CASE REPORTS

Challenges surrounding the response to road traffic accident emergencies at Ndola Teaching Hospital casualty department, Zambia

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Availability of appropriate and sufficient medical supplies is essential in saving Road Traffic Accident (RTA) victims. The objective of the study was to establish the challenges in attending to RTA victims that are faced at Ndola Teaching Hospital (NTH), Zambia. A cross sectional study was conducted in which a modified WHO standard for emergency preparedness of health facilities questionnaire was used to obtain data from medical practitioners who had either worked and/or working in the casualty department. Twenty-seven nurses and 8 junior doctors participated in the survey. Out of 35 participants, 24 (68.6%) reported that the emergency (trauma) team was not readily available. The following supplies were reported available and sufficient: gloves (8.6%), splints and roller bandages (14.3%), oxygen cylinders (11.4%), cervical collars (37.1%), ambubag (25.7%), sutures (34.3%), urine bags (0%) and cannulas (62.9%). Eighty percent of the participants reported that stretchers were in bad condition. Generally, basic medical supplies for attending to RTA victims were not readily available. Adequate provision of the basic medical supplies is recommended to save lives.

Introduction

The casualty department stands as a receiving point and often the easiest or even the only access to health care for patients with various challenging needs. The services of the casualty department are available 24 hours a day. Among the cases attended to are Road Traffic Accidents (RTA) emergency cases which require quick and immediate action or else the patient will die or develop serious disability. Patients seeking emergency care can be further harmed because of the failure to deliver emergency care by medical practitioners. Therefore a well-coordinated, prepared and equipped Medical emergency team intervention as early as possible in the

management of severely injured RTA victims would improve the outcome.

The lack of emergency preparedness programs as well as inadequate infrastructure and equipment can lead to death as was observed in the RTA that occurred in Ghana in which all 41 people except one died [1,2]. The incorporation of a trauma team in managing trauma patients has been shown to reduce overall trauma death rates from 6.0% to 4.1% and in those severely injured patients with ISS scores greater than 25, from 30.2 to 22.0% [3]. Data from England and Wales show that the trauma team improved survival in hospitals not recognized as trauma centres [4].

Effective lifesaving management of RTA victims begins with stabilization of the patient and simultaneous assessment of the level of consciousness. The above can only be achieved when there are appropriate and sufficient medical supplies coupled with frequently trained emergency team. Hence, the recommendation by the World health Organization to periodically assess the health facilities' capacity to respond to emergencies [5]. The objective of the study was to establish the challenges in attending to RTA victims that are faced at Ndola Teaching Hospital (NTH), Zambia.

Methods

This was a hospital based cross sectional study done at Ndola Teaching Hospital casualty department. Ndola Teaching Hospital is the second largest referral hospital in Zambia situated in the Copperbelt province in the city of Ndola. A total of 35 questionnaires were distributed to medical practitioners as follows: 27 and eight to nurses and junior doctors, respectively. The inclusion criteria were that those who were working in the casualty department or had worked there before but not more than 2 years ago were requested to participate in the survey. All selected health care workers, included in the study, had worked for at least 12 months in the casualty department. The self-administered questionnaire was distributed and collected between 18th July and 4th August 2016.

The questionnaire solicited for the following information: bed capacity, number of stretchers and their condition, number of personnel per shift, basic medical supplies and their availability (seeking specific responses to whether present and sufficient; never runs out of stock; absent and had not been available in a long time; present but insufficient; frequently runs out of stock and if available does not meet the demand of the

casualty department), presence of emergency team and frequency of life supporting skills training. Data was entered into Microsoft® excel and later exported to the SPSS software version 16.0 for processing and analysis.

Response	Frequency	Percent
<5	5	14.3
5 to 10	21	60.0
>10	9	25.7
Total	35	100.0

The research was approved by the Copperbelt University School of Medicine Public Health Unit and ethical clearance was granted by Tropical Disease Research Centre Ethics Review Committee, NTH management board authorised the research to be done at their institution and verbal consent was obtained from the participants before the interview.

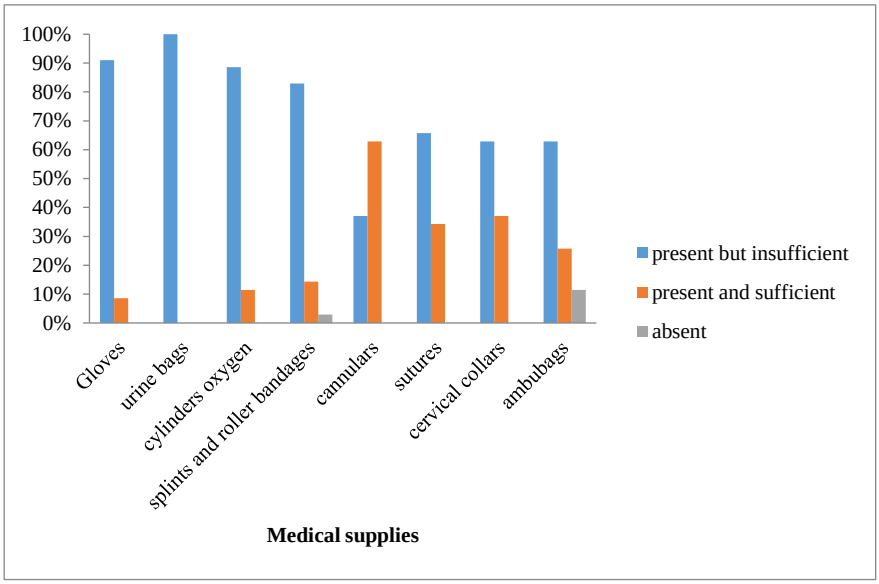

Figure 1 Road traffic accident victims received per day at Ndola Teaching Hospital Casualty department, July – August 2016

Results

Table 1 Road traffic accident victims received per day at Ndola Teaching Hospital Casualty department, July – August 2016

All the 35 medical practitioners who were requested to take part in the survey agreed to do so. Table 1 shows the distribution of the RTA victims received per day with 60% of the respondents indicating that 5-10 victims were received per day. Figure 1 shows availability of basic medical supplies. The following supplies were reported to be present and sufficient: Gloves (8.6%), Splints and roller bandages (14.3%), Oxygen cylinders (11.4%), Cervical collars (37.1%), Ambubag (25.7%), Sutures (34.3%), Urine bags (0%) and Cannulas (62.9%).

Most (94.3%) respondents reported that the department had three stretchers, 2.9% indicated that the facility had two stretchers and 2.9% reported that the facility had four stretchers. On the condition of the stretchers, 80% of the respondents reported that the stretchers were in bad condition (wheels not functioning properly and no stretcher mattresses), while 20% reported that they were in good condition. The bed capacity of the casualty department was 14 beds.

The availability of medical practitioners per shift in the casualty department was as follows: 57.1% of the respondents reported that there was one nurse per shift and 42.9% of the participants stated that there were two nurses. With regards to availability of junior doctors, 62.9% of respondents indicated that there was one junior doctor present per shift,

34.3% reported that there were two junior doctors present per shift and 2.9% indicated that there were three junior doctors per shift. Most (77.1%) of the respondents reported that there was one consultant on call per shift, while 22.9% indicated that there was no consultant. Concerning emergency team availability, most (68.6%) of the participants stated that the team was not readily available (Table 2).

Table 2 Emergency team availability at Ndola Teaching Hospital Casualty department, July – August 2016

Response	Frequency	Percent
Readily available	9	25.7
Not readily available	24	68.6
There is none	2	5.7
Totals	35	100.0

Out of 35 respondents, 27 (77.1%) indicated occurrence of drills and life supporting skills training, while 22.9% reported that drills and life supporting skills trainings occurred only when funds were available. Out of the 27 participants who indicated occurrence of drills and life supporting skills training, 25 (92.6%) responded that they knew drills were taking place but did not witness any.

Regarding other challenges faced by the department; 60% suggested understaffing, 45.7% suggested insufficient medical supplies when attending to emergencies, 51.4% commented on the size and condition of the treatment room as it only accommodated one patient and one staff member and 5.7% commented that senior doctors almost always were never there to assist junior doctors.

The following suggestions were made to address the challenges: about 37.1% of the participants commented that drills and orientations should be done on how to respond to emergency RTA victims, 51.4% recommended that enough medical supplies should be made available to the casualty department, 45.7% suggested that more nurses should be allocated to the casualty department and 42.9% proposed that there was need for a proper and spacious treatment room.

Discussion

Close to 90% of the assessed basic medical supplies were insufficiently available at

Ndola Teaching Hospital casualty department. Results from the current study are in line with the results from a study conducted in Ghana which concluded that many of that nation's hospitals were not prepared to handle large RTA's due to inadequate supplies among other reasons [6].

Close to 80% of the study participants had never seen any training or drill being conducted on how to manage trauma patients, indicating lack of general emergency preparedness programmes and skills for the department. The above-mentioned programmes can improve the coordination and efficiency of the emergency team. It is important to hold frequent drills and refresher courses.

Although it has been shown that involvement of a trauma team for patients with severe injuries (ISS) greater than 12 resulted in significantly better outcomes than patients who received health care on a service-by-service basis [7], trauma teams are rarely available. Trauma teams in the United Kingdom were only available in 20% of the hospitals [8]. Other studies from Australia showed that 56% of adult trauma [9] and 75% of children were taken care of by a trauma team [10].

In conclusion, Ndola Teaching Hospital casualty department is unable to effectively handle large scale RTA emergencies with its current infrastructure, human resources and medical supplies. The emergency/trauma team should be made readily available to attend to emergency cases at the casualty. Periodical basic and advanced life support training and assessments of the emergency team should be conducted. Furthermore, there is need for a spacious and well equipped treatment room and sufficient basic medical supplies to be provided for the casualty department. Further research is recommended to determine the outcome of RTA cases at NCH casualty department.

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