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Emergency care in the context of armed conflict: Nurses' perspectives of the essential core competencies

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Abstract

Aim: To identify nurses' perspectives of their core competencies for emergency care in the context of armed conflict.

Introduction: Emergency department's (ED) capacity is frequently overwhelmed by a sudden surge of patients when located near armed conflict. Although emergency nurses are key frontline responders, evidence detailing core competencies needed to work in these areas remains limited.

Method: The study used a cross-sectional survey design and is reported using STROBE guidelines. A validated questionnaire was administered in hospitals near the southern Kingdom of Saudi Arabia and Yemen border, where emergency nurses regularly manage large numbers of patients from armed conflict.

Result: A total of 163 questionnaires were returned (68% response rate). Most participants were female and had more than six years of ED experience. The core competencies for emergency nurses working near armed conflict were identified and highly rated by participants: the highest mean value was 9.47/10 and the lowest was 8.89/10. Analysis revealed regular education, training and drills were needed to provide quality emergency nursing care for victims of armed conflict.

Conclusion and implications for nursing and health policy: This study provides new evidence regarding core competencies in emergency nursing care in the context of armed conflict. The identified competencies should be incorporated into future education, curricula, training programmes and evaluations to enable emergency nurses to function effectively in the context of armed conflict. The findings will assist decision-makers to develop plans and strategies for mitigating risk and improving the future nursing response in similar contexts.

KEYWORDS
Armed conflicts, disasters, emergency nursing, hospitals, nurses, professional competence

INTRODUCTION

Armed conflict is a type of human-made disaster that results in high morbidity and mortality rates (Levy & Sidel, 2016; Mani et al., 2020) and is also associated with unpredictable illnesses, injuries and often overwhelming numbers of casualties. Between 55,000 and 70,000 deaths per year were reported worldwide due to armed conflicts from 2007 to 2012 (Geneva Declaration Secretariat, 2015). In 2014, armed conflict in Syria and violence in other countries including Afghanistan, Iraq, Nigeria and Ukraine recorded the highest death toll since the Second World War (Uppsala Conflict Data Program, 2019). In 2014, 40 armed conflicts were active worldwide, which was the highest number of simultaneous conflicts since 1999

and an increase of 18% compared to 2013 (Uppsala Conflict Data Program, 2019). In Afghanistan, for instance, violence rose steadily after 2013; numbers increased to 26,000 battle-related deaths in 2018, and Afghanistan exceeded Syria as the nation most severely affected by population deaths, forced emigration to flee violence and infrastructure destroyed by the armed conflict (Uppsala Conflict Data Program, 2019). Yemen has also been embroiled in conflict since 2014 and because the Kingdom of Saudi Arabia (KSA) shares a border with this state, the Kingdom has been increasingly exposed to and influenced by ongoing armed conflict in this region (Uppsala Conflict Data Program, 2019).

The large-scale terrorist attacks on the US' World Trade Center and the Pentagon in 2001 were turning points that saw worldwide changes in planning, preparedness and responses to armed conflict (Couig, 2012). Since this time, nurses have increasingly contributed to the relevant evidence and have been relied upon for their willingness to respond to human-made disasters (Couig, 2012). The consequences of armed conflicts include additional pressure on emergency departments (EDs) that already commonly experience workforce and overcrowding issues because of the high number of the general population who require care for injuries and illnesses and the inability to transition patients out of EDs, culminating in long wait times (Putri et al., 2022).

An important issue that has become evident with the increased global hostilities is that nurses' preparedness to manage disasters, including armed conflict sequelae, has not been well-addressed in nursing curricula (Al Thobaity et al., 2017; Mani et al., 2020; Said & Chiang, 2020; Usher et al., 2015). Requirements of nursing knowledge and skills are broad because of the wide spectrum of disasters from natural to human-made incidents. Methods of combat have evolved: Chemical, biological, radiological, nuclear and explosion (CBRNe) agents are now more commonly used in armed conflict for instance than in past wars, but curricula remain relatively unchanged (Veneema, 2019). As a result, emergency nurses have at times been left underprepared for the management of disaster situations (Al Thobaity et al., 2017; Veenema, 2019) and have reported the delivery of patient care in disasters to be difficult (Veenema, 2019). An unprepared nursing workforce can limit the efficiency of local, regional and international response plans and organisational surge capacity and impact the health outcomes of affected populations (National Advisory Council on Nurse Education & Practice, 2021). Organisations that fail to provide adequate education and training for emergency preparedness can negatively impact the outcomes of care (Veenema, 2019).

There is also an issue of nurses' willingness to respond to disaster incidents, with some choosing not to attend work if, for example, they are not guaranteed fitted gas masks or adequate personal protection (Couig, 2012). The potentially devastating consequences of managing victims of armed conflict to themselves and thus, their families' welfare, need to be addressed to optimise emergency nurses' willingness to attend future incidents. This is understood to be critical because emergency nurses play key roles in disaster management, maximising survival, minimising distress and coordinating care (Saudi Commission for Health Specialities, 2016). In KSA, as for most international colleagues, emergency nurses provide rapid assessment, triage, appropriate intervention, ongoing evaluation and discharge or referral of patients, along with education as needed (Emergency Nurses Association, 2017; Saudi Commission for Health Specialities, 2016). They are also expected to manage undiagnosed conditions arising from physical, psychological, spiritual and cultural factors, and provide care in increasingly acute and complex environments (Emergency Nurses Association, 2017). Unfortunately, a lack of disaster knowledge among emergency nurses in KSA has been reported (Al Thobaity et al., 2015).

Despite an increased understanding of emergency nurses' important role in healthcare responses to armed conflict, research-based evidence remains scarce. A scoping review was conducted in 2020 to provide a map of core competency of healthcare providers' roles in armed conflicts (Mani et al., 2020). The review included blast and bullet injuries, CBRNe injuries, disaster plan, command and control, safety, security, personal protective equipment (PPE), decontamination, communication, surge capacity, triage, ambulance services, transportation and frequent drills (Mani et al., 2020). It did not, however, go into detail about the nature of achieving competence when emergency nurses manage victims of armed conflict.

According to a study by Lejonqvist et al. (2012), clinical competence is a continuous process, rather than static, and it occurs in two dimensions: ontological and contextual. Competence is context-specific, such as the necessary ability to effectively manage victims of armed conflict. Emergency nurses must be able to appropriately and safely plan, prepare, respond and assist recovery, but the evidence regarding how emergency nurses should do this is scant. To close this evidence gap and improve the quality and safety of care for victims of armed conflict, it is important to explore the evidence and provide insights into the core competencies of nurses in EDs. Nurses experienced in these settings are in an ideal position to inform the standard of care, education and training for emergency nurses to enhance quality and safe care in the context of armed conflict. Therefore, this study aimed to identify emergency nurses' perceptions of core competencies in the context of armed conflict.

METHOD

Design

The study used a cross-sectional survey and was reported using the STROBE guideline.

Research setting

This study setting was seven Ministry of Health (MoH) operated hospitals in Jazan, KSA, located on the border shared

with Yemen, that regularly received casualties of armed conflict. Due to the number and frequency of presentation of these casualties, the hospitals in Jazan were categorised by the Directorate General of Health Affairs in KSA's MoH as first-line and second-line hospitals according to their distance from the border and conflict zones. The first-line hospitals were closest to the border and were acting as emergency management facilities. This meant they received cases from the armed conflict zones and facilitated patient stabilisation and transfer almost immediately to second-line hospitals. In this study, the setting included three first-line and four second-line hospitals operated by KSA's MoH, providing emergency services free of charge.

Population and sample

A total population of 240 emergency nurses including 35 Regional Backup Nurses for Disaster (RBND) who were mobile emergency nurses, trained specifically in disaster management to work in hospitals that had urgent staffing requirements in ED were eligible for inclusion in this research. The representative sample size of 148 staff to complete the survey was calculated, and convenience sampling was used.

Inclusion criteria

Emergency nurses from EDs and RBND staff within the seven hospitals were eligible for inclusion in the study if they had provided care for patients whose injuries arose from armed conflict. To be included in the study, they required a minimum of a two-year Diploma of Nursing qualification and the ability to read and write in the English language.

Procedure

After the Hospital and University Institutional Review Boards approved the research, participants for this study were recruited. Distribution and collection of the questionnaires were conducted by a Liaison Nurse in the first-line hospitals and the first-named author in the second-line hospitals. Packs were prepared with paper questionnaires and explanatory statements, which were left in the staff tearooms for potential participants to read and complete if they chose. A sealed post box was left in the staff tearooms for returning the completed surveys anonymously. An assistant (recruited on the day of staff transport, with hospital permission) delivered and returned the post boxes to the first-named author at the second-line hospital at which he was stationed. The boxes were emptied every week to a month in the first-line hospitals and every two days to a fortnight at each second-line hospital. The first-named author collected the completed questionnaires from the second-line hospitals, while nursing coordinators emptied the boxes from the first-line hospitals.

Instrument

A previously validated scale on disaster nursing competencies for Emergency Nurses in Saudi Arabia (Cronbach's alpha = 0.98) was adapted for this study (Al Thobaity et al., 2016). Permission to adapt the instrument was obtained from the original study's first-named author, and additional elements informed by literature about armed conflict were added to the original instrument (International Council of Nurses, 2019; Mani et al., 2020).

Competencies are things that nurses should be able to do: 'What do I want my nurses to be able to do?' (International Council of Nurses, 2019). Every competency is a separate measure of practical skill and knowledge supporting nurses' ability to perform their work (International Council of Nurses, 2019).

Validity

The validation process was piloted in two rounds. The first was conducted with two qualified researchers who had experience with the topic. They reviewed the instruments, and very few modifications were made. The second pilot study was also conducted with a small sample of people deemed likely to understand the topic. This panel assessment was conducted to ensure the questions were transparent and representative of the concept. The panels consisted of five experienced clinical and academic disaster/emergency nurses and five emergency nurses who worked in the research setting in KSA. Before data collection, panel members were asked to complete the questionnaires and comment on the instrument content and clarity, and then judge the degree to which the questions answered the proposed constructs (Grove, 2019; Houser, 2015). The instrument was found to be relevant and easily understood, and therefore, no changes were made.

Data analysis

A descriptive analysis was conducted using SPSS v27 software. Competencies were listed from highest to lowest based on their mean scores. Cronbach alpha was calculated to determine the internal consistency estimates of reliability for the competencies, and it was very good (0.986).

Ethical considerations

Ethical approval to conduct this study was obtained from both the Directorate of Health Affairs of Jazan: Research Ethics Committee (Registry no. 119/2019 – approval no. 010/2019) and Monash University Human Research Ethics Committee (Project Number: 20330). Return of the questionnaire was considered consent to participate in the study.

RESULT

Of the 240 potential participants, 163 returned questionnaires, representing a 68% response rate. A total of four questionnaires were considered ineligible and excluded because the participants had only completed the first page of the questionnaire.

Demographic data

Demographic characteristics are presented in Table 1. Of the 159 participants, the majority was female representing 74.7% of the participants.

Emergency nurses' core competencies for the context of armed conflicts

The participants ranked the importance of competencies for nurses working in areas of armed conflict. The scale used for competencies ranged from 0 ('Not at all important') to 10 ('Extremely important'). The competency with the highest score was about using appropriate PPE properly. The following top-ranked competencies were providing the principles of first aid immediately as needed, prioritising patients to maximise survival and managing burns, blast and crush injuries. The two competencies with the lowest scores were working in different geographical areas with unknown or foreign colleagues and developing and maintaining a personal and family preparedness plan. However, all competencies were ranked by participants as 'extremely important' for nurses working in the context of armed conflicts as the highest mean was (9.47) and the lowest mean was (8.89) (see Table 2).

Participants were invited to submit free-text responses in response to the survey questions after they had completed the numerical scoring. In total, they provided several suggestions about the need for regular education, training and drills for management following armed conflict incidents, that they believed would improve the quality of nursing care. Those suggestions were as follows: 'as nurses working in ED, we need regular training and evaluation about disaster management' (Participant 10); 'drills should be made every four months' (Participant 17); 'provide more courses about disaster' (Participant 19); 'good education leads to good result' (Participant 120); 'standardising disaster plans can lead to better nursing care' (Participant 104), and lastly 'intensify courses for this program' (Participant 63).

In addition, knowing the hospital's disaster plan and evacuation process was essential to improve nursing care as recommended by a participant who said: 'educate staff for disaster plan and evacuation' (Participant 104). Likewise, the effective management of surge capacity, including medical supply, equipment and staff, to improve the quality of care for the armed conflict incident was important, as stated by a participant, who said: 'availability of things including medical

TABLE 1 Demographics of the participants.

Characteristics	Frequency	%
Gender		
Female	118	74.7
Male	35	22.2
Prefer not to say	5	3.2
Age		
20–29	69	43.9
30–39	73	46.5
40–49	12	7.6
50–65	3	1.9
Nationality		
Saudi	72	45.9
Philippine	30	19.1
Indian	52	33.1
Other	3	1.9
Highest qualification		
Diploma	51	32.5
Bachelor	102	65.0
Master	4	2.5
PhD	0	0
Years as a registered nurse		
Less than 1 year	14	8.8
1–5 years	52	32.7
6–10 years	49	30.8
11–15 years	33	20.8
> 15 years	11	6.9
Member of Regional Backup Nurses for Disaster team		
Yes	31	21.4
No	114	78.6
Times of participation in drills or real disasters		
Never	30	19.0
Once	40	25.3
2–5 times	41	25.9
> 5 times	47	29.7
Training and/or education about disaster management		
Received	51	33.3
Not received	102	66.7
Qualification in disaster management		
Yes	25	15.9
No	132	84.1
The bed capacity of the hospital		
< 50 beds	64	40.8
51–100 beds	27	17.2
101–200 beds	27	17.2
201–300 beds	2	1.3
> 300 beds	37	23.6

TABLE 2 Emergency Nurses' Core Competencies in the Context of Armed Conflicts.

Items, in response to the question, "A nurse should be able to"	Mean	SD	Skewness		Kurtosis	
			Statistic	SE	Statistic	SE
1. Use appropriate personal protective equipment properly	9.47	1.113	−3.853	0.195	22.566	0.387
2. Provide the principles of first aid immediately as needed during a disaster	9.38	0.993	−1.636	0.194	2.276	0.386
3. Prioritise patients to maximise survival	9.38	1.082	−2.097	0.196	4.784	0.390
4. Manage burns, blast and crush injuries during a disaster	9.36	0.971	−1.433	0.196	1.072	0.390
5. Perform decontamination following appropriate procedures	9.35	1.162	−2.581	0.194	10.127	0.386
6. Maintain personal safety and safety of others during a disaster	9.34	1.256	−2.665	0.195	9.084	0.387
7. Consider and respect patients' cultures, social and spiritual beliefs	9.34	1.131	−2.279	0.196	6.751	0.390
8. Manage the post-death care in a manner that respects the cultural, social and spiritual beliefs of the population as each situation permits	9.32	1.187	−2.472	0.195	7.613	0.389
9. Facilitate reverse triage regarding already admitted patients to free hospital beds, which is known as 'surge discharging'	9.31	1.112	−1.858	0.195	3.018	0.389
10. Maintain an ongoing assessment of patients to determine the need for a change of care	9.31	1.072	−1.510	0.195	1.326	0.387
11. Implement appropriate nursing interventions, including emergency and trauma care, in accordance with accepted scientific principles	9.30	1.130	−1.613	0.196	1.744	0.390
12. Understand the purpose of a disaster plan	9.30	1.356	−2.605	0.194	8.118	0.385
13. List the appropriate steps for requesting psychological first aid for responders, patients and other survivors	9.29	1.099	−1.609	0.197	1.967	0.392
14. Apply the basics of infection control practices from the existing resources during disaster management	9.29	1.214	−2.099	0.195	5.414	0.389
15. Apply critical, flexible and creative thinking to create solutions in providing nursing care to meet the identified and anticipated patient care needs resulting from the disaster	9.28	1.114	−1.596	0.195	2.019	0.387
16. Facilitate and perform patient transport effectively and safely during a disaster	9.27	1.299	−2.739	0.195	11.062	0.389
17. Assist in developing recovery strategies by evaluating nursing responses during disasters to improve future disaster responses.	9.26	1.163	−1.763	0.195	3.017	0.387
18. Demonstrate the ability to understand and work within an incident management system	9.26	1.381	−2.618	0.195	7.782	0.387
19. Demonstrate an ability to communicate with ambulance services as needed immediately	9.25	1.307	−2.580	0.195	8.337	0.387
20. Work with appropriate individuals and agencies to assist survivors in reconnecting with their family members	9.25	1.126	−1.479	0.195	1.518	0.387
21. Identify common human stress reactions during a disaster	9.24	1.276	−2.656	0.197	9.891	0.391
22. Understand the components of disaster management and use them for an event, exercise or drill	9.24	1.553	−3.145	0.193	11.518	0.384
23. Identify vulnerable populations and to coordinate activities to reduce the risk	9.21	1.410	−2.566	0.194	7.882	0.386
24. Recognise the disaster plan in the workplace and understand the role in the workplace at the time of a disaster	9.21	1.410	−2.449	0.193	7.186	0.384
25. Describe the phases of the disaster management continuum: prevention/mitigation, preparedness, response and recovery/rehabilitation	9.21	1.294	−2.309	0.194	7.023	0.386
26. Maintain and match the antidote and prophylactic medications to particular chemical or biological agents	9.20	1.355	−2.051	0.195	4.440	0.387
27. Serve as an advocate for survivors in meeting long-term needs	9.19	1.166	−1.614	0.195	2.316	0.389
28. Identify and communicate important information to appropriate authorities immediately	9.19	1.353	−2.092	0.195	4.612	0.389
29. Maintain knowledge in areas relevant to disasters and disaster nursing	9.18	1.590	−2.595	0.193	7.072	0.384
30. Use recordkeeping processes to ensure continuity of patient information	9.17	1.180	−1.811	0.195	4.648	0.387
31. Use specific communication tools during a disaster	9.17	1.338	−2.010	0.194	4.229	0.386
32. Identify human behaviours that put individuals at risk during a disaster	9.15	1.385	−2.096	0.195	5.222	0.387

(Continues)

TABLE 2 (Continued)

Items, in response to the question, "A nurse should be able to"	Mean	SD	Skewness		Kurtosis	
			Statistic	SE	Statistic	SE
33. Determine the need for decontamination, isolation or quarantine and take appropriate actions	9.15	1.436	−1.852	0.194	3.048	0.386
34. Understand terminology relevant to disasters	9.15	1.404	−2.079	0.193	5.355	0.384
35. Understand the nursing laws, policies and procedures relevant during a disaster	9.13	1.335	−2.162	0.194	6.224	0.385
36. Participate in creating new guidelines for nursing practice in disaster	9.11	1.312	−2.075	0.195	5.843	0.387
37. Identify the signs and symptoms of exposure to CBRNe agents	9.09	1.384	−1.984	0.194	5.124	0.386
38. Participate in processes of securing adequate personnel, supplies, equipment and space for patient care, which is also known as 'surge capacity'	9.09	1.487	−2.231	0.194	5.711	0.386
39. Describe strategies for allocating scarce resources in an ethical manner to optimise population outcomes during triage and treatment	9.08	1.419	−2.211	0.196	6.071	0.390
40. Understand the major classes of CBRNe agents	9.08	1.381	−1.934	0.195	4.642	0.387
41. Describe the principles of crisis communication in crisis intervention and risk management	9.08	1.493	−1.839	0.194	3.031	0.385
42. Understand and adhere to the plan in case of hospital functional collapse due to a shortage of fuel or electricity shutdown	9.07	1.558	−1.923	0.194	3.424	0.386
43. Provide up-to-date information to the disaster response team regarding healthcare issues and resource needs	9.05	1.512	−2.033	0.195	4.691	0.389
44. Provide defensible solutions to a series of ethical dilemmas arising in a disaster	9.03	1.336	−1.735	0.194	3.291	0.386
45. Manage and supervise volunteers	9.03	1.319	−1.768	0.195	3.782	0.387
46. Work in different geographical areas with unknown or foreign colleagues	8.89	1.573	−1.835	0.192	3.850	0.383
47. Develop and maintain a personal and family preparedness plan	8.89	1.630	−2.148	0.193	5.589	0.384

supply, equipment, and enough staff will help to improve the quality of patient care' (Participant 104).

DISCUSSION

A total of 47 ED nurses' core competencies in the context of armed conflict were identified. These competencies reflect the complex nature and broad spectrum of armed conflicts that may result in disaster. The contexts in which armed conflicts occur are frequently complex, and the hospitals may be overwhelmed with little warning and at any time by a sudden wave of patient arrivals. The identified competencies are vital for emergency nurses' preparedness. Nurses are expected to have a proficient level of skill and knowledge to undertake all these competencies; however, they are not required to be equal. Nurses can also use their competencies for their self-assessment to prioritise their educational needs.

The current study has highlighted competencies of triaging or prioritising patients to maximise survival, effective management of surge capacity, ethically allocating scarce resources, and applying critical, flexible and creative thinking to develop solutions in providing nursing care. These competencies are significant for emergency nurses to triage patients rapidly and provide the best possible care for any number of casualties and maximise survival, often with inadequate resources. Triage in armed conflict and disasters more broadly is considerably different from triage in the non-disaster-affected emergency setting. When working in the context of armed conflict, it is essential to adapt to the situation and uphold the required competencies (Trelles Centurion et al., 2017).

The security and safety of nurses are vital in the context of armed conflict, as they are everywhere. Globally, nurses and other healthcare providers in armed conflict settings are being threatened, detained and killed. In Syria, for instance, from the start of the conflict until December 2017, 847 healthcare providers were killed (Bou-Karroum et al., 2020). In Afghanistan, approximately 92 attacks have occurred against healthcare facilities (Bou-Karroum et al., 2020). In Syria and Iraq, many healthcare providers have fled their home countries, which has resulted in a shortage of staff, resources and has further complicated the delivery of healthcare services (Bou-Karroum et al., 2020). Hence, the current study highlights the importance of the following competencies as essential or 'core' to the role of emergency nursing near armed conflict areas: maintaining personal safety and other safety; maintaining a personal and family preparedness plan; identifying human behaviours that put individuals at risk; and identifying common human stress reactions during a disaster. Nurses need to prepare themselves holistically using a range of appropriate approaches for themselves and their teams.

Hospitals may be overwhelmed suddenly by waves of patients from areas of armed conflict, and sometimes it is difficult to identify patients' histories. Patients may have infections or have been exposed to CBRNe weapons that need urgent,

but cautious action. Fortunately, various competencies concerning emergency nurses' safety were highlighted, including knowing the basics of infection control practices, knowing the major CBRNe agents, understanding the signs and symptoms of exposure to CBRNe agents, understanding antidotes and prophylactic medications to chemical or biological agents, determining the need for decontamination, isolation or quarantine and, finally, being able to perform decontamination following appropriate procedures. Participants argued that nurses should use PPE for all patients. Also, the competency of using appropriate PPE correctly was ranked the highest-scoring competency by the study participants.

The ICN stated that basic nursing knowledge is vital for all nurses for the successful treatment of casualties during a disaster (International Council of Nurses, 2019). Results from the current study suggest the competency of providing first-aid principles immediately as needed was the second-highest ranked score for these experienced emergency nurses. Other relevant competencies highlighted by participants included implementing appropriate nursing interventions using emergency and trauma care resources, maintaining continuous assessment of patients to determine the need for a change of care, and understanding the burns, blast and crush injuries common in armed conflict. In addition, the fundamental competencies of emergency and trauma care are vital for emergency nurses when managing armed conflict, and it is reasonable to assume that they already possess those competencies (Veenema, 2019).

Communication, including documentation, is a vital part of disaster response as it conveys essential information between individuals and organisations (International Council of Nurses, 2019). However, overwhelming surges of large numbers of casualties of armed conflict may impact routine care and communication. Fortunately, the communication competency was recommended by ICN (2019), and the current study highlighted various communication competencies in the context of armed conflict. These included using specific communication tools, providing up-to-date information to the disaster response team, identifying and communicating important information to appropriate authorities immediately, communicating with ambulance services immediately as needed, and working with appropriate individuals and agencies. These competencies facilitate communication with an interdisciplinary team and enable work with the incident management system. Moreover, investigating the international emergency nurses' awareness of patients' culture and beliefs in the armed conflict context is significant.

Documentation during a disaster incident is essential to improve the quality of patient care. However, during the influx of armed conflict patients, regular routines may be limited. A recent study about terrorist attacks concluded that the registration of patients during disasters needs improvement (Murphy et al., 2021). In recognition of this difficulty, the current study highlighted the competencies: 'describe the principles of crisis communication in crisis intervention', 'risk management' and 'use recordkeeping processes to ensure continuity of patient information' to help mitigate these documentation issues.

Implications for nursing and health policy

Although no standardised instrument is available to measure emergency nurses' core competencies in the context of armed conflict, the present study utilised a validated instrument administered in the context of real and ongoing armed conflict. The results may, therefore, be applied to similar settings and contexts and further tested and developed. The present results support that emergency nurses need regular education, training and drills to maintain these competencies and improve their future responses to casualties of armed conflict. Future research to investigate the applicability and effectiveness of education, training or drills in the areas of armed conflict is essential.

CONCLUSION

This study has provided new evidence regarding the essential or 'core' competencies in areas of armed conflict. The top-ranked core competencies included providing the principles of first aid immediately as needed, prioritising patients to maximise survival, and managing burns, blast and crush injuries. The necessity to attain these competencies can inform nursing curricula, nursing education and training programmes to enable emergency nurses to function effectively in the context of armed conflict. They are also expected to assist decision-makers to develop plans and strategies for mitigating risk and improving future nursing responses in similar contexts.

LIMITATION

The generalisability is limited to the study setting; however, it may be adapted and applied to similar settings and contexts.

AUTHOR CONTRIBUTIONS

Study design: ZM, LK, VP. Data collection: ZM. Data analysis: ZM, LK, VP. Study supervision: LK, VP. Manuscript writing: ZM. Critical revisions for important intellectual content: ZM, LK, VP.

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CONFLICT OF INTEREST STATEMENT

The authors declare there is no conflict of interest for this study.

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