

Original Article

Management of Emergency Department Services at a Secondary Level Hospital

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Abstract

Background: The primary purpose of the Emergency Department (ED) is to provide immediate medical attention and resuscitation to seriously ill patients. Prompt treatment and efficient service management play crucial roles in preventing fatalities and disabilities. **Objective:** To evaluate the management of emergency department services at a secondary-level hospital in Bangladesh. **Methodology:** A descriptive cross-sectional study was carried out in the emergency department at Narayanganj General Hospital from January to December 2018. The study involved 229 participants, including both service recipients and providers. Data was collected using a pre-tested, semi-structured questionnaire administered through face-to-face interviews. **Results:** The majority of participants easily identified the ED room (82.3%) and waited ≤ 15 minutes (91.2%) to see a doctor. They also felt that doctors listened attentively to their complaints (88.9%) and behaved well (92.5%). Service providers' behavior was also positively rated by patients, with 90.8% expressing satisfaction. Most patients did not receive all prescribed medicines from the pharmacy (81.4%), expressed dissatisfaction with the cleanliness of the environment (52.1%), and facilities in the waiting room (60.0%). Despite these concerns, they mostly stated satisfaction with the treatment received (51.6%) and the overall management of the ED (45.1%). Service providers identified several shortcomings across multiple areas, such as laboratory facilities (78.6%), staffing levels of doctors (78.6%), nurses (64.3%), and supporting staff (85.7%). Despite these challenges, they expressed satisfaction (64.3%) with their roles. **Conclusion:** The study demonstrated that both service recipients and service providers were satisfied with the management of medical services. However, hospital administration and health service providers should prioritize resolving deficiencies in order to improve patient satisfaction more substantially.

Key Words: Management, emergency department services, secondary-level hospital, Bangladesh.

Received: 12 March, 2024; **Accepted:** 22 May, 2024; **Published:** 1 June 2024

DOI: <https://doi.org/10.3329/jmcmc.v10i1.76077>

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How to cite this article: Yesmin T, Shaheen S, Rahman T, Rahman MS, Moulee ST, Ferdous J, Ferdouse M, Akter F, Nurunnabi M. Management of Emergency Department Services at a Secondary Level Hospital. J Monno Med Coll. 2024 June;10(1):36-42

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Introduction

A hospital serves as a healthcare hub where specialized health science professionals, auxiliary healthcare staff, and advanced medical equipment collaborate to deliver patient care.¹ It is a crucial component of our society since it provides comprehensive health treatment to the entire population.² It constitutes a variety of indoor and outdoor emergency departments as well as specialized units such as cardiology, intensive care unit etc.³ Hospitals hold significant importance in people's lives, often representing pivotal moments. They demonstrate resilience by sustaining and expanding services during emergencies, while also aligning with the needs and values of local communities. Integral to achieving the Sustainable Development Goals (SDGs), hospitals play a vital role in Universal Health Coverage (UHC).^{1,4}

The emergency department of a hospital plays a crucial role in providing immensely important services to patients.⁵ The quality of service and care provided by the emergency room significantly influences a hospital's reputation.⁵⁻⁶ The primary aim of the majority of emergency medical services is either to administer prompt treatment to individuals requiring urgent medical attention, with the objective of effectively addressing their presenting conditions, or to ensure the timely transfer of patients to the next stage of definitive care.⁷ It is prepared and equipped to provide the community with comprehensive emergency care for both emergency and non-urgent conditions.⁸ The patient management services are primarily administered by ED staffs and doctors.^{3,8}

Patient satisfaction consistently impacts an individual's assessment of the quality of their healthcare services.⁹⁻¹⁰ To assess the quality of healthcare, individuals are often asked to score their satisfaction with the services they received or impart their experiences.¹¹⁻¹² Satisfaction with medical services is a desirable outcome and can impact overall health status. A patient's optimism or discontent with hospital care can provide insight into its overall quality, including strengths and deficiencies.¹³⁻¹⁴ Management services survey should be part of a quality improvement process that includes evaluating results, consulting with key stakeholders, developing improvement plans, implementing them, and re-evaluating progress to identify new areas for improvement.

Methodology

Study Design and Settings: This descriptive cross-

sectional study aimed to assess the management of emergency department services at Narayanganj General Hospital, a purposively selected secondary-level hospital in Narayanganj 1400, Bangladesh. A total of 229 participants were conveniently selected for the study, comprising 215 service receivers and 14 service providers (including both doctors and nurses). Service receivers were individuals seeking urgent medical or surgical intervention at the emergency department due to a disease condition or injury, while service providers were doctors and nurses working in the ED during the interview period. Doctors and nurses who were on leave during the observation period were excluded from the study.

Data Collection Procedures: The participants under study were interviewed face-to-face using a pretested, semi-structured questionnaire from January to December 2018. This questionnaire covered socio-demographic characteristics and information regarding the management of services in the ED from both service receivers and providers. Observations were also made within the hospital premises using an observational checklist.

Statistical Analysis: Descriptive statistics, including mean, standard deviation, and percentages, were calculated for continuous variables using IBM SPSS v23. The findings were showed through tables and charts.

Ethical Approval: Participation was voluntary, and confidentiality was ensured, and informed written consent was obtained from all participants. Ethical approval for the study was approved by the Institutional Review Board (IRB) of the National Institute of Preventive and Social Medicine (NIPSOM), Dhaka 1212, Bangladesh (Reference: NIPSOM/IRB/2018/471).

Results

The mean age of the service receivers was 36.1±16.3 years, and 47.5% of them belonged to the 21-40 age groups. Majority of the respondents were female (57.7%) and unmarried (63.3%) among those who attended as patients. A significant portion of the respondents (34.4%) had no formal education, while only 6.5% had completed higher secondary or above. The majority of the patients were housewives (41.4%) and day laborers (18.6%). The average monthly income of the families was 12,700.6±5,084.7 taka, with more than half of them (54.8%) earning ≤10,000 taka per month. (Table 1)

Table 1: Particulars of the service receivers (n=215)

Particulars	n(%)
Age groups (years)	
≤20	42(19.5)
21-40	102(47.5)
41-60	47(21.9)
>60	24(11.1)
Mean±SD	36.1±16.3
Sex	
Male	91(42.3)
Female	124(57.7)
Marital status	
Unmarried	136(63.3)
Married	45(20.9)
Others (widowed & separated)	34(15.8)
Education	
Illiterate	74(34.4)
Primary	94(43.7)
Secondary	33(15.3)
Higher secondary and above	14(6.5)
Occupation	
Housewife	89(41.4)
Day labour	40(18.6)
Businessman	17(7.9)
Service holder	12(5.6)
Agricultural worker	10(4.7)
Others (student, unemployed etc.)	47(21.8)
Monthly average income (taka)	
≤10,000	118(54.8)
10,001-20,000	86(40.0)
20,001-30,000	11(5.2)
Mean±SD	12,700.6±5,084.7

The emergency department easily identified the majority of service receivers (82.3%) and promptly attended to them by service providers (81.4%). On average, patients waited 8.8±5.9 minutes for services, though a small portion (8.8%) waited >15 minutes to see a doctor. Most respondents (88.9%) felt that doctors attentively listened to their complaints and behaved well (92.5%). Patients also generally rated other staff behavior positively, with 90.8% expressing satisfaction. Over half of patients (54.9%) weren't advised of any investigations by attending doctors. Among those advised, more than half (58.3%) underwent tests outside the hospital. A majority (57.7%) were advised hospital admission. Nearly half of respondents (48.4%) found the emergency department busy. However, most patients (81.4%) didn't receive all prescribed medicines from the pharmacy. (Table 2)

Approximately half of the patients expressed poorly satisfied with the cleanliness (52.1%) and the facilities in the waiting room (60.0%). However, they were generally satisfied with the treatment received (51.6%) and the

overall management at the emergency department (45.1%). (Figure-I)

Table 2: Information on the management of services in the ED by service receivers (n=215)

Outlines	n(%)
Easily identification of ED by respondents	Yes 177(82.2) No 38(17.7)
Easy accessible of treatment by service providers	Yes 175(81.4) No 40(18.6)
Waiting time to attend the doctor (minutes)	≤15 196(91.2) >15 19(8.8) Mean±SD 8.8±5.9
Attention of doctor while listening of problem	Attentively 191(88.9) As usual 5(2.3) Not attentively 19(8.8)
Opinion regarding doctor's behavior	Very cordial 140(65.1) Well 59(27.4) As usual 14(6.5) Not well 2(0.9)
Opinion regarding other staff's behavior	Very cordial 88(41.0) Well 107(49.8) As usual 16(7.4) Not well 4(1.9)
Doctor advised for investigation	Yes 97(45.1) No 118(54.9)
Respondents done investigation in this hospital	Yes 40(41.7) No 57(58.3)
Types of management received form the ED	Treatment with discharged 73(34.0) Admission 124(57.7) Referred 18(8.4)
Opinion regarding ED environment	Very busy 89(41.4) Busy 104(48.4) Haphazard 20(9.3) Calm and quite 2(0.9)
Availability of medicine supply	Yes 40(18.6) No 175(81.4)

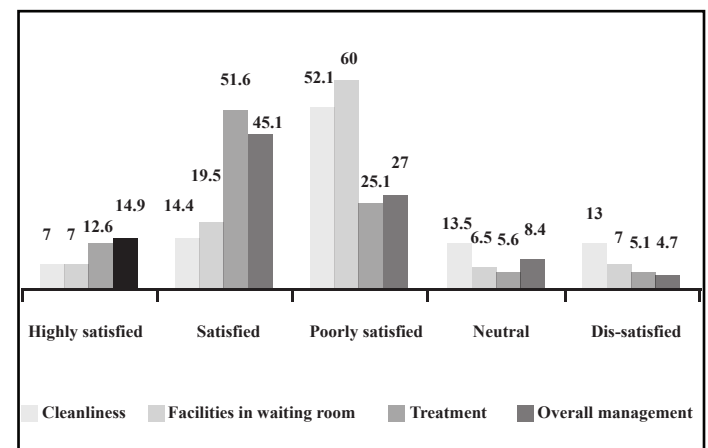


Figure-I: Opinions on the cleanliness of the environment, waiting room facilities, treatment quality, and overall management in the ED (n=215)

The predominant suggestions regarding improvement of management services included ensuring an adequate supply of medicines (82.8%), increasing the availability of wheelchairs (68.6%), providing more space in the waiting room (65.6%), maintaining a clean environment (63.5%), ensuring sufficient instrument supply (58.9%), providing safe drinking water (58.6%), and establishing separate toilet facilities (55.6%). (Figure-II)

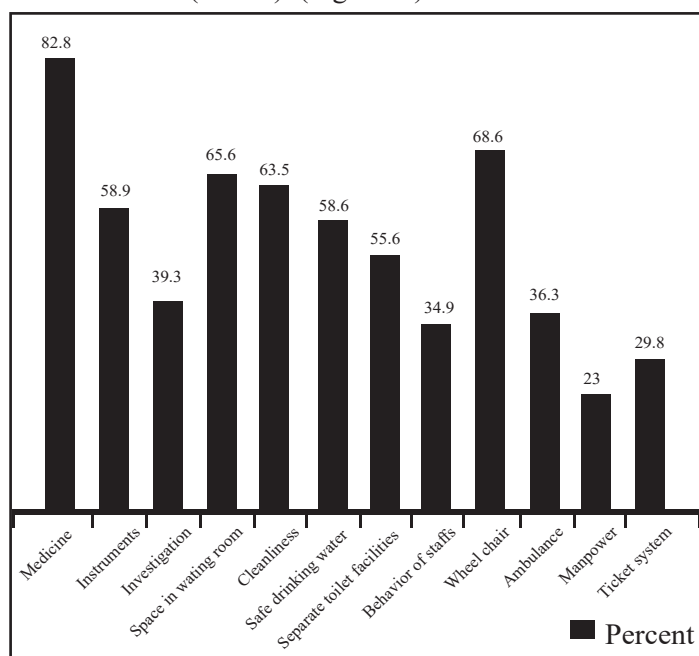


Figure-II: Suggestions regarding improvement of ED management services (n=215)

The average working experience of the service providers was 11.0±8.6 years, and a majority (42.8%) had been working there for over 10 years. Patient load was highest during the morning shift (64.3%). Nearly all respondents (92.7%) encountered some form of problem during their duty. A significant portion of service providers (64.3%) lacked special training in ED patient management and expressed dissatisfaction with the supply of equipment. Most respondents' highlighted inadequacies in various aspects, including laboratory facilities (78.6%), were staffing levels of doctors (78.6%), nurses (64.3%), and supporting staff (85.7%), as well as competency in basic life support (35.7%). However, they emphasized the importance of adequate medicine supply (92.9%), maintaining patient privacy (92.9%), and keeping patient records (92.9%). All respondents reported referring patients to tertiary or specialized hospitals for better treatment. Half of the respondents (50%) used personal protective equipment (PPE) for their safety during work hours. (Table 3)

Table 3: Information on the management of services in the ED by service providers (n=14)

Outlines	n(%)	
Working experiences (years)	≤5	4(28.6)
	6-10	4(28.6)
	>10	6(42.8)
	Mean±SD	11.0±8.6
Time of patient load	Morning shift	9(64.3)
	Evening shift	3(21.4)
	Night shift	2(14.3)
Problem faced during provision of services	Yes	13(92.9)
	No	1(7.1)
Received special training for patients' management	Yes	5(35.7)
	No	9(64.3)
Adequately equipped present	Yes	5(35.7)
	No	9(64.3)
Adequate laboratory facilities	Yes	3(21.4)
	No	11(78.6)
Enough number of doctors	Yes	3(21.4)
	No	11(78.6)
Enough number of nurses	Yes	9(64.3)
	No	5(35.7)
Enough number of supporting staffs	Yes	2(14.3)
	No	12(85.7)
Competence for the basic life support facilities	Yes	5(35.7)
	No	9(64.3)
Availability of medicine supply	Yes	13(92.9)
	No	1(7.1)
Maintained the patients privacy	Yes	13(92.9)
	No	1(7.1)
Maintained the patient's record	Yes	13(92.9)
	No	1(7.1)
Patient's referral	Yes	14(100)
	No	0(0.0)
Necessity about using PPE	Yes	7(50.0)
	No	7(50.0)

Approximately two-thirds of service providers (64.3%) expressed satisfaction (ranging from satisfied to highly satisfied) with their roles in this department. (Figure-III)

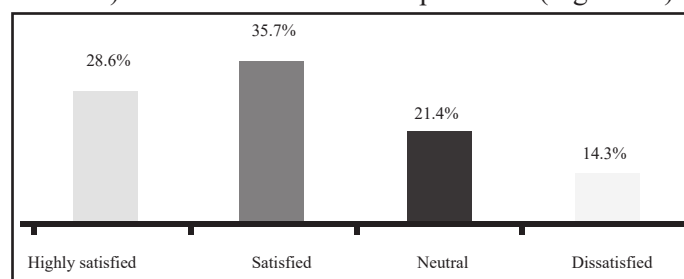


Figure III: Satisfaction with the services provided by the service providers (n=14)

An overview of the emergency department in the hospital under this study was outlined in the table 4. Across all categories of manpower, there were shortages, with no AYA posted. The waiting room lacked sufficient space for patients, did not have separate toilet facilities, and lacked a

safe drinking water supply. Transport facilities were also insufficiently provided. While most treatment facilities were available, antibiotics and over-the-counter drugs were in short supply, although there was an adequate supply of IV infusions. Basic treatment and diagnostic facilities were generally available, though there were shortages in essential equipment such as a power generator, defibrillator machine, serum electrolytes, and CT scan.(Table 4)

Table 4: Checklist

Outlines		Present
Manpower at the ED	Adequate doctor posted	Inadequate
	Adequate nurse posted	Inadequate
	Ward boy	Inadequate
	AYA	No
	Sweeper	Inadequate
Facilities in waiting room	Reception room	Yes
	Adequate space in waiting area	Absent
	Separate toilet facilities	Absent
	Toilet facilities for patient	Yes
	Toilet facilities for service provider	Yes
	Safe drinking water	Absent
	Waste basket	Yes
Transport facilities	Ambulance	Inadequate
	Patient trolley	Inadequate
	Patient stretcher	Inadequate
	Wheel chair	Inadequate
Facilities in treatment room	Sign post and display	Yes
	Emergency ticket system	Yes
	Registered book	Yes
	Observation bed	Yes
	Surgical bed	Yes
	Screen and stand	Yes
	Stethoscope and BP instrument	Yes
	Thermometer	Yes
	Glucometer	Yes
	Weight machine	Yes
	Height scale	No
	Torch light	Yes
	Tongue depressor	Yes
	Auroscope	Yes
	Sputum box	No
	Emergency trolley (With minor surgical seat)	Yes
Availability of drugs facilities	OTC drugs	Inadequate
	Antibiotics	Inadequate
	IV Infusion	Yes
Availability of treatment facilities	Basic treatment equipment	Yes
	Emergency treatment equipment	Yes
Availability of diagnostic facilities	Biochemical and clinical pathology	Yes
	Radiology and imaging	Yes

Discussion

The emergency department faces the challenge of providing care that is safe, effective, patient-centered, prompt, efficient, and equitable, which is a difficult undertaking regardless of conditions.¹⁵ Patient satisfaction with accessing health services is regarded as a fundamental outcome of the healthcare system and a key indicator of service quality, directly influencing service utilization.¹⁶ Presently, external pressures, inadequacies in healthcare, and constraints within the hospital sector are prompting the formulation of fresh perspectives on hospitals across various global regions, also in our country.

The service recipients' mean age were 36.1±16.3 years, with 47.5% of them belonging within the 21-40 age groups. A significant part (34.4%) had no formal education. Day laborers (18.6%) and housewives (41.4%) constituted most of the patients. The families' monthly average income was 12,700.6±5,084.7 taka, and over half of them (54.8%) made ≤10,000 taka or less. These results were nearly comparable to the study findings.^{17,18} The emergency department easily identified the majority of patients (82.3%) and punctually attended to them by service providers (81.4%). On average, patients waited 8.8±5.9 minutes for services. Most respondents (88.9%) felt that doctors attentively listened to their complaints and behaved well (92.5%). Patients also generally rated other staff behavior positively, with 90.8% expressing satisfaction. Studies also shown that patients waited less than 15 minutes and that service providers behaved satisfactorily.^{18,19} Over half of patients (54.9%) weren't advised of any investigations by attending doctors. Among those advised, more than half (58.3%) endured tests outside the hospital. Nearly half of respondents (48.4%) found the emergency department busy. However, most patients (81.4%) didn't receive all prescribed medicines from the pharmacy. The results showed resembles with the studies in terms of investigations and hospital supplies.^{3,9,20} Above half of the patients expressed poorly satisfied with the cleanliness of the environment (52.1%) and the facilities in the waiting room (60.0%). Despite this, they expressed general satisfaction with the medical services they received (51.6%) and the emergency department's the overall management (45.1%). Satisfaction with medical services among patients was deemed satisfactory in this studies.^{9,19-21}

In terms of work experience, most of the service providers (42.8%) had been there for over 10 years. Patient burden

was highest during the morning shift (64.3%). Nearly all respondents (92.7%) encountered some sort of problem during their duty. A significant portion of service providers (64.3%) lacked special training in ED patient management and expressed dissatisfaction with the supply of equipment. They also emphasized the importance of adequate medicine supply (92.9%), maintaining patient privacy (92.9%), and keeping patient records (92.9%). All respondents reported referring patients to tertiary or specialized hospitals for better treatment. Half of the respondents (50%) used personal protective equipment (PPE) for their safety during work hours. Approximately two-thirds of service providers (64.3%) stated satisfaction (varying from satisfied to highly satisfied) with their roles in this department. The job satisfaction of service providers, including doctors and nurses, plays a crucial role in delivering medical services within a hospital.^{16,22}

Conclusion

The attitude and responsiveness of care professionals to patient requirements is the key element influencing the quality of treatment at the emergency department. Improving doctor-patient and doctor-nurse ratios is crucial for providing responsive healthcare services. The study revealed that both service receivers and service providers held satisfactory opinions regarding the management of medical services. The foremost recommendations entailed of ensuring a sufficient supply of medicines, enhancing the availability of medical logistics, expanding the waiting room space, maintaining cleanliness in the surroundings, providing safe drinking water, and establishing separate toilet facilities.

Acknowledgement: The authors extend their gratitude to all participants and hospital administration for their valuable cooperation.

Contributions to authors: Conceptualization, methods and literature reviews: Yesmin T, Shaheen S, Moulee ST, and Nurunnabi M; Data collection: Yesmin T. Statistical analysis: Yesmin T, Akter F, and Nurunnabi M; Draft of manuscript: Yesmin T, Shaheen S, Rahman T, Rahman MS, Moulee ST, Ferdous J, Ferdouse M, Akter F, and Nurunnabi M; Finalization of manuscript: All the authors approved the final manuscript.

Funding: This study did not receive any funding.

Conflict of Interest: The authors declared no competing interests.

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