral to outpatients, how soon an outpatient appointment was available or systems available to aid with these referrals.

CONCLUSION

We found that non-urgent visits contribute to about half of all ED visits and can strain an already stressed ED services. Extended help from primary health services like General practitioner or Family physician run urgent care services can relieve the stress on ED services while rendering to patients accessible and affordable care.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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