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The Management of Casualty Department in a Tertiary Level Hospital of Bangladesh

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Abstract **Original Research Article**

Background: A medical treatment facility known as a casualty department or emergency department is focused on providing immediate care to patients who arrive without an appointment, either on their own initiative or through ambulance. The emergency room is typically located in a hospital or other type of primary care facility. Because patient presence is unplanned, the department is required to offer initial care for a wide range of illnesses and injuries, some of which may be life-threatening and demand prompt attention. ***Aim of the Study:*** The aim of this study was to assess the management of casualty department in a tertiary care hospital. ***Methods:*** This prospective observational study was conducted from January 2013 to December 2013 in casualty department, Shaheed Ziaur Rahman Medical College hospital, Bogura, Bangladesh. One hundred twenty patients and nine doctors of the casualty department were purposively selected and interviewed by structured questionnaire and facilities were observed through checklist. Data analysis was done using SPSS version 19.0 software. ***Results:*** Among total 120 participants the majority of respondents (77.5%) believed that 5–10 minutes were needed for treatment after seeing a doctor, and over 80 (66.6%) believed that the doctor was attentive to their problems. Only 54 people (45%) were satisfied with the emergency department's overall management, and 66 people (55%) were not. Among these, 54 (45%) were recommendations to expand the number of beds, while 66 (55%) were recommendations to improve the diagnostic and medical facilities. With the exception of the waiting room, all physical and logistical resources in the hospital's casualty department were open for treatment. Most emergency medications were discovered in the casualty department. ***Conclusion:*** Doctors made recommendations for the casualty department's improvement, including the need to increase security, arrange for anesthesiologists, appoint specialized employees, ensure ICU assistance and ensure necessary drugs and equipment. The results can be used as a starting point by the hospital administration to implement measures to enhance the service at the trauma department, and it will assist in delivering better service to satisfy demand.

Keywords: Casualty, Management, Logistics, Anesthesiologist, ICU.

1. INTRODUCTION

The word "casual" derives from the workhouse "casual," a caller who was sporadic, unplanned, and required temporary assistance rather than being one of the permanently unemployed [1]. Emergency departments (EDs) are required to treat every patient, at any time and in any situation that is reasonable. Therefore, in order to handle predictable (daily and seasonal variations) and unpredictable (mass casualty events) trends in ED volume, EDs must have surge capacity. The number of ED visits in the US increased by 18% between 1994 and 2004 (from 93 million to 110 million), whereas the number of hospitals with 24-hour EDs fell by 12% over the same period [2]. There is increasing difficulty in staffing emergency departments across the country. Middle-level doctors (specialty registrars, specialty doctors, and trust-level doctors) provide a critical safety net of experienced medical care and supervision 24 hours a day, seven days a week. Vacancy rates at this grade are high both for the training grade registrars and the other grades [3]. People may need immediate medical attention since accidents, injuries, and acute illnesses can occur at any time. The emergency room of a hospital is frequently the first

point of contact [4, 5]. There is a need for emergency departments to ensure that there is adequate space for all members of the emergency team, patients, and their caregivers and to provide safety, confidentiality, privacy, and dignity. Unfortunately, there are a lot of EDs that are overcrowded every day [6]. The emergency departments of most hospitals operate 24 hours a day, although staffing levels may be varied in an attempt to mirror patient volume [7]. Emergency departments should have access to appropriate imaging (CT, ultrasound, and plain radiography) to allow immediate investigation of potentially life-threatening conditions. In order to ensure that patients' transitions through the system are seamless, emergency department staffs play a crucial role. 'Do the right thing' is the expectation of MOH&FW and DGHS in one hand, and service recipients in the other, from this hospital [8].

2. METHODOLOGY

It was cross-sectional descriptive research. The study took place from January 2013 to December 2013.The Shaheed Ziaur Rahman Medical College Hospital (SZMCH), Bogura, Bangladesh, served as the study's site (SZMCH). The populations for the current study were the service providers (doctors) and service consumers (patients) at casualty department throughout the data collection period. 120 patients and 9 doctors from the study location were interviewed during the data collecting period, a formal questionnaire, a checklist for observations, and a record review. They were created in accordance with the factors derived from the study's objectives in order to gather data on nurses' postoperative infection control knowledge and practice. The respondents were given a thorough explanation of the study's purpose. Data were gathered from patients and service providers of SZMCH during working hours by creating the study instrument in light of objective and factors. With the respondents' permission and convenience, the researcher performed an in-depth interview at the site of the study. Statistical Package for Social Science (SPSS) 19.0, a computer application, was ultimately used to analyze the data based on several variables. Tables were created using the data that was readily available, and statistical techniques were used to analyze the data were deemed essential. All patients who were taking part gave their verbal consent. The whole intervention was conducted in accordance with the principles of human research specified in the Helsinki Declaration [9] and executed in compliance with currently applicable regulations and the provisions of the General Data Protection Regulation (GDPR) [10].

3. RESULT

Table 1 show that the respondents were grouped into five different age groups, where the range of the age group was 14–60. 14 (11.7%) were under the age of 20, 37 (30.8%) were between the ages of 20 and 30, 28 (23.3%) were between the ages of 31 and 40, 27 (22.5%) were between the ages of 41 and 50, and 14 (11.7%) were over 50. According to Table 2, out of 120 respondents, 80 (66.6%) agreed with being attended by any service provider immediately, while only 40 (33.3%) disagreed. Table 3 shows that, out of 9 service providers, 5 (55.6%) opined that only emergency patients came to the casualty department and 4 (44.5%) opined that all types of patients came. Emergency operations are sometimes not possible due to a lack of anesthesiologists, according to 33.3% of respondents, while 66.7% are not affected.77.8% had an insufficient supply of drugs, suture material, and IV fluid, while 22.2% had not. Table 5 shows that, regarding treatment as mentioned above, all the logistic facilities were present in the casualty department except the waiting room. Table 6 shows that, regarding the treatment mentioned above, all the emergency drugs were present in the casualty department except Inj. frucimide. Figure 1 shows that out of 120 respondents, 93 (77.5%) thought it would take 5-10 minutes to get treatment after being seen by a doctor, 26 (21.7%) thought it would take less than 5 minutes, and only 1 (0.8%) thought it would take less than 5 minutes. According to Figure 2, out of 120 respondents, 66 (55%) reported less availability of medicine and diagnostic facilities as a problem, while 54 (45%) reported bed insufficiency.

Table 1: Distribution of the respondants according to their age (N=120)

Age	Frequency	Percent
<20 years	14	11.7
20-30 years	37	30.8
31-40 years	28	23.3
41-50 years	27	22.5
>50 years	14	11.7
Total	**120**	**100.0**
Mean±SD=35.54±12.262		**Minimum=14 Maximum=60**

Table 2: Distribution of the respondents according to opinion about attended by any service provider immediately age (N=120)

Attended immediately	Frequency	Percent
No	40	33.3
Yes	80	66.6
Total	**120**	**100.0**

Table 3: Distribution of the service provider of casualty department according to their opinion about types of patients comes in the casualty department (N=9)

Types of patient	Frequency	Percent
Only emergency patient	5	55.6
All types of patients	4	44.4
Total	**9**	**100.0**

Table 4: Distribution of the service provider of casualty department according to their opinion regarding types of problems faced in performing their work (N=9)

Problems	No		Yes		Total	
	F	%	F	%	F	%
Urgent management impaired due to lack of attendant	6	66.7	3	33.3	9	100
Emergency operation sometimes not possible due to lack of anesthesiologist	6	66.7	3	33.3	9	100
Attendance of patient were uncooperative	2	22.2	7	77.8	9	100
Inadequate supply of drug, suture material and IV fluid	2	22.2	7	77.8	9	100
No ICU support	7	77.8	2	22.2	9	100
Overcrowding by attendance	3	33.3	6	66.7	9	100

Table 5: Distribution of Logistics facilities according to their availability in the casualty department (N=120)

Items	Availability	
Logistics facilities	Yes	No
Transferable bed	✓	
Wheel chairs	✓	
Stretcher	✓	
Screen and saline stand	✓	
Emergency generator	✓	
Sterilizer	✓	
Oxygen supply	✓	
Dressing material	✓	
Basic examination tools	✓	
Minor surgical trolley	✓	
Mosquito net per bed	✓	
Linen for patient	✓	
Linen for O. T. staffs	✓	

Table 6: Distribution of Emergency drugs according to their availability in the casualty department (N= 120)

Items	Availability	
Drugs	Yes	No
Inj. Diclofenac	✓	
Inj. Hydrocortisone	✓	
Inj. Diazepam	✓	
Inj. Pathedine	✓	
Inj. Antihistamine	✓	
Inj. Frucimide		✓
Inj. Amoxycilline	✓	
Inj. Ciprofloxacine	✓	
Inj. Flucloxacilline	✓	
Inj. Omeprazol	✓	
IV fluid	✓	
Antiseptic	✓	
Tab. Paracetamol	✓	

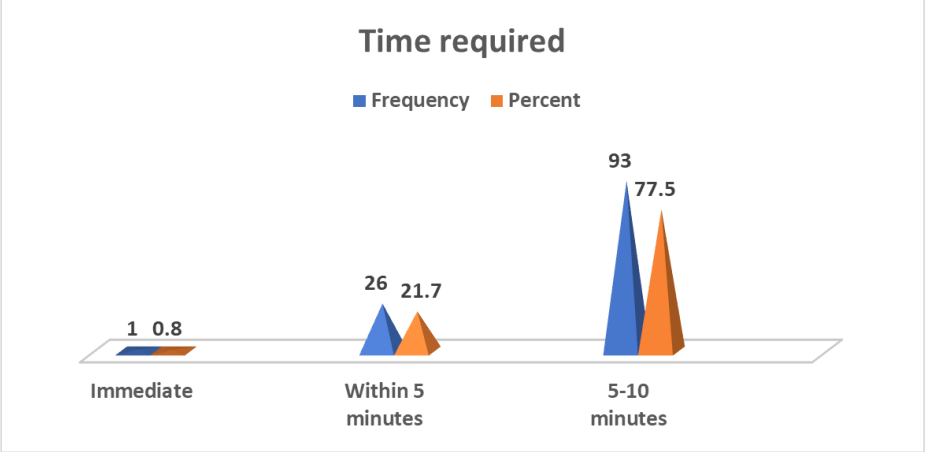

Figure 1: Distribution of the respondents according to opinion about time required for getting treatment after attending by doctor

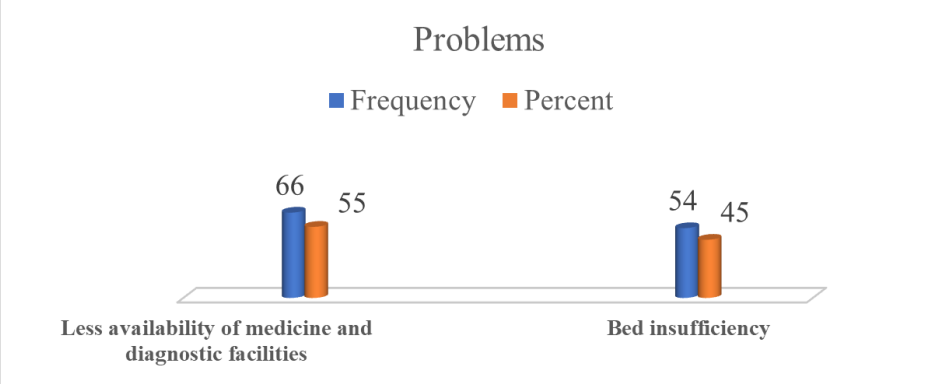

Figure 2: Distribution of the respondents according to opinion about problem faced by the respondent

4. DISCUSSION

The purpose of the study was to learn about the casualty department's facilities in terms of physical, logistical, and medical care, the types of patients referred to the department, the extent of service providers, and the respondents' problems. Patients with both serious and mild injuries participated in this study. The majority of them (30.8%) were between the ages of 20 and 30; next, roughly 23.3% were between the ages of 31 and 40; this shows that the population was active during these years and was at risk for accidents, maybe as a result of their employment in outdoor jobs [11, 12]. Only emergency patients should visit the casualty department, according to the majority of doctors (55.6%), who also advised non-emergency patients to see the OPD (66.7%). In this study, approximately 80 (66.6%) respondents opined that they were attended by a service provider immediately. This study was similar to the one conducted by Zaman K. From this study, it also reveals that majorities (77.5%) of the respondents believed that 5–10 minutes were required for getting treatment after seeing a doctor, and very few got treatment immediately. Nearly 80 (66.6%) of them thought the doctor was attentive to their problems, and 70 (58.4%) thought they received proper medication instruction from a doctor or nurse [13]. The waiting times for ambulatory patients who came into the department improved by around 20% [15]. 120 people were asked for feedback on how the hospital's casualty department could be improved. About 55% of them included recommendations to enhance the diagnostic and medical facilities, while 45% included recommendations to expand the number of beds. Examining the number of doctors and nurses on staff could help decrease waiting times [14]. Regarding treatment, all the physical and logistic facilities in the casualty department of the hospital were available except the waiting room. Except for Inj. Frucimide, all emergency drugs were discovered in the casualty department. These findings show similarities with the study of Ahmed P.

Limitation of the Study

This was a single centered study with small sized samples. Moreover, the study was conducted at a very short period of time. So, the findings of this study may not reflect the exact scenario of the whole country.

5. CONCLUSION & RECOMMENDATION

All of the casualty department's doctors agreed that the department had inadequate staffing levels and inadequate access to all urgent investigative facilities. To enhance the casualty department's level of service the number of support personnel should be expanded in

accordance with patient needs. All casualty support staffs members require specialized training to advance their skills in emergency management in order to prevent problems for the treatment of catastrophic injuries.

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