

**A Study of Emergency Services in Emergency Department of a Tertiary Care Hospital in South- West Delhi**<sup>1</sup>Dr Preetesh Sahani, Casualty Medical Officer (Emergency Physician), Indian Spinal Injuries Centre<sup>2</sup>Dr Harikishan Mahajan, MD, Chief of Anaesthesia and Intensive Care, Indian Spinal Injuries Center, New Delhi<sup>3</sup>Dr Abhinav Gupta, DNB, Associate Consultant, Anaesthesia, Indian Spinal Injuries Center, New Delhi<sup>4</sup>Dr Parashuram Chauhan, MD, Senior Consultant, Anaesthesia, Indian Spinal injuries center, New Delhi<sup>5</sup>Dr Shalu Singh, DA, DNB, Associate Consultant, Anaesthesia, Indian Spinal Injuries Center, New Delhi<sup>6</sup>Dr Ravinder Dhanera, DA, DNB, Consultant, Anaesthesia, Indian Spinal Injuries Center, New Delhi<sup>6</sup>Dr Lokesh, MD, DNB, Assistant Consultant, Anaesthesia, Indian Spinal injuries center, New Delhi**Corresponding Author:** Dr Parashuram Chauhan, MD, Senior Consultant, Anaesthesia, Indian Spinal injuries center, New Delhi**Type of Publication:** Original Research Paper**Conflicts of Interest:** Nil**Abstract**

**Introduction:** Emergency Department is the most important first point of contact for the patients in the hospital as it provides emergency services. It is also most vulnerable to criticism and censure, due to its nature of services. So it becomes absolutely essential, that it is well organized and properly managed and its resources optimized. The present study was taken up to find out the functioning of the Emergency Department of our hospital, so as to judge the quality of services being provided to the people and the level of satisfaction of the community as well as the Health care providers with the care provided.

**Methodology:** The study was conducted in the emergency department of a Tertiary care hospital in south west Delhi. A Sample of 30 patients and 20 staff was chosen. The research used tool was a structured interview, divided into 7 sections.

**Results:** Most of the patients and staff were satisfied with the services provided in the Emergency department, but when it came to registration and admission process,

patients were less satisfied due to delay in the procedure and unavailability of beds.

**Conclusion** - There should be a separate registration, and billing counter for emergency department. Number of beds, in the hospital should be increased so that admission process of ER patients is not delayed. ER patients waiting for admission should be given priority for admission.

**Keywords:** Emergency Services, Hospital

**Introduction**

A hospital is an indispensable community institution, brought into existence in response to an environmental need. Hospital is an essential component of health system and functions as secondary level of health care which provides Curative, Preventive and Promote health care services to the people in the vicinity.<sup>7</sup>

In the fast changing scenario, the objectives of a hospital need to unify scientific thought with practical operations which aim to integrate management techniques, interpersonal behavior and decision making models to serve the system and improve its efficiency and effectiveness.

The current functioning of the most of the hospitals in the public sector are not up to the expectation especially in relation to availability, accessibility and quality, but in case of private hospitals quality is improving gradually but its accessibility remains in metro cities and big towns.

Within the hospital, Emergency Department is the most important first point of contact for the patients, as it provides emergency services. It is also most vulnerable to criticism and censure, due to its nature of services. So it becomes absolutely essential, that it is well organized and properly managed and its resources optimized.<sup>2,3</sup> The success of its functioning depends on the successful integration of its Pre-hospital care which is provided by the the EMS [emergency medical care services] and specialist primary care providers, and Definitive Care which are essentially the specialty and super-specialty hospital services. These in turn utilizes various hospital departments like ICU, Operation Theatre, CSSD, Housekeeping, Security, Lab, Imaging department. Due to the unplanned nature of patient attendance, the department must provide initial treatment for a broad spectrum of illnesses and injuries, some of which may be life-threatening and require immediate attention.

The present study was taken up to find out the functioning of the Emergency Department of our hospital, so as to judge the quality of services being provided to the people and the level of satisfaction of the community as well as the Health care providers with the care provided.

## Literature Review

Emergency services were already provided by workmen's compensation plans, railway companies, and municipalities in Europe and the United States by the late mid-nineteenth century, but the first specialized trauma care center in the world was opened in 1911 in the United States at the University of Louisville Hospital in

Louisville, Kentucky, and was developed by surgeon Arnold Griswold during the 1930s. Griswold also equipped police and fire vehicles with medical supplies and trained officers to give emergency care while en route to the hospital.

Today, a typical hospital has its emergency department in its own section of the ground floor of the grounds, with its own dedicated entrance. As patients can present at any time and with any complaint, a key part of the operation of an emergency department is the prioritization of cases based on clinical need. This process is called triage. Triage is normally the first stage the patient passes through, and consists of a brief assessment, including a set of vital signs, and the assignment of a "chief complaint" (e.g. chest pain, abdominal pain, difficulty breathing, etc.)<sup>1,4</sup>

The resuscitation area, commonly referred to as "Resus", is a key area in most departments. The most seriously ill or injured patients will be dealt with in this area, as it contains the equipment and staff required for dealing with immediately life-threatening illnesses and injuries. Typical resuscitation staffing involves at least one attending physician, and at least one and usually two nurses with trauma and Advanced Cardiac Life Support training (ACLS).<sup>6</sup>

ED requires different equipment and different approaches than most other hospital divisions

The concept of emergency department as a specialty within the Hospital organization was first put forward by American College of Surgeons.

**The National Academy of Sciences (U.S.A)** has identified and classified the emergency department into four categories.

Type I	Major Emergency facility	with specialists available in the hospital premises round the clock plus other 24 hours back-up services.
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Type II	Basic Emergency Facility	with emergency room Physician located in the hospital and specialists available on call.
Type III	Stand by emergency facility	with emergency registered nurse available and emergency room physician on call.
Type IV	Referred emergency room facility	with only emergency registered nurse or medical technician available for first aid and transfer of patients to other facilities for life support systems. Typically seen in sub centers

#### As per the Indian standards

The Indian Standard Institute has laid down certain norms for the 'Emergency Department'. It has divided hospitals into five categories viz.

Category A	25 to 50 bedded hospital
Category B	51 to 100 bedded hospital
Category C	101 to 300 bedded hospitals
Category D	301 to 501 bedded hospitals
Category E	501 to 750 bedded hospitals

In Category A and B, Emergency department should be independent but may be scheduled to function outside working hours of other clinics in the outpatient department. It should be located in the complex of the OPD for reasons of easy accessibility and sharing medical facilities with the O.P.D.

In categories C to E, Emergency should be an independent department working round the clock like a mini-hospital with round the clock availability of casualty/emergency medical officers and other back of services.

Bigger hospitals whether private or public with full-fledged emergency department, TRIAGE system is used when the workload is more or in case of a disaster. All hospitals/ emergency departments may not have an

effective triage system; instead the patients are directly seen by a pool of doctors on duty in the emergency room.

The increasing reliance of medicine on technology has shifted the focus of ambulatory care especially emergency care, from the physician's office to hospital clinics and emergency wards where diagnosis and care can be undertaken more expeditiously and conveniently.

#### Pre-hospital services

Emergency medical services, also known as ambulance services or paramedic services are a type of emergency service dedicated to providing out-of-hospital acute medical care, transport to definitive care, and other medical transport to patients with illnesses and injuries which prevent the patient from transporting themselves. The term emergency medical service evolved to reflect a change from a simple system of ambulances providing only transport, to a system in which preliminary medical care is given on scene and during transport. In India pre-hospital services are limited to few metro cities only.

#### Organization of Emergency department of the study hospital

Subject hospital is the most advanced Spine, Orthopedic and Neuromuscular Surgical Centre in India with the latest state of the art diagnostics and surgical equipment and a highly qualified team of specialists who have been trained in leading institutes of India and abroad.

#### Emergency Services

The emergency department is operational 24X7 for all 365 days in a year. It has 8 beds, out of which 5 are provided with cardiac monitors. There is a MINOR OT Room/examination room for emergency procedures. There is waiting area, with sitting capacity for 20-25 persons and access to toilets is provided.

The department has all Instruments and equipment required for resuscitation and management of Emergency patients.

About 35-40 patients are attended in emergency department of our hospital every day. Most patients are of orthopedic and spine and neurology. Emergencies cases being attended are Spinal cord injuries, fractures, head injuries, medical emergencies like exacerbation of asthma/COPD, MI, Neurology emergencies-STROKE/CVA and surgical emergencies like intestinal Obstruction, acute appendicitis, obstructed hernia etc

### Aim and Objectives

The study was conducted to find out the functioning of the Emergency Department in order to meet the community needs and ensure that quality services are provided to the people.

### Objectives

- To understand the overall functioning of the Emergency department by interviewing the hospital staff and patients who have availed the services
- To study the infrastructure and resource availability in the department with the help of a checklist.
- To study the systems and processes adopted in the department.
- To study the Standard operating system..

### Study Design<sup>5,10</sup>

The study consisted of two parts –

- 1]An observational, cross sectional study to find out the functioning of ED. and
- 2]A prospective study, which comprises how the patient can get services in Emergency Department in right time.

The study was conducted in the emergency department of Tertiary care hospital in south west Delhi. A Sample size of 30 patients and 20 staff was chosen using simple random sampling.

### Research Tool

The used tool was a structured interview schedule divided into 7 sections.

- a] General information.
- b] Views regarding consultation and treatment facilities.
- c] Views regarding Registration.
- d] Views regarding investigation procedures.
- e] Views regarding admission procedures.
- f] Views regarding available facilities.
- g] Views regarding behavior of the staff.
- h] Any suggestion and comment for improving the health services at ED.

### Results

The data collection was done from the patients who visited ED and got admitted in hospital and Health Care providers (Doctors, Nurses and Staff). The questionnaire was handed over to the respondents, thereafter the document was collected. Patient's and staff's response analysis is given below.

**Table-1 Demographic Data**

	Gender		Age		
	Male	Female	Pediatric	Adult	Old (>60yr)
Patients	22	8	2	20	8
Health care providers	12	8	0	20	0
	Education Status				
	Illiterate	<12th	Graduate	Post Graduate	
Patients	1	5	20	4	
Health care providers	0	3	15	2	

**Table 2- Patient's view regarding registration**

Questionare	Completely agree	Agree	Disagree	Completely disagree
Efficient & Prompt service at Reception	15	06	05	04
Doctor treatment benefitted you	21	5	3	1

Sufficient Space & Staff	26	03	00	01
Smooth Admission process	12	03	09	06
Adequate facilities available	23	06	01	00
Staff adequately skilled and competent	17	10	02	01

**Table 3 - Views of the Health care providers**

Questionare	Completely agree	Agree	Disagree	Completely disagree
Efficient & Prompt service at Reception	5	7	05	03
Adequate consultation and treatment	15	5	3	3
Sufficient Space & Staff	12	4	3	01
Smooth Admission process	5	8	4	3
Adequate facilities available	13	3	4	3
Staff adequately skilled and competent	12	5	02	01

**Discussion and Conclusion**

Patients attending the hospital are responsible for spreading the good image of the hospital and therefore satisfaction of those who are attending the hospital is most important for the hospitals. In this study, dependent variable of concern was patient satisfaction towards health care services which were considered according to component of care such as courtesy, quality of care and physical environment . Independent variable included predisposing factors like age, sex, educational status and state of attitude towards services.

The research tool was a structured interview scheduled with the help of clinical research associate. The questionnaire was divided into 6 sections focusing on the followings based on the patient's view and the view point of the care providers regarding:

- Registration at the Emergency department
- Consultation and treatment facilities
- Conduct of investigation procedure
- Admission procedure
- Available facilities
- Behavior of the staff
- Suggestion and comments of improving health services at the ED of the hospital

Based on the sample size under consideration i.e 30 patients attending emergency & getting admitted, 73.34% of the total patients were males and 26.67% were females. Similarly patients adult age patients[18 years to 55 years ] were 66.67% . Out of the total patients attending the emergency department of the hospital, the youngest patient was less than one year and the oldest patient was 85 years old. Majority of the participants in patient group were found to be educated - 66.67% upto12th, 16.66%-graduate, 13.33% post graduate and 3.37 illiterate.

The view gathered from the patients respondents regarding registration facilities at ED revealed that majority of them are 'just satisfied' with the service. While considering the facilities of consultation and treatment, the patient were found to be 'fully satisfied' with the facilities. Regarding investigative procedures they were 'fully satisfied' with the facilities. While considering the emergency and Admission procedure and available facilities, it revealed an average response. With respect to the behavior of the staff of the emergency department of the hospital, Patients were satisfied with the skill and competency of the staff.

As regard to Health care providers viz doctors, nurses etc, most of the respondents were satisfied with the services being provided in the department.

Most of the patients were happy with the treatment facilities, skill and attitude of the staff. But many had issues with the admission process. Patients complained of lack of adequate information at the registration counter and long waiting period for admission.<sup>9</sup> Patients also expressed desire for discounted rates for OPD follow-up of emergency patients.

### Interventions and suggestions

There should be separate registration, and billing counter for emergency department, so that registration and billing processes are facilitated and patients do not feel hassled because of the delay. Number of beds, in the hospital should be increased so that admission process of ER patients is not delayed. ER patients waiting for admission should be given priority for admission.<sup>8,9,11</sup>

Secondly in order to provide better treatment to the patients, number of staff including Emergency Medical Officers should be increased. At least two Security guards should be provided at emergency gate, that are well trained in communication skills.

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