

# Management of Emergency Services in Bangladesh: A Study on Selected Tertiary Level Government Hospital

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## ABSTRACT

**Background:** The role of emergency department of a hospital and its services is immense important to the patients.

**Aim:** To find out the management of the emergency services provided by the government hospital in Bangladesh.

**Method:** The data were collected from 56 individual outpatients attending in emergency department of one of the tertiary level hospitals situated in the capital city of Bangladesh during 22<sup>nd</sup> April to 3<sup>rd</sup> May 2012, following checklists and pre-structured questionnaire. Along with popular statistical tools and techniques, 0-4 Likert Scale Score was also used to measure the level of client satisfaction regarding the efficient management or quality services provided by the hospital.

**Results:** The study shows that about 27% of the patients are not involved with any formal income activities, about 40% came to the hospital with surgical emergency, only 7% used ambulance to arrive at hospital and more than half of them (53.6%) were to come in the examination table through walking. In spite of emergency service, more than half of the patients were to waiting maximum 15 minutes after reaching the emergency department (ED). The Likert Scale clearly indicates that management services provided by SSMCH emergency is not appreciated by the all patients, which is really alarming for the health sector of the county.

**Practical Implication:** The strength of health sector of a country as well as the popularity of a hospital mostly depends on the services provided by its emergency department. The findings will help the authority to improve the management of the services provided by the emergency department of hospitals in Bangladesh.

**Conclusion:** Along with other measures, the government and concern authority should take necessary steps to ensure management of emergency services at all government hospitals across the country.

**Keywords:** Emergency, Services, Management, Hospital and Tertiary Level.

## INTRODUCTION

A major public health issue on a global scale is the deaths, impairments, and human suffering brought on by inadequate Emergency Medical Rescue Services (EMRS) in emergency situations. In 2019, out of 55.4 million global deaths, non-communicable diseases (NCDs) were 73.6%, communicable diseases (CDs) along with maternal, neonatal and nutritional problems were 18.4%, and 8.0% were due to injuries<sup>1</sup>.

The quality service and care of emergency room influences largely to a hospital's reputation. The Emergency Department (ED) of National Institute of Cardiovascular Diseases Hospital (NICVD), Dhaka conducted a descriptive type of cross sectional study to assess different aspects of the service management of ED. It includes opinion on different services, reception facilities, overall management of ED, waiting time for the patients to be attended by a doctor, required time for completion of emergency treatment, suggestions of service receivers for further improvement of ED of the hospital<sup>2</sup>. Another study showed that the supporting staff for emergency was available but not adequate to run the ED smoothly<sup>3</sup>. It also showed that nearly 50% of the records of the patients at emergency were found incomplete. A situation is considered an emergency if it immediately threatens someone's life, health, property, or environment. Humanity has always faced emergencies, especially when it is related with our health, and with time, we have created strategies to address them using the information and resources at our disposal. But in Bangladesh, Emergency Medicine is still not well recognized and it is a matter of sad that no courses have been introduced yet in FCPS or MD level. It is needed to conduct training for doctors and nurses on Pre-hospital Care and ER management. This also requires advanced level of education and training. And it is one of the main reasons for which our Emergency Rooms are not supervised by properly trained professionals<sup>4</sup>.

Global public health issues include deaths and disabilities due to inadequate Emergency Medical Rescue Services (EMRS), which also affect Dhaka, Bangladesh. A study revealed that only 11.3% of emergency patients accessed to ambulances, 63% to rickshaws/motor-rickshaws and 25.8% to bus/car<sup>5</sup> to come hospital. The study also found that 55.6% of the patients delayed 60 minutes to reach hospital (median delay: 120 minutes; range: 40-2880

minutes). Moreover, the study also revealed that the median delay for calling ambulances to hospitalization was 85 minutes (102 minutes at day and 45 minutes at night). On emergency request, a hospital ambulance was sent to only 23.6% of the callers, while most of the other cases were not supported due to the lack of sufficient ambulances, long distances between patients and hospital, and higher fare issues. Only 10.7% of the patients got the ambulances timely which were poorly equipped. The relatives of the patients' satisfaction level on current services is only 1.8 on a scale of 4; N = 56.

Health is one of the major elements in human development and an inalienable human right according to the Universal Declaration of Human Rights<sup>6</sup>. While hospitals play a significant role in the health care system with organized medical and other professional staffs, in & outpatient facilities, and give emergency medical, nursing, and allied services 24 hours a day, 7 days a week. Among the services provided by the hospital, its emergency department (ED) is crucial in providing emergency health services to patients. Because the patients who come to this department usually require prompt and immediate attention and need to provide competent care. So, the main objective of this article is to assess the existing management of the emergency services provided by the government hospital in Bangladesh.

### Operational Definitions

**Emergency:** Emergency has been defined by WHO as a condition determined clinically or considered by the patient or his/her relatives as requiring urgent medical services, failing which it could result in loss of life or limb.

**Medical Emergency:** Medical emergency is a situation when patient requires quick, urgent and higher quality medical care and support to prevent loss of life or limbs & to initiate action for the restoration of normal health care.

**Emergency Management:** Emergency management is a discipline which usually deals with & avoiding risk. It also involves preparing for disaster before it occurs following a systematic process by which mitigation, preparedness & recovery activities are undertaken to save & protect property from all hazards.

**Emergency Service:** Emergency services ensure public safety & health by addressing different issues related to emergencies. Some agencies exist solely for addressing certain types of emergencies while others deal with adhoc emergencies as part of their usual

responsibilities. Many agencies engage in community awareness & prevention program to help the public avoid, detect & report emergencies effectively.

**Emergencies Department:** Emergencies department is an integral part of a hospital. It signifies the facilities & services provided primarily for the management of outpatient coming to the hospital for treatment determined clinically or his relatives to require immediate medical care in the hospital environment. The term is to be interpreted as synonymous with such term as emergency room, accident room & causality room.

**Accident:** An unexpected and unplanned occurrence which may involve serious injury or unpremeditated events resulting in recognizable damage.

**Emergency Medical Team:** The team constituted with physicians, nurses & support staffs to deal with medical emergencies is called emergency medical team.

**Basic Life Support:** Basic life support means to provide oxygen, blood & CPR to the patients of medical emergencies.

**Shaheed Suhrawardy Medical College Hospital (SSMCH):** Shaheed Suhrawardy Medical College Hospital (SSMCH) is one of the government run hospitals in Bangladesh. It is situated in the northwestern part (also known as Sher-e-Bangla Nagar) of the capital city of Dhaka. The hospital is surrounded by many other specialized hospitals; such as, the National Institute of Cardiac and Vascular Disease, the National Eye Hospital, the National Kidney Institute and the National Mental Hospital. The hospital is having a unique architectural campus and excellent academic atmosphere. World renowned architect, Louis I Kahn proposed its architectural design. The hospital started its journey only for outdoor services in 1963. In addition, the services were extended for indoor services with 5 beds and subsequently with 25 beds. Subsequently, Pathological and Radiological supports added with it. After the independence of Bangladesh, the hospital was newly introduced and renamed as Shaheed Suhrawardy Hospital. On September 5, 2005, in a decision of the then government of Bangladesh, the hospital started its function as 14<sup>th</sup> medical college within the existing campus of the hospital. It was really a very good day in the history of the medical education in the country, although the college started its academic activities on May 6, 2006. With passing of time, the hospital is playing its historic role in disseminating health care services. In the same time, it also patronizes many medical related institutes across the country.

## METHODS AND MATERIALS

The study is descriptive cross-sectional in nature which was conducted in Shaheed Suhrawardy Medical College & Hospital, one of the renowned government-run public hospitals in Bangladesh, from 22<sup>nd</sup> April to 3<sup>rd</sup> May 2012. Individual outpatient attending in emergency department of the hospital was considered as sampling unit. A total of 56 cases was taken as sample within the schedule period of time. The data were collected using checklists and structured questionnaire and observation of researcher addressing all the variables of interest. The structured questionnaire and checklist were pretested and were finalized taking necessary feedback from field-testing. The level of client satisfaction as an efficient indicator of proper management or quality service in a hospital was measured using 0-4 Likert Scale Score where '0' means totally dissatisfied, '1' means satisfied partially, '2' means more or less satisfied, '3' means satisfied and '4' means highly satisfied. The overall level of satisfaction is determined by adding all these scores. . The popular computer software SPSS (Statistical Package for Social Sciences) version 20 is used to analyze the collected data.

## RESULTS

Table 1 summarizes the background characteristics of the population under study. It shows that 28.6% of the patients are between 30 to 39 age group, followed by 25% between 20 to 29

age group, 17.86% below 20 years age group and 14.28% between 40 to 49 years and 50 & above age group respectively. The number of female patients is higher than the male counterpart (Table 1). About 80% of the patients are Muslims. The patients mostly reside in urban areas (71.4%) while it is 17.9% and 10.7% respectively who reside in sub-urban and rural areas. All the patients under the study are educated (Primary level educated 10.7%, secondary level educated 46.4%, higher secondary level educated 32.1%, graduate level educated 7.2% and postgraduate level educated 3.6%). About 40% of the patients are involved with some sort of services while others are business person (7.2%), homemaker (25%), students (17.9%) and labor, farmers & others (10.7%). It is noticeable that about 27% of the patients have no formal income and 25.7% of them have less than 10 thousand income per month. Only 11% of them having income above 20 thousand per month (Table 1).

Table 1: Background Characteristics of the Respondents

Characteristics	Numbers
<b>Age in Years</b>	
<20	10 (17.9)
20 to 29	14 (25)
30 to 39	16 (28.6)
40 to 49	8 (14.3)
≥ 50	8 (14.3)
<b>Gender</b>	
Male	20 (35.72)
Female	36 (64.28)
<b>Religion</b>	
Muslim	50 (89.3)
Hindu	6 (10.7)
<b>Residence</b>	
Urban	40 (71.4)
Sub-urban	10 (17.9)
Rural	6 (10.7)
<b>Level of Education</b>	
Primary	6 (10.7)
Secondary	26 (46.4)
Higher Secondary	18 (32.1)
Graduation	4 (7.2)
Post-graduation	2 (3.6)
<b>Occupation</b>	
Business	4 (7.2)
Service	22 (39.3)
Housewife	14 (25)
Student	10 (17.9)
Labor, Farmers and Others	6 (10.7)
<b>Income (Takas)</b>	
No income	15 (26.8)
<10000	20 (35.7)
10,000 to 20,000	15 (26.8)
20,001 to 30,000	3 (5.4)
> 30000	3 (5.4)

Note: Figures in the parenthesis indicate the percentage of the respondents.

Table 2: Patients according to the Emergency Type attended Hospital during Study

Emergency Types	Numbers
Surgical Emergency	22 (39.3)
Medical Emergency	19 (33.9)
Gynecological Emergency	5 (8.9)
Obstetrical Emergency	10 (17.9)

Note: Figures in the parenthesis indicate the percentage of the respondents.

Table 2 clearly indicates that about 39.3% of the respondents came to the hospital with surgical emergency, about 34% with medical emergency and rest of them with gynecological (8.9%) and obstetrical emergency (17.9%).

Table 3: Patients Used Vehicles to Arrive at Emergency Department

Used Vehicles to Arrive	Numbers
Ambulance	4 (7.1)
Private Car	2 (3.6)
Rickshaw	5 (8.9)
Others	45 (80.4)

Note: Figures in the parenthesis indicate the percentage of the respondents. From Table 3, it is revealed that 80.4% of the patients arrived hospital through other types of vehicles while rest of them used rickshaw (8.9%), ambulance (7.14%) and private cars (3.57%).

**Distribution of the Patients by Time Lapsed to Reach the Emergency Department:** About one-quarter (29%) of the patients were able to reach the ED within 1 hour, half (54%) in 2 - 6 hours, 3% reached by 7-12 hours and the rest 14% took by > 12 hours to reach the ED (Figure-1)

Fig. 1: Management of Emergency Services Provided by Hospital

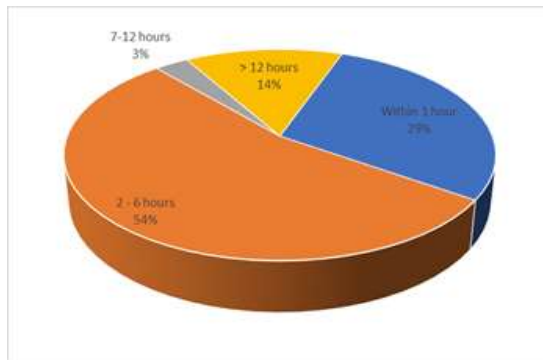


Table 4: Means and Ways to Take Patients to Examination Table

Means and Ways	Numbers
Stretcher	8 (14.3)
Wheel Chair	15 (26.8)
On foot	30 (53.6)
Others	3 (5.4)

Note: Figures in the parenthesis indicate the percentage of the respondents.

Table 4 shows that more than half of the respondents (53.6%) were shifted to the examination table through walking, wheel chair used for 26.8% patients, stretcher for 14.3% and 5.4% patients were taken to the examination table by using other means and ways.

Table 5: Waiting Time Distribution of Patients in the Emergency Outpatient Department

Waiting Time in Minutes	Numbers
As soon as	2 (3.6)
Within 5 Min.	8 (14.3)
5-15 Min.	30 (53.6)
>15 Min	16 (28.6)

Note: Figures in the parenthesis indicate the percentage of the respondents.

Waiting time distribution of patients in the emergency outpatient department shows that 3.6% of the patients were attended by the on duty doctors as soon as they reached the emergency, 14.3% within 5 minutes of reaching there, 53.57% in 5 to 15 minutes and 28.6% beyond 15 minutes of reaching the emergency department (ED).

Patients opinion about all the discrete activities of emergency department were sought to ascertain their level of satisfaction. The eight discrete activities for which opinion was sought were reception facility, ED management, doctors' service, doctors' behavior, support staffs' care, cleanliness, waiting time at ED and overall management. 0-4 Likert Scale level was used to measure the satisfaction level, where 0 means 'totally dissatisfied' 1 means 'satisfied partially', 2 means 'more or less satisfied', 3 means 'satisfied' and 4 means 'highly satisfied'. The result shows that still a notable portion of the patients' level of satisfaction were found 0-2 on Likert Scale. It clearly indicates that management of emergency services provided by SSMCH are not appreciated by the all patients, which is really alarming for the health sector of the county (Table 6).

Table 6: Level of Patient Satisfaction Measured on Likert Scale Core about Management of Emergency Services in Hospital

Opinion about ED Management	Likert Scale Score				
	0	1	2	3	4
Reception Facility	2 (3.57)	1 (1.79)	12 (21.43)	28 (50)	13 (23.22)
ED Management	3 (5.36)	00 (0)	14 (25)	16 (28.57)	23 (41.07)
Doctors' Service	4 (7.14)	2 (3.57)	18 (32.14)	11 (19.64)	21 (37.05)
Doctors' Behavior	2 (3.57)	3 (5.36)	16 (28.57)	16 (28.57)	19 (33.93)
Support Staffs' Care	1 (1.79)	1 (1.79)	13 (23.22)	25 (44.64)	16 (28.57)
Cleanliness	3 (5.36)	00 (0)	11 (19.64)	13 (23.22)	29 (51.79)
Waiting Time at ED	2 (3.57)	00 (0)	12 (21.43)	27 (47.22)	15 (26.79)
Overall Management	2 (3.57)	1 (1.79)	13 (23.22)	27 (47.22)	13 (23.22)

Note: Figures in the parenthesis indicate the percentage of the respondents.

## DISCUSSION

The emergency department of a hospital is most important department. Its directly related to the general people of the society irrespective of their age, sex, religions, educational level, occupation and income level. All the patients under the study categorized into 5 age groups, e.g. <20, 20 to 29, 30 to 39, 40 to 49 and ≥50. The maximum patients (28.6%) lie on 30 to 39 age group and minimum (17.9%) on 40 to 49 and ≥50 age group. There are 35.72% male and 64.28% female patients in the study. The women after Emergency Peripartum Hysterectomy (EPH) experienced several experiences such as profound grief, needs of support, information, bonding and fear<sup>7</sup>. As Bangladesh is a Muslim majority county, the study constitutes 89.3% of Muslim and 10.7% of non-Muslim patients. The literacy rate is gradually increasing in Bangladesh. The study reflects the same. All the patients under the study are educated to some extent. People around the county come to the capital city Dhaka to be involved either with some sort of income generating activities or to complete their academic study.

The study reflects the same scenario. Due to the nature of the emergency cases, panic and psychological disturbances were to face by the relatives of the patients. So, it should be kept in mind

among the duty doctors and staffs while organizing and managing the services. About 39.3% of the respondents with surgical, 34% with medical, 8.9% with gynecological and 17.9% with obstetrical emergencies. About 80% of the patients under the study did not get any modern vehicle supports although they faced the emergencies. What emergency means is nothing but sudden illness/injury which required immediate attention of physicians. The emergency department (ED) of a hospital provides emergency services to the patients. Irrespective of the situations, it is expected to have due care for any patient. So, the popularity of a hospital depends largely on the quality services provided by the emergency department and satisfaction of the patients. The satisfaction level is also measured using Likert Scale ranging from 0-4, where 0 means 'totally dissatisfied' 1 means 'satisfied partially', 2 means 'more or less satisfied', 3 means 'satisfied' and 4 means 'highly satisfied'. It is revealed that still a notable portion of the patients' level of satisfaction were found 0-2 on Likert Scale. It clearly indicates that management of emergency services provided by SSMCH are not appreciated by the all patients, which is really alarming for the health sector of the county.

## CONCLUSION AND POLICY RECOMMENDATIONS

The emergency services offered by a hospital frequently determine its reputation. Its sudden and unexpected nature often produce panic and psychological disturbance among patients and their relatives. So, the primary purpose of an emergency room as the point of major public interest is to provide rapid care and cardiopulmonary resuscitation for extremely ill patients. Even a silly mismanagement is never expected and ever accepted. The results of the study reveal that there are still many scopes to improve the management of emergency services at government level hospital in Bangladesh. In line, we may recommend the following policies

1. The ambulance services should be more public oriented so that emergency incidents could be addressed without much delay.
2. The existing facilities and services of emergency room should be upgraded to a standard so that the patients would not be taken to the examination table by walking.
3. The presence of sufficient doctors should be ensured for 24/7 so that the victims could not be waited for doctor after reaching the emergency department.
4. The government and concern authority should take necessary steps to ensure management of emergency services at all government hospitals across the country.

**Conflict of Interest:** The researchers does not find any conflict of interest in this study.

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