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Cross-Sectional Study to Assess the Awareness of Essential Trauma Care among the Health Care Providers at St. Francis Referral Hospital

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Abstract

Background: Essential Trauma Care (ETC) is an emergency medical care given as life-saving care to the trauma patient to prevent death or disability. ETC should be given at all levels of health facilities in order to serve life. Its application depends on the institutional level. However, there is inadequate provision of ETC particularly in low- and middle-income countries, which is contributed to by multiple factors including inadequate ETC capability of health care providers and insufficient pre-hospital care. This study aimed to assess the awareness of ETC among the health providers at Saint Francis Referral Hospital, Ifakara Kilombero District in Tanzania. **Methods:** A cross-sectional survey was conducted involving healthcare workers from various departments. Those who were willing to participate were given questionnaire to assess their awareness of ETC by filling in the questions constructed on the questionnaire. Data were analyzed by using SPSS version 26. **Results:** Of the 196 with an overall response rate of 97.95% (192) participants were eligible to be involved in this study. Most of the participants were Nurses comprising 43.75% followed by medical doctors 23.96% (46) of all participants. Most of the respondents 37.50% reported being unaware on an ETC whereas only 4.17% had strong ETC awareness. Inadequate staff (51.04%), insufficient training (31.10%) on ETC and equipment availability (25.50%) were the three top challenges among the others hindering ETC at this institute. **Conclusion:** The study found significant weak awareness of ETC and number of challenges hindering ETC delivery at the specific institution. In order to reach the 2023-2026 strategic plan for Tanzania Road Traffic Accident (RTA) and ETC implementation and WHO ETC care guideline adherence, we should improve the gaps identified, which undoubtedly are almost

similar in most health facilities crossing the Nation as well as the African Continent.

Subject Areas

Clinical Medicine

Keywords

Essential Trauma Care, Trauma Victim, Life Threatening, Pre-Hospital Care, Disability

1. Introduction

Globally, Traumas and Road Traumatic Accident (RTA) are a major threat to public safety and health [1]. According to World Health Organization (WHO), RTA claims more than 1.3 million deaths per year [2], but also causes disabilities and other associated injuries in about 50 million people across all age groups and genders per year worldwide [3] [4].

Trauma cases particularly Road Traffic Accidents (RTAs) are predicted to become the world's seventh leading cause of death and Disability Adjusted Life Years (DALY) lost by 2030 [4] [5]. Unfortunately, traffic accidents affect mainly the lives and health of children, youth and economically productive aged groups, resulting in significant economic consequences for societies and negative public health impact [1] [5]. Despite the health and life status advancement, trauma crashes are unavoidable although most of them are preventable [6]. The hospital trauma care delivery plays a pivotal role in managing and mitigating associated health and life-threatening issues [7].

The growing incidence of acute life-threatening injuries and other health emergencies has led to greater emphasis on the field of Emergency Medicine (EM) [4] [7]. WHO established guidelines for Essential Trauma Care (ETC) which provide a standardized template to assess trauma care capabilities globally. Some countries adopted these guidelines based on affordability and sustainable mechanism to improve the national trauma systems [8]. Emergency events require skilled professionals who must work swiftly within a narrow time frame that often determines the difference between life and death [4] [9]. In low- and middle-income countries, it has been estimated that nearly half of all deaths and one-third of disabilities could have been prevented with appropriate emergency care [4] [6].

Despite the effectiveness of emergency care, poor access to emergency medical services remains a problem in low- and middle-income countries. In Sub-Saharan Africa, healthy systems are generally considered vulnerable, and they find it difficult to adapt to changing health conditions [10] [11]. Inadequately skilled healthcare professionals, underfunding, poor infrastructure, the absence of governance and leadership, lack of transparency and bureaucracy are the main barriers to achiev-

ing easy accessibility of trauma care [7] [12]. Some countries are in an infancy stage of their health system development, while others are among the least developed health systems in the world [13]. Factors for increase of injuries involve the increase in urbanization, motorization, civil violence and criminal activities [5] [10]. Tanzania, like any other developing country, has trauma cases due to many causes but mainly social conflicts, land-associated quarrels, Road Traffic Injuries, domestic injuries and other miscellaneous issues. They all contribute to the national health burden in the limited healthy system and narrowed budget on particular category [2] [14] [15].

In Tanzania the trend of RTA emergencies has reached an alarming state; hence, the country has adopted WHO ETC guidelines, which were set into essential consideration through National Strategic Plan on Essential Emergency and Critical Care Services (2023-2026) [16], yet very little attention is paid to them [17]. An increasing number of deaths and road-associated injuries in poor emergency service system in Tanzania may be due to inadequate implementation of ETC particularly in rural tertiary hospitals. This study aimed to assess awareness of Essential trauma care among Health Care Providers (HCP) at Saint Francis Referral Hospital in Morogoro Tanzania.

2. Study Area and Study Design

The hospital-based cross-sectional study was conducted at St. Francis Referral Hospital (SFRH). This hospital is located in Ifakara Town Council, in Morogoro Region, 215 km from Morogoro regional headquarters. It is situated along Ifakara-Dar-es Salaam Road from Malinyi and Mahenge Districts, which is among the roads causing RTA in Tanzania. The hospital also receives most of the casualties of other injuries caused by other conditions such as land conflicts among the cattle-keepers and peasants [18], animal attacks on people living near Mikumi and Nyerere national parks and RTA along Ifakara-Morogoro road. The study involved Health Care Providers (HCP) at St. Francis Referral Hospital particularly clinicians of different categories (specialists, medical doctors, assistant medical doctors and clinical officers), nurses, and nurse attendants. The hospital workers who are supportive health care providers (para-medical health care providers) were excluded. These included laboratory technicians, radiographers, pharmacists and dispensers, who were all excluded.

3. Sampling and Data Collection

Sampling was by convenience and those health care workers who agreed participate at the time of data collection and signed the informed consent form were included in this study. The data collection was done by using structured questionnaires. Data collection tool was in the form of questionnaire. The HCP who were willing to participate in the study were given the questionnaire after signing the consent form. Two researchers were assigned to collect the data. However, data cleaning was done through the excel omitting the incomplete Cuisenaire rods by

using Statistical Package for Social Sciences (SPSS version 26) software program. The distribution of the variables was presented in frequencies and percentages.

4. Results

In total 196 healthcare workers from various departments were subjected to participate in the study but 97.95% (192) were eligible to be involved in this study. The 192 participants, included 23.96% (46) medical doctors, 43.75% (84) nurses, 15.63% (30) clinical officers and 16.67% (32) medical attendants. There was different duration of working experience whereby 39.3% had 1 - 5 years while 42.3% of the participants had 6 - 10 years and only16.67% had more than ten years of working experience. About 76.56% of participants had diploma level of education while only 22.92% of participants had degree and only 0.52% had a master's degree. However, of all cadres only 35.93% have short training on essential trauma care and 64.06% have not. (See Table 1)

Table 1. Demographic characteristics of the participants.

Sample characteristics	Frequency (N)	Percentage (%)
Job title or role		
Medical doctor	46	23.96
Registered nurse	84	43.75
Clinical officer	30	15.63
Medical attendant	32	16.67
Years of experience in work		
1 - 5	77	39.3
6 - 10	83	42.3
11 and above	32	16.67
Education level		
Certificate	32	16.67
Diploma	121	76.56
Bachelor degree	44	22.92
Master's degree	1	0.52
Trauma care training		
Yes	69	35.93
No	123	64.06

Of all participants, 56.1% reported having contact with trauma patients at least every day whereas 30.6% reported having contact with trauma patients at least once a week. Regarding ETC awareness, 37.5% of all participants reported being unaware 30.73% had moderate awareness, 27.69% had weak and only 4.17% reported having strong awareness. Some of challenges reported to affect trauma care

among the health care providers at SFRRH included lack of staff training 31.1%, shortage of staff 51.04%, inadequacy of the emergency kits and other equipment 25.5%, Insufficient ETC and Essential Emergency Care (EEC) awaerness18.40% poor, interdepartmental communication 19.4% and pre-hospital trauma care 3.6%. (See Table 2)

Table 2. Distribution of the patterns of trauma care practice at SFFH.

Variable	Frequency (N)	Percentage (%)
Participant Awareness of ETC Components		
Non	72	37.50
Moderate	59	30.73
Weak	53	27.60
Strong	8	4.17
Patient-Health Care Contact Patterns		
Daily	110	56.1
Weekly	60	30.6
Monthly	19	9.70
Rarely	3	1.60
Reported factors affecting trauma care effectiveness		
Inadequate staff training	61	31.10
Shortage of staff	98	51.04
Equipment availability	50	25.50
Awareness on ETC/EEC	36	18.40
Inter-department communication	38	19.40
Pre-hospital care availability	7	3.60

5. Discussion

The findings in this study show that majority of the staff were of middle and low cadres whereby only 0.52% participants had master's degree while degree holders were only 22.92% and the rest were diploma and certificate holders accounting for 76.56% and 13.54% respectively. The study findings contrast with what was reported by Balushi *et al.* (2022) whose study found that most of the health care providers providing essential trauma care, 69% had a Doctor of Medicine degree, 14% had a Bachelor of Medicine and Bachelor of Surgery [2]. The findings highlight the need for health specialization in different categories including traumatology, emergency and critical care specialists in MICs as it has been recommended in the literature that ETC requires several categories including specialized trauma surgeons and orthopedic surgeons together with trauma specialized nurses [2] [5] [8] [10] [12]. It is also recommended by WHO that essential trauma care at specialized health center requires specialized care of different categories including general surgeon, trauma surgeon, neurosurgeon and orthopedic sur-

geon [8].

The results of this study showed that the majority of healthcare workers had a relatively low awareness level regarding essential trauma care of which only 4.17% of participants had strong awareness of ETC. This suggests that while healthcare workers may have basic knowledge that is obtained during medical school training, their awareness of ETC is not sufficiently high to effectively manage trauma cases depending on the local and international guidelines for emergency trauma care services [19] [20]. The study by Hyder and Razzak (2015) found that less than 10% emergency medical professionals in Pakistan had inadequate knowledge of trauma care, which was attributed to insufficient training and lack of continuous education [21]. Likewise, different literatures have reported that medical staff have low awareness of trauma care protocols, leading to delayed and suboptimal management of trauma victims [1]-[4] [21]. The low awareness of specific matter in this study could be attributed to factors including limited training in trauma care, since 64.06 % of participants in this study had not received any specialized training in trauma care, which aligns with findings from other studies indicating the need for more focused continuous education on trauma management to the health care providers [4] [11].

Despite the study showing low ETC awareness among the HCP, most of the participants seem to have significant frequencies of trauma patient contact whereby 56.1% have at least daily contacts. This does not correlate with only 4.17% of the participants who have strong awareness of ETC. The high frequency of trauma patients emphasizes the need to improve the human resource capability in order to have adequate and recommended trauma care delivery according to WHO guidelines [2] [8].

Out of all respondents 31.1% reported that the factors affecting trauma care include inadequate staffing while inadequate equipment was reported by 25.5% of respondents. Insufficient trauma care awareness, inter-departmental communication and insufficient prehospital care were other factors reported to be affecting trauma care successively at SFRRH. The findings become similar to what was reported in the literature [6] [7] [9] [11] [15] [22]. This study gives a summary of areas needing improvement to enhance emergency management at this hospital. These findings are similar to what has been reported by other studies as well which strongly highlight the need for continuous training and the availability of essential equipment to improve emergency response [11] [23] [24]. Additionally, there is a need to improve pre-hospital care as the component of essential trauma care in limited areas particularly in Rural health facilities, as it is recommended in ETC guidelines [8].

6. Conclusion

Trauma care at Saint Francis Regional Referral Hospital is very promising but with significant gap to be improved particularly awareness of essential trauma care among healthcare providers in order to improve trauma care according to the given WHO guidelines. The authors suggest that there is a need to enhance

trauma care regular training and better resource availability and allocation of adequate number of staff in trauma unit, improving interdepartmental communication in order to address the challenges identified. The study findings share the similarities in weaknesses with other health institutes in different areas across the country. However, since the study was done at the single institute, we recommend future intervention studies in multiple institutes while focusing on training, communication, and resource availability to ensure better outcomes for trauma victims.

7. Recommendation

In order to improve ETC at least to the minimal level in limited resources like Tanzania, there should be at least adequate and trained staff on Essential trauma care to all levels of health care in order to improve trauma management outcomes especially in remote areas.

Ethical Considerations

This study was conducted in accordance with the Declaration of Helsinki (as revised in 2013). This includes Cultural sensitivity, informed consent, confidentiality and no harm was expected to happen during study period in order to comply with Good Clinical Practice (GCP) guidelines. The study involved the use of a questionnaire filled out based on the structured objectives including the participant particulars. However, the index numbers were used as the identification of the participants. At the end of the study, the data collection tools (questionnaires) were burned to avoid the possibility of being used in the future by another individual without the participants' will.

Author Contributions

T. K. and C. B.: wrote the paper. B. M.: checked the data. C. B.: data collection instructor, all authors reviewed and approved the paper for submission.

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Conflicts of Interest

There was no conflict of interest in this study.

References

[1] Onyemaechi, N. and Ofoma, U. (2016) The Public Health Threat of Road Traffic Accidents in Nigeria: A Call to Action. *Annals of Medical and Health Sciences Research*,

6, Article 199.

[2] Balushi, A.A., Balushi, Z.A. and Salmani, A.A.A. (2022) Evaluating Trauma Care Capabilities Using the Essential Trauma Care Guidelines of the World Health Organization. *Sultan Qaboos University Medical Journal*, **22**, 58-64.

[3] Yousefian, S., Sohrabizadeh, S., Safi-Keykaleh, M., Eskandari, Z., Faghisolouk, F. and Safarpour, H. (2022) Assessment of Hospitals Preparedness in Road Traffic Crashes with Mass Casualty: The Case of Iran. *Disaster and Emergency Medicine Journal*, **7**, 21-29. https://doi.org/10.5603/demj.a2022.0003

[4] Mac, P.A., Kroeger, A. and Airiohuodion, P.E. (2019) Needs Assessment of Emergency Medical and Rescue Services in Abuja/Nigeria and Environs. *BMC Emergency Medicine*, **19**, Article No. 78. https://doi.org/10.1186/s12873-019-0291-9

[5] Jindal, A. and Mukherji, S. (2005) World Report on Road Traffic Injury Prevention. *Medical Journal Armed Forces India*, **61**, 91.

[6] Adeloye, D. (2012) Prehospital Trauma Care Systems: Potential Role toward Reducing Morbidities and Mortalities from Road Traffic Injuries in Nigeria. *Prehospital and Disaster Medicine*, **27**, 536-542.

[7] Ningwa, A., Muni, K., Oporia, F., Kalanzi, J., Zziwa, E.B., Biribawa, C., *et al.* (2020) The State of Emergency Medical Services and Acute Health Facility Care in Uganda: Findings from a National Cross-Sectional Survey. *BMC Health Services Research*, **20**, Article No. 634. https://doi.org/10.1186/s12913-020-05508-8

[8] Krug, E. (2004) Guidelines for Essential Trauma Care. World Health Organazition.

[9] Härgestam, M., Lindkvist, M., Jacobsson, M., Brulin, C. and Hultin, M. (2016) Trauma Teams and Time to Early Management during in Situ Trauma Team Training. *BMJ Open*, **6**, e009911. https://doi.org/10.1136/bmjopen-2015-009911

[10] Koka, P.M., Sawe, H.R., Mbaya, K.R., Kilindimo, S.S., Mfinanga, J.A., Mwafongo, V.G., *et al.* (2018) Disaster Preparedness and Response Capacity of Regional Hospitals in Tanzania: A Descriptive Cross-Sectional Study. *BMC Health Services Research*, **18**, Article No. 835. https://doi.org/10.1186/s12913-018-3609-5

[11] Alayande, B., Chu, K.M., Jumbam, D.T., Kimto, O.E., Musa Danladi, G., Niyukuri, A., *et al.* (2022) Disparities in Access to Trauma Care in Sub-Saharan Africa: A Narrative Review. *Current Trauma Reports*, **8**, 66-94. https://doi.org/10.1007/s40719-022-00229-1

[12] UNCTAD (2017) Road Safety—Considerations in Support of the 2030 Agenda for Sustainable Development Considerations in Support of the 2030 Agenda for Sustainable Development. Transport and Trade Facilitation Series No. 10. https://unctad.org/system/files/official-document/dtltlb2017d4_en.pdf

[13] Pascal, A. (2023) Road Safety Annual Report 2023. International Transport Forum.

[14] Massaga, F., Washington, L.A., Ngayomela, I.H., Mwami, A.S. and Shabhay, A. (2023) Management of a Road Traffic Accident Poly-Trauma Patient in a Limited Regional Resource Hospital Setting in Tanzania: Review of Literature and Case Report. *International Journal of Surgery Case Reports*, **110**, Article 108764. https://doi.org/10.1016/j.ijscr.2023.108764

[15] Lukumay, G.G., Outwater, A.H., Mkoka, D.A., Ndile, M.L. and Saveman, B. (2019) Traffic Police Officers' Experience of Post-Crash Care to Road Traffic Injury Victims: A Qualitative Study in Tanzania. *BMC Emergency Medicine*, **19**, Article No. 51. https://doi.org/10.1186/s12873-019-0274-x

[16] National, H., Plan, S., Emergency, E. and Services, C.C. (2026) United Republic of Tanzania.

[17] Hamisi, S.H. and Chibololo, J.S. (2023) The Response Practices to Road Accidents in Tanzania. *World Journal of Advanced Research and Reviews*, **17**, 626-633. https://doi.org/10.30574/wjarr.2023.17.2.0322

[18] Magesa, I., Tekie, F., Gingo, W., Karuhanga, T., Mayoka, R. and Sitta, P. (2024) Impact of Land Conflict on Child Health: A Case Report of a Child Injured at Chita Ward. In: *Advancement and New Understanding in Medical Science Vol.* 7, B P International, 1-8. https://doi.org/10.9734/bpi/anums/v7/7233b

[19] Balikuddembe, J.K., Ardalan, A., Nejati, A., *et al.* (2017) Road Traffic Incidents in Uganda: A Systematic Review Study of Five Years Trend. *Journal of Injury and Violence Research*, **9**, 17-25.

[20] Mediterranean, E. and Session, F. (n.d.) Technical Discussion on Road Traffic Injuries: A Growing Public Health Concern. World Health Organization.

[21] Hyder, A.A. and Razzak, J.A. (2013) The Challenges of Injuries and Trauma in Pakistan: An Opportunity for Concerted Action. *Public Health*, **127**, 699-703. https://doi.org/10.1016/j.puhe.2012.12.020

[22] Memon, A., Memon, A. and Gull, Z. (2025) Road Traffic Accidents and Trauma Care in Pakistan: Lessons from the UAE. *INNOVAPATH*, **1**, Article 2.

[23] Machona, P.K., Zulu, J.M., Makasa, M., Meland, E. and Mildestvedt, T. (2025) Are We Ready? Emergency Unit Capacity at Selected District Level Hospitals in Lusaka Province, Zambia: Barriers and Facilitators for Improving Trauma Care: A Mixed Methods Approach. *PLOS Global Public Health*, **5**, e0004382. https://doi.org/10.1371/journal.pgph.0004382

[24] Farooq, M.W., Tahir, M.N., Khatara, J.R., Rehman, U., *et al.* (2023) Road Traffic Injuries: Quality of Pre and Post Hospital Care in Pakistan. *Journal of Positive School Psychology*, **7**, 1327-1340.