

# ASSESSMENT OF EMERGENCY SERVICES IN EMERGENCY DEPARTMENT OF SHARIF MEDICAL CITY, LAHORE.

## **Dr.Aiman Javed**

Email: dr.aimanjaved@gmail.com (0312-4337020)

Affiliation : (Lecturer at University of Management Sciences & Technology LHR), Sharif Medical & Dental College LHR.)

## **Dr.Seemab Salahuddin**

Email: semaabemaan@gmail.com (0334-6890975)

Affiliation: (Medical Officer at DHQ Hospital South city Punjab, Sharif Medical & Dental College LHR)

## **Dr.Sania Maqbool**

Email: saniamaqbool28@gmail.com (0332-4164484)

Affiliation : (Demonstrator at University of Management Sciences & Technology LHR), King Edward Medical University LHR.

## **Dr.Hafiz Muhammad Uzair Asghar**

Email: uzairasgharkemu@gmail.com (0332-1666957)

Affiliation: (Lecturer at Lahore Medical & Dental College LHR)

## **Dr.Farah Latafat Khan**

Email: farrahlatafat21@gmail.com (0301-4503389)

Affiliation: (Medical Officer at DHQ Hospital South city Punjab, Sharif Medical & Dental College LHR)

## **Dr.Nasiba Mumtaz**

Email: nasiba.mumtaz@umt.edu.pk (0322-4197817)

Affiliation: (Lecturer at University of Management Sciences & Technology LHR)

**Corresponding Author:** Dr. Sania Maqbool, Demonstrator at University of Management Sciences and Technology (UMT)(School of Health Sciences SHS), Clinical Physiotherapist at Saadan Hospital Johar Town LHR.

Address: Block D PIA Housing Society Johar Town LHR

Cell : 0332-4164484

E-mail : [saniamaqbool28@gmail.com](mailto:saniamaqbool28@gmail.com)

DOI: 10.31364/SCIRJ/v10.i4.2022.P0422908

<http://dx.doi.org/10.31364/SCIRJ/v10.i4.2022.P0422908>

## **Abstract:**

**Background and introduction:** Emergency has been defined as a condition determined clinically or considered by the patient or his/her relatives as urgent medical services, failing which, it could result in loss of life or limb. A medical emergency is an acute injury or illness that poses an immediate risk to a person's life or long-term health. It is a situation when patient requires urgent and high quality medical care to prevent loss of any kind or to initiate action for the restoration of normal healthy life. An Accident and Emergency department deals with genuine life-threatening emergencies. The patients entering an emergency department can be saved only if they arrive at the

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<http://dx.doi.org/10.31364/SCIRJ/v10.i4.2022.P0422908>

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right time, at the right place, receives the right treatment and right resources. Because injury is always unexpected and unplanned, and if not treated promptly, it can result in damage, deformity, and death, it is a critical component of hospital care.

**Methodology:** This research work is carried out to assess the emergency department and services provided by Sharif Medical City. A historical background study is performed on the emergency department to look at the previous and present services provided by department. Then, a quantitative approach is conducted to observe the condition of emergency department and to look for the improvement areas. On the basis of which some recommendations and suggestions are given to provide best possible services to the people.

**Conclusion:** The accident and emergency department of Sharif Medical City Lahore has improved a lot in providing the emergency health care services as compared to pre autonomy period.

**Key words:** ED (Emergency Department), OPD (Outpatient Department)

## INTRODUCTION

Emergency is a serious situation or occurrence that happens unexpectedly and demands immediate action. It is a sudden, unexpected, or impending situation that requires immediate attention and remedial action. Emergencies are incidents that threaten public safety, health and welfare which involves injury, loss of life, damage to property or catastrophic interference with normal activities (1).

Organizations that guarantee public safety and health by responding to various emergencies are known as emergency services and rescue services. Some of these organizations exist primarily to respond to specific types of emergencies as part of their regular duties. Many of these organizations participate in community awareness and prevention programmes to assist the public in efficiently avoiding, detecting, and reporting catastrophes.(1)

In Pakistan the history of emergency medical services is not good, we are still in the developing phase of emergency medical services. There is very little concept about pre-hospital patient management services. The development of emergency medical services in our country began in early 1960s. A separate emergency department was suggested to be built in every new born hospital, but on other hand the pre-hospital emergency services remained ill-planned and no proper attention or planning was given to such services.(2) A medical care center specializing in emergency medicine is known as an emergency department, often known as an accident and emergency department. Acute care for patients who arrive without an appointment, either on their own or with the assistance of an ambulance. In most cases, the emergency department is located in a hospital or other primary care facility. It is critical and necessary in preserving the lives of critically ill and injured individuals.(3)

The emergency department assesses and treats people with various injuries and those in need of emergency treatment. It opens 24 hours a day, 365 days of the year Its goal is to keep patients who have suffered a life-threatening or limb-threatening injury or illness stable. It focuses on providing immediate or emergency medical assistance. It makes a decision and performs two key steps in order to avoid unnecessarily dying or becoming disabled as a result of time-critical health conditions. EMS was not available in many parts of South Africa during this time. By 1994, there were regulations in place for EMT certification and training. In South Africa, dial "10177" for a regional cell centre or 112 for an emergency.(4)

In 2008, South Africa's population was 48,800,000 people. Health care accounted for 92 percent of South Africa's GDP. The country's physician density was 0.77 per 1,000 inhabitants in 2004. Until 1990, fire departments in South Africa were in charge of emergency medical services, which were primarily concerned with delivering basic medical care. In 1977, the four existing provincial administrations were given the task of delivering emergency medical services to South Africa.(5) A new concept of comprehensive care has emerged. Recent studies has shown that at least 20% of all accidents and coronary deaths should be avoided if prompt treatment was available at the scene during transport to the hospital.(6)

Being a developing country the existing emergency medical services are not up to the mark in Pakistan. In spite of continuous improvement in the care of injured and actually ill patients deficiencies still exist. According to the national road safety secretariat, around two million accidents occurred in Pakistan in 2006, with 0.418 million being serious. (7).

The WHO Health organization estimated incidence and prevalence rate of all forms of TB were revised in 2012 from 181 and 329/100,000 population to 231 and 350/100,000 population respectively(8).

In the light of above mentioned factors, it is pertinent to assess the emergency services in emergency department of Sharif Medical City.

"A comprehensive system that provides the arrangements of personnel, facilities, and equipment for the effective, coordinated, and timely delivery of health and safety services to victims of unexpected illness or injury," according to the EMS definition."(9). A new

concept of comprehensive care has emerged. Recent studies has shown that at least 20% of all accidents and coronary deaths should be avoided if prompt treatment was available at the scene during transport to the hospital.(6)

EMTs are allowed to perform certain interventions if a physician is not available. These interventions are the administration of some drugs, defibrillation, the infusion of crystalloid solutions, and intubation. All other interventions are provided by emergency physicians.(10)Emergency department is a core clinical unit of a hospital. Its function is to receive patients, conduct effect triage, stabilize and provide emergency management to patients who present with a wide variety of critical, urgent and semi urgent conditions.(11) This facility for emergency measures may be provided either within or adjacent to the Emergency Unit for the prolonged observation and ongoing treatment of patients who are planned for subsequent discharge.(12)

Ambulatory and Ambulance entrances should be separate. Access from the waiting areas to the treatment areas should be controlled. There should be restricted access from the remainder of the hospital into emergency department.(13)

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**Research Methodology:**

The quantitative research approach, which is more statistical, starts with theories and hypotheses and then employs various instruments, component analysis, experimentation, and numerical indices. It employs techniques such as questionnaires and experimentation.(14)

For this research study mixed approach (qualitative and quantitative) has been used. The study was conducted at accident and emergency department of Sharif Medical City Lahore. The patients visiting the accident and emergency department during that period of study formed the study universe. Sharif Medical City Lahore is situated in Jati Umrah 5km from the Raiwind road. It is 326 bedded tertiary care hospital with all surgical and medical specialties along with provision of both general and specialized diagnostic facilities. Majority of the population being served by emergency department belongs to the lower socio-economic strata. There is no other such facility in the area, which can serve the same purpose. The services are present round the clock and approximately more than 200 patients are being attended daily. This was a Cross-Sectional, Descriptive Epidemiological study regarding the assessment of the provision of emergency health care facilities and services at accident and emergency department of Sharif Medical City Lahore. The individual patient visiting the accident and emergency department was a sampling unit. To collect the information regarding accident and emergency department permission was requested to the concerned officials through proper channel. A semi-structured questionnaire was developed. The questionnaire was pre-tested and necessary changes were made accordingly. The data regarding the accident and emergency department and its functioning was collected from the duty doctors/staff concerned and patients/attendants attending the accident and emergency department. Data was processed by the hand sorting and tallying method to get the required results of the study.

**Results:**

<b>Treatment facilities</b>	1. Building 2. Equipment and Basic supplies 3. Drugs for emergency department 4. Working staff of accident and emergency department
<b>1. Building</b>	<p><b>1.1. Location of building :</b>                  The building is located on the side of the main gate of the hospital about 5km from the main road. Just in front of the hospital pharmacy there is a separate block of emergency department in hospital. It is on the right side of hospital main road. Directional signs to the emergency department are present. It has a separate entrance. Reception desk of hospital is about 5m away from the department</p> <p><b>1.2. Compartments the of building:</b>                  The Emergency department has only ground floor. There is only one main sloped entrance. The entrance opens into registration point. Basic supplies and equipment are available to deal the casualties. There is a big space divided into two compartments and in each compartment 10-12 beds have been arranged.</p>

	<p><b>1.3. Condition of the building:</b> It is a well-constructed building and the general condition and maintenance is good. It looks open and well ventilated. The arrangement for lightening is proper. Standby generator facility is available. The ventilation system is proper and air condition facility is present. Firefighting arrangement is also available. Drinking water is also available.</p>
<p><b>2. Equipment and Basic supplies</b></p>	<p><b>2.1. Equipment for transportation of patients:</b> The various equipment, medicines, instruments and general supplies are found in the emergency department. Ambulances are provided five in number, three are in working condition. They are used for disaster control and for the routine transportation of emergency patients. Stretchers are also available for the transfer of the patients from emergency department to the other departments and there number is two. Wheel chairs are also provided and they are eight in number.</p> <p><b>2.2. Equipment for ventilation and resuscitation:</b> Equipment for ventilation and resuscitation are present. Devices like cardio-pulmonary resuscitation boards for chest depressor, monitor/defibrillator, and artificial ventilation devices are present. Airways and Endotracheal tubes and laryngoscopes are also present and are functional.</p> <p><b>2.3. Equipment for fracture immobilization:</b> Equipment for fracture immobilization like plaster of Paris and crepe bandages are not present. But cotton bandages are available.</p> <p><b>2.4 Equipment for emergency operation theater:</b> Operation theater facility is available in emergency department. All the common facilities like dressing kit of O-T, anesthesia trolleys, medicines trolley, suckers machines and cautry are available and all are functional. Condition of the theater is good.</p> <p><b>2.5. Equipment for warning and signaling:</b> Equipment for warning and signaling are also present like ambulances are provided with the hooters, sirens, signals, battery powered hand lights and loud speakers.</p> <p><b>2.6. Other supporting equipment's:</b> Among the other supporting equipment Folly's catheters, brannulas, disposable syringes, gastric lavage equipment, simple catheters of different sizes, butterfly needles, suckers and oxygen delivery system are available but it is surprising that ENT diagnostic sets, venesection set and tracheostomy set are not available.</p>

<p><b>3. Drugs for emergency department</b></p>	<p>The emergency department has been supplied by the large amount of drugs, among the Blood substitutes Iso plasma and Dextran is available. I/V Fluids like 5% and 10% dextrose/water, 5% dextrose/saline, 9% Normal saline, mannitol, and Ringer solution are present. As for as lifesaving drugs are concerned injectable electrolytes and steroids, bicarbonates, potassium, SoluCortef, Decadrun, Dexamethasone are also present. Almost all the routine narcotic and non-narcotic analgesics along with other drugs like injectable bronchodilators, tranquilizers, broad spectrum antibiotics, antiemetic, antihistamines, and diuretics are available. Among the antidotes only ATS (anti tetanus serum) is available but other like AVR (antirabic vaccine), polyvalent, anti-gas gangrene serum and anti-snake venom are missing. Out of other miscellaneous lifesaving drugs injectable streptokinase, antiseptic solutions creams are not present. Whereas Nikethamide, lignocaine, insulin, atropine, digitalis and tablets Angisid are present sufficient quantities.</p>
<p><b>4. Working staff of accident and emergency department</b></p>	<p>Accident and emergency department is being supervised by one medical officer. There are three junior doctors and one senior doctor always present throughout the day. Nursing section has one sister in-charge, four qualified and four student nurses. There are two trained and two under training dispensers. ECG technicians work in three shifts. There is support staff of five ward attendants and two weepers.</p>

**Discussion:**

The A/E department of Sharif medical n dental college is located in a building which is connected to the main hospital building on the right side across the main road to the hospital. It has got separate entrance. It is easily accessible to patients coming from outside of hospital but the point of view of accessibility of various clinical departments of hospital. The location is appreciated as most of the units are located close from causality and that created convenience for the emergency patients.

The Punjab government established the Rescue 1122 pilot project in 2004 from the provincial capital, with the goal of providing professional pre-hospital emergency assistance to the province's metropolitan cities. The service operates through a toll-free emergency number, 1122, which is easily accessible from both landlines and mobile phones.(2)

The variety of patients were pleased with the existing services provided by private hospitals' in-patient departments. Patient ward services, food services, reception staff services, and welfare services are all available. In addition, services had a major impact on patient satisfaction. On the contrary, in several situations, there was no discernible difference impact on patient satisfaction (physical appearance, for example)Services such as pharmacy, laboratory, blood bank, x-rays, ultrasound, and billing are all available.(15)

The directional sign to the emergency are there are not visible to guide the patients from outside and inside the department. They are covered connecting pathways leading to other areas of hospital, patients have to be shifted to these areas manually using patient trolleys or by relatives themselves. In extreme season, like rainy or winter patients are not exposed to extreme of discomfort

The only entrance is insufficient for the flow of patients and even in routine. It is difficult to transfer serious patients into the department. There is a small waiting area for the attendants and this become problematic for the patients, there attenders and causality staff. Every patient is accompanied by two or three attendants that creates messy situation in the hospital. There is no triage area. It is done by CMO while sitting in the office, just listening to complains by the patient or his attendants.

The dressing room provided is enough as compared to work load. The location of dressing room is correct in prevailing circumstances and other room should be provided for the patients of poisoning, medico legal work.So that work load of dressing room may be divided. Electricity failure is a problem very common in our community. This is of supreme importance in such health facilities like E/R department to have automatic generators to prevent the delay in case of power failure. Generators are present is Sharif Medical and Dental College. There is no provision of expansion of E/A department in future.

## Conclusion :

Accident and emergency department is very important section of hospital and emergency medical care is the most sensitive area of health care system. Public demand for care in emergency department has increased tremendously in recent years. So it needs a lot of efficiency for the patient care and more importance with passage of time. It was pertinent to study the existing situation of emergency health care facilities regarding the provision of emergency services to the community. Accident and emergency department of Sharif Medical and Dental College Lahore was selected for that purpose. A questionnaire was developed. The data regarding the accident and emergency department and its functioning was collected from the duty doctors and staff concerned and patients and attendants attending the accident and emergency department. During the study it was found that treatment facilities like building, equipment, supplies, trained, personnel and support services were not up to the mark, barring the provision of medicine/devices and investigation facilities. The building is too small to accommodate the increasing number of emergency patients. According to the study findings it was found that, despite the efforts of hospital administration the supply of equipment is not sufficient to fulfill the requirements of patient's load the accident and emergency department has. Professional and non- professional personnel are less as compared to demand, furthermore there are no training programs to up to date the knowledge of working staff. Communication system of emergency department is not according to the present day's standards of information technology and one cannot rely upon it in situations of need. Ambulances are not properly equipped to deal emergency patients on the way to the hospital. Transportation system of patients within the emergency department is also poor and majority of patients is to be brought in by relatives. As for as disaster plan of Sharif Medical City is concerned it is seen that the awareness and attitude of emergency staff lacks in this regards, reason being the lack of training and knowledge incorporated to the accident and emergency department. It was pertaining that record pertaining to patient's admission, stay and fate were not managed properly and even the registration forms were not being saved properly. The management of emergency patient is also unsatisfactory, consultants rarely visit the emergency department. Only junior doctors control the situation. A critical analysis of the suggestions given by the patients revealed that striking point was need of improvement in physical amenities and staff behavior. To improve the present situation regarding provision of quality of emergency services, construction of new big emergency department building with all basic physical requirement, appointment of trained and sufficient number of personnel with their continuous training and quality control programs, provision of adequate equipment and supplies, improvement in communication and record keeping system were recommended.

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