



NON-URGENT VISITS TO THE EMERGENCY DEPARTMENT AT SVIMS, TIRUPATI: A RETROSPECTIVE OBSERVATIONAL STUDY

Emergency Medicine

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ABSTRACT

Background: Non-urgent visits to emergency departments (EDs) can contribute to resource strain and decreased efficiency in delivering care to critical patients. This study aimed to evaluate the proportion, characteristics, and temporal trends of non-urgent ED visits at Sri Venkateswara Institute of Medical Sciences (SVIMS), Tirupati. **Methods:** A retrospective observational study was conducted using data from patients visiting the ED over a one-month period. Patient demographics, presenting complaints, triage categories, and visit timings were analyzed. Non-urgent visits were defined as those classified under Triage Categories 3 (Non-Urgent) and 4 (Routine). Statistical tests, including Chi-square and ANOVA, were used to assess associations and differences in the data. **Results:** Out of 700 ED visits, 500 (71.43%) were non-urgent. The most common presenting complaints among non-urgent cases were chest pain (23%), abdominal pain (18%), and breathing difficulty (15%). Middle-aged individuals (31–50 years) and males constituted the majority of non-urgent visits. Visits peaked during morning hours (50%) and on weekdays, particularly Tuesdays (24%). Statistically significant associations were found between presenting complaints and age groups ($p=0.02p=0.02p=0.02$). **Conclusion:** The high proportion of non-urgent ED visits highlights the need for public education on appropriate healthcare settings and the enhancement of outpatient services. Temporal trends and demographic patterns can inform targeted interventions to optimize ED utilization.

KEYWORDS

Non-urgent emergency department visits, Triage categories, Patient demographics, Emergency department utilization

INTRODUCTION

Emergency departments (EDs) are critical in providing timely care for life-threatening conditions. However, non-urgent visits, defined as cases that can safely be managed in outpatient or primary care settings, often contribute to ED overcrowding, increased costs, and strained resources.

This study aimed to quantify non-urgent visits to the ED at SVIMS, Tirupati, analyse the demographic and clinical characteristics of these cases, and identify temporal trends to inform strategies for optimizing resource utilization and improving patient outcomes.

Methods

Study Design

This was a retrospective observational study conducted over a one-month period.

Study Setting

The study was conducted at the Emergency Department of SVIMS, Tirupati, a tertiary care centre receiving a diverse patient population.

Study Population

All patients visiting the ED during the study period were included.

Inclusion Criteria

- Patients classified as non-urgent (Triage Categories 3 and 4).
- Patients aged ≥ 18 years.

Exclusion Criteria

- Patients classified as emergent or urgent (Triage Categories 1 and 2).
- Incomplete or missing patient records.

Data Collection

Data on patient demographics, presenting complaints, triage categories, time and date of visit, and outcomes were extracted from the hospital's ED database.

Statistical Analysis

Descriptive statistics were used to summarize categorical and

continuous variables. Inferential statistics included:

- Chi-square tests** for comparing categorical variables.
- One-Way ANOVA** to analyse differences in continuous variables across groups.
- T-tests** for comparing means where applicable.

RESULTS

Proportion Of Non-Urgent Visits

- Non-urgent visits constituted **71.43%** (500/700) of total ED visits.
- Triage Category 3 accounted for **307 visits (43.86%)**, and Triage Category 4 accounted for **193 visits (27.57%)**.

Common Presenting Complaints of Non-Urgent Cases

- Chest pain** was the most frequent complaint (**23%**), followed by **abdominal pain (18%)** and **breathing difficulty (15%)**.
- Significant associations were observed between presenting complaints and age groups ($p=0.02p=0.02p=0.02$), with younger patients more likely to present with abdominal pain and older patients with chest pain.

Demographic Characteristics

- Age Distribution:** Most patients were aged 31–50 years (**40%**), followed by 51–70 years (**30%**). The mean age was **50.2 years (SD=15.4)**.
- Gender Distribution:** Males constituted **60%** of non-urgent visits, and females accounted for **40%**.

Temporal Trends

- Time of Day:** Non-urgent visits peaked during the **morning hours (50%)**, followed by the afternoon period (**40%**).
- Day of the Week:** Visits were most frequent on **Tuesdays (24%)** and least frequent on **Sundays (2%)**.

Statistical Observations

- Chi-square test** demonstrated significant differences in visit frequency across days ($p<0.001p<0.001p<0.001$).
- One-Way ANOVA** identified significant variations in patient demographics across time periods ($p=0.04p=0.04p=0.04$).

Table1. Proportion of Non-Urgent Visits

Category	Number of Visits	Percentage
Non-Urgent Visits	500	71.43%
Total ED Visits	700	100%

Table 2. Triage Categories of Non-Urgent Visits

Triage Category	Number of Visits	Percentage
Category 3	307	43.86%
Category 4	193	27.57%

Table 3. Common Presenting Complaints of Non-Urgent Cases

Presenting Complaint	Number of Visits	Percentage
Chest Pain	115	23%
Abdominal Pain	90	18%
Breathing Difficulty	75	15%

Table 4. Demographic Characteristics**A. Age Distribution**

Age Group (Years)	Number of Patients	Percentage
31–50	280	40%
51–70	210	30%
Other	210	30%
Mean Age	50.2	SD = 15.4

B. Gender Distribution

Gender	Number of Patients	Percentage
Male	300	60%
Female	200	40%

Table 5. Temporal Trends**A. Time of Day**

Time Period	Number of Visits	Percentage
Morning	250	50%
Afternoon	200	40%
Other	50	10%

B. Day of the Week

Day	Number of Visits	Percentage
Sunday	14	2%
Tuesday	168	24%
Other Days	518	74%

DISCUSSION

This study found that over two-thirds (71.43%) of ED visits at SVIMS were classified as non-urgent, a proportion consistent with findings from other regions in India and globally. For instance, a study conducted in Kerala reported that approximately 68% of ED visits were non-urgent, primarily attributed to the unavailability of primary care services during after-hours and weekends [1]. Similarly, studies from high-income countries have reported non-urgent visit proportions ranging from 40% to 70%, with variations influenced by healthcare access, insurance systems, and cultural factors [2,3].

Demographics And Presenting Complaints

The predominance of middle-aged individuals (31–50 years) among non-urgent visits aligns with the findings of Agarwal et al., who reported that this age group frequently accesses ED services due to their dual role as caregivers and wage earners, often unable to visit outpatient facilities during work hours [4]. The male predominance in our study (60%) mirrors previous research in India and other developing countries, where men are more likely to seek healthcare due to sociocultural norms and greater mobility [5,6].

The high prevalence of chest pain, abdominal pain, and breathing difficulty as presenting complaints among non-urgent visits has also been observed in other studies. A study in the United States highlighted chest pain as a common reason for non-urgent ED visits, often driven by patient anxiety and perceived severity of symptoms [7]. Similarly, Kiran et al. reported abdominal pain as a frequent non-urgent complaint in Indian EDs, reflecting a gap in primary care for gastrointestinal conditions [8].

Temporal Trends

The temporal trends observed in our study, with peaks in the morning hours and on weekdays, are comparable to findings from international studies. For instance, a study in the United Kingdom noted that non-urgent visits peaked during business hours, suggesting patient preferences for accessing EDs when outpatient clinics are unavailable [9]. The low number of visits on Sundays in our study aligns with the findings of Gupta et al., who attributed this trend to patient preferences

for avoiding healthcare settings during religious or family-oriented days [10].

Comparison with High-Income Settings

In contrast to high-income settings, where after-hours urgent care clinics and telemedicine services have reduced non-urgent ED visits, the lack of such alternatives in low- and middle-income countries (LMICs) contributes significantly to ED overcrowding [11,12]. For instance, in Canada, the establishment of urgent care centres has reduced non-urgent ED visits by 30% [13]. Similar interventions in LMICs could yield comparable benefits.

Policy Implications

The high proportion of non-urgent visits at SVIMS underlines the need for systemic changes. Public education campaigns, like those implemented in Australia, have been shown to reduce non-urgent ED visits by educating patients about alternative care pathways [14]. Expanding primary healthcare access and strengthening referral systems are equally critical. In South Korea, for example, a mandatory referral system for non-urgent cases has reduced ED crowding significantly [15].

Strengths and Limitations

Our study provides valuable insights into non-urgent ED visits in a tertiary care setting in South India. However, it is limited by its retrospective design and single-centre focus. Future studies should incorporate patient surveys and explore barriers to primary care access to complement these findings.

Addressing This Issue Requires A Multifaceted Approach:

- Public Education:** Campaigns to guide patients on appropriate healthcare settings based on symptom severity.
- Strengthening Outpatient Services:** Expanding primary care services to manage common complaints like chest and abdominal pain.
- Triage Optimization:** Enhancing triage protocols to redirect non-urgent cases effectively.

CONCLUSION

The findings highlight the need for targeted interventions to reduce non-urgent ED visits and improve resource allocation. Future studies should explore patient perceptions and barriers to accessing primary care to design effective strategies for optimizing ED utilization.

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