



## ORIGINAL ARTICLE

# A description of the self-perceived educational needs of emergency nurses in Durban, KwaZulu-Natal, South Africa

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## ARTICLE INFO

## Keywords:

Emergency nurses  
Competency needs  
Educational needs  
South Africa

## ABSTRACT

**Introduction:** Emergency nurses are usually the first to interact with critically ill patients and victims of violence and injuries, and require advanced skills and knowledge to manage such patients. Inadequate training prevents nurses from providing optimal emergency care, and it is important to investigate if there are any skills and competencies lacking in these emergency nurses. We sought to describe the self-perceived educational needs of emergency nurses in Durban, South Africa.

**Methods:** A descriptive quantitative survey was conducted with nurses working in four emergency centres (two state, and two privately funded hospitals) in Durban, South Africa.

**Results:** The survey questionnaire was distributed with a response rate of 79% ( $n = 128$ ). Almost half the respondents (48%,  $n = 61$ ) scored less than the mean score of 29, thus indicating lower competency levels. The majority of respondents (67%,  $n = 85$ ) perceived themselves as highly competent in basic skills (e.g. assess breathing, administer oxygen, assess circulation). Less than half the respondents (45%,  $n = 57$ ) perceived themselves as highly competent in the intermediate skills (e.g. control haemorrhage, assist with endotracheal intubation, manage shock). A large number of respondents (46%,  $n = 59$ ) perceived themselves as least competent in advanced skills (e.g. defibrillation/cardioversion, interpreting an echocardiogram [ECG]). The mean score obtained for educational need was 100, thus reflecting a high educational need, and more than half the respondents (62%,  $n = 79$ ) scored higher than the mean score of 100 for educational needs. The lowest score was 41. Thirty percent ( $n = 38$ ) of the respondents scored 117, indicating educational needs for all the competencies listed. Overall, 72% ( $n = 92$ ) agreed that emergency education was a need.

**Discussion:** The study emphasises the need for support systems for educational development of emergency nurses. Further training in specific skills and competencies may enhance emergency care provided. There is a growing need for ongoing educational development of emergency nurses in South Africa.

## African Relevance

- Emergency nurses are usually the first to interact with critically ill or injured patients.
- Emergency nurses require advanced skills and extensive clinical knowledge to be able to manage these patients.
- There is a great need for ongoing educational development of emergency nurses in South Africa.

## Introduction

South African emergency centres (ECs) are overwhelmed with patients 24 hours a day. Pressure on their services is intensified by high acuity levels in patient conditions that range from polytrauma to

multiple medical diagnoses. South Africa's quadruple burden of disease includes non-communicable diseases (33%), HIV/AIDS and tuberculosis (TB) (25.5%), injuries/violence (11.5%), and maternal and neonatal mortality (21.7%) [1,2]. Trauma is one of the leading causes of unnatural death and disability in South Africa (SA), with increasing costs that affect the economically active societies [3]. In SA, 28 per 10,000 people perish as a result of road fatalities, with 40 persons dying each day [4].

Emergency nurses are at the forefront of hospital service provision and are often the first to interact with and care for ill and injured patients; their role in ensuring high quality of emergency care is thus of crucial importance [5]. For this, they need to have had adequate training in appropriate competencies and skills [6]. They must apply clinical judgement to continuously and dynamically changing

Peer review under responsibility of African Federation for Emergency Medicine.

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<https://doi.org/10.1016/j.afjem.2018.03.001>

Received 1 September 2017; Received in revised form 6 February 2018; Accepted 13 March 2018

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circumstances in response to patients' conditions, while prioritising care, coping with staffing shortages, and keeping abreast with technological advancements and ongoing acquisition of emergency skills and competencies. The theoretical and clinical competence emergency nurses are to complete is defined as three stages of learning, namely basic, intermediate and advanced [7,8]. Basic skills and competencies are the essential knowledge an emergency nurse should possess to facilitate optimal level of functioning, such as assessing breathing and circulation, as well as performing cardiopulmonary resuscitation (CPR). Intermediate skills are acquired with experience and increased knowledge, and these include assisting with endotracheal intubation or applying a pelvic wrap. Advanced skills involve the use of knowledge and critical thinking acquired through experience and post-basic training. These include skills such as interpreting arrhythmias and administering thrombolytics [7,8]. In addition to basic, intermediate and advanced skills, they are required to be sensitive and supportive towards the educational needs of patients and their families, covering wellness advice and prevention of injury and illness [9]. Emergency nursing practice requires a combination of theoretical knowledge, past experiences and cognitive domains for accurate and swift decision-making and prioritisation of care. Working in ECs also requires expertise in technology and equipment, awareness of social challenges, and the ability to work with prehospital healthcare providers, as well as expert knowledge in relation to all age groups and all medical and surgical specialities [10,11].

Emergency nursing in the developed world is one of the fastest growing specialities, with the role of advanced practice nurses (APNs) taking on increasing importance worldwide in various healthcare settings, including ECs. The criterion for APNs in the United States is completion of accredited graduate level programmes and maintaining competence as evidenced by recertification [12]. In the United Kingdom, nurses working in emergency centres prescribe and dispense medications using medical treatment protocols centred on evidence-based practice [13]. In a study by Romanzini and Bock [14], supervised training for trauma and pre-hospital care for emergency nurses was found to be lacking in educational programmes even at basic levels, contributing to negative experiences in emergency centres. An Australian study showed the need for scenario-based, context-specific emergency nursing education [15].

Emergency nursing in South Africa, as in the rest of the continent, is still in its infancy [16], however, there has been progress in developing it as a speciality with the establishment of the Emergency Nurses Society of South Africa (ENSSA) and the African Federation for Emergency Medicine (AFEM) Nurses Group. ENSSA serves to promote the advancement of emergency nursing through leadership, collaboration, education, practice development and research [17]. The society is currently leading the way in defining the scope of practice and the core skills for emergency nurses, and, in conjunction with the AFEM Nurses Group, has developed an African Emergency Nursing Curriculum (AENC). Prior to this, there was no consensus on a standardised approach to emergency nursing in South Africa [6].

Emergency nurses require advanced skills and extensive clinical knowledge to be able to manage a wide spectrum of emergency conditions; in Africa, however, such nurses currently face significant challenges [6]. There is limited literature pertaining to South Africa that describes skills and educational needs of emergency nurses. This study aimed to describe the self-perceived educational needs of emergency nurses in Durban, KwaZulu-Natal (KZN), South Africa.

## Methods

A quantitative descriptive survey was used to describe the self-perceived competency levels and educational needs of emergency nurses in Durban, South Africa.

The setting of the study included the ECs of two privately funded and two state hospitals in Durban, South Africa. These hospitals were

randomly selected from a list of state and private hospitals with busy ECs (high acuity levels of patients) that provide 24-h emergency care for patients in the Durban area. Hospital A is an 846 bed, referral only public hospital, the second largest hospital in SA, providing tertiary services to KZN and Eastern Cape. Hospital B is a public hospital with 543 bed capacity. Hospital C is a private hospital with 204 beds. Hospital D is KZN's largest private trauma and EC with an adjacent helipad, and a bed capacity of 464.

The study population was all nurses in the ECs of the four hospitals who were enrolled or registered with the South African Nursing Council. Convenience sampling was used to include all nurses, on both day and night shift, who were available and willing to participate. The population size was 163 (100%), and the response rate was 128 (79%). This excluded staff on vacation or sick leave. Respective totals were 52 respondents for Hospital A, 27 respondents for Hospital B, 22 respondents for Hospital C, and 27 respondents for Hospital D.

The research instrument used was a structured, self-administered questionnaire developed by Rominski et al. [16], who also granted permission for its use. Modifications were made to the demographic data being collected to ensure relevance to the research setting. The demographic questions included gender, highest qualification, designation, day/night shift and length of work experience in the EC. A three-point Likert scale was used to rate current competencies from *least competent* to *highly competent*. Respondents could score between 15 (minimum) and 42 (maximum) for their level of competency. Educational needs were rated using a three-point Likert scale from strongly disagree to strongly agree. Respondents could score between 39 (minimum) and 117 (maximum). The higher the score, the greater the competence and needs.

The face and content validity of the survey instrument was previously assessed by emergency care experts in the United States (US) and Ghana [16]. A previous pilot study using US and South African nurses also indicated that the language and content of the questionnaire was appropriate for nurses who did not have English as a first language [16]. A pilot study was also conducted in the current study among emergency nurses in one of the selected hospitals and no modifications were made to the questionnaire. The results from the pilot study were not included in the data analysis.

Appointments were made with the nursing managers to access their nursing staff in the EC between 6 a.m. and 8 a.m. This was the most convenient time, with low patient numbers, giving staff (day and night shift) adequate time to complete the questionnaire. The research study was explained and permission gained to access the nurses each day over a period of four weeks (July 2015) to be able to access all shifts. Hard copies of the information sheet and questionnaire were handed to each nurse. Respondents completed the survey within 15–20 min and handed them back to the researcher (RD).

Using the Statistical Package for Social Sciences (SPSS), version 23, and the initial assistance of a statistician, descriptive analysis was carried out to provide information on the sample, such as age, gender, years of experience and designation. In the open-ended questions, the respondents were asked to list nursing procedures and equipment that they would like information on to facilitate their educational development. The frequencies of these responses were recorded. A nominal scale was used to document these findings. The second set of analyses addressed the research questions that guide this study, and ordinal scales were used to document these findings. The Chi-square test was used to determine the relationship between the public and private sector in relation to competency levels and educational needs (significance was set as  $p < 0.05$ ).

Permission and approval to carry out the study was obtained from the University of KwaZulu-Natal Ethics Committee (HSS/0309/015M), the Department of Health, and the Research Operations Committee of each privately funded hospital. Participation was voluntary and written informed consent was obtained from each respondent prior to data collection. Respondents could withdraw from the study at any time.

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