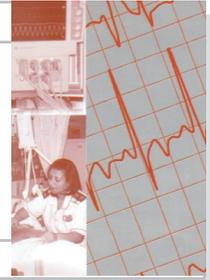


A profile of postgraduate critical care nursing research in South Africa



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It is an accepted premise today, nationally and internationally, that critical care nurses are accountable for setting standards of quality with regard to critical care nursing, and should contribute to the body of critical care nursing practice by undertaking and implementing research.¹⁻³

Critical care nursing research contributes to the advancement of critical care knowledge and promotes better patient care and the adoption of best or better practices,³ all of which address important challenges currently faced by critical care nursing in South Africa.

Every year a significant number of critical care nursing research studies are undertaken at a postgraduate level in South Africa. However, there is no generally available profile of this research and it is generally not known if and where it is published and/or presented.

Given the current challenges to critical care, it is important that the profile of critical care nursing research, the extent to which this research is communicated to the critical care community, and the communication channels used are determined.

Methodology

The aim of the study was to compile a profile of postgraduate critical care nursing research completed in the nursing departments of South African universities during the 6-year period 2000 - 2005 and to determine the extent to which this research contributes to the development of a unique body of specialist South African nursing knowledge.

The objectives of the study were to:

- determine the number of projects completed at masters and doctorate levels respectively
- determine whether there has been an increase or a decrease in the number of research projects that have been completed over the 5-year period
- determine the focus of the research (e.g. clinical, education, management)
- determine at which national and international forums the research has been presented, and

- determine in which publications the research has been published.

A quantitative research design was used. Approval to conduct the study was obtained from the Ethics Committee of the University of the Witwatersrand.

A purposeful sampling method was used in this study:

- all the universities that offer a postgraduate programme in critical care nursing were invited to take part; and
- all postgraduate research projects that were completed during the 6-year period 2000 - 2005 were included.

The respective critical care nursing postgraduate programme leader at each university was asked to complete a 'participant's information and consent form'. Only the nursing departments that gave consent were included in the study.

The critical care nursing programme leader at each university completed an electronic questionnaire. The questionnaire asked the following questions:

- title of each research project completed during the study period
- the final submission date
- whether the research completed was for a masters or doctorate level programme
- the focus of the research (e.g. clinical, education, management)
- whether the research was published and the details thereof, and
- whether the research was presented and the details thereof.

The data were entered into a database and analysed using descriptive analysis techniques.

Study results

Postgraduate critical care nursing programmes are offered at 10 universities and all the universities took part in the study. During the period 2000 - 2005 three doctorate projects and 74 masters projects were completed. The majority of the masters projects were

mini dissertations or research reports. The contribution of the different programmes varied and 65% of the masters projects were completed at four of the universities.

No trend of an increase or decrease in the number of completed projects could be identified for the 6-year period (Table I).

Year	Number of completed projects
2000	7
2001	16
2002	9
2003	24
2004	7
2005	13

The question pertaining to the focus of the critical care nursing research project was in most cases not answered appropriately because many of the persons responding to the questionnaire were not intimately involved with the specific studies and could therefore not definitively classify the research without investing considerable time and effort. Judging by the responses it would seem that the majority of the projects had a clinical focus.

It is also notable that only one programme leader maintains a primary research focus area dealing with the requisite knowledge of critical care nurses. Conversely, some of the other programme leaders accepted research topics from a broader spectrum of interests.

Only 14 (18.2%) of the 77 projects were presented at national and international congresses. To date the results of 12 (15.6%) of the 77 projects have been published.

Discussion

Internationally there is an acknowledgement that nursing research, and specifically nurse-led intervention research, is making a significant contribution to the advancement of quality health care.⁴

Currently there is a movement to introduce advanced nursing practitioners in critical care units in South Africa. Internationally it is the accepted norm for advanced practitioners to have postgraduate qualifications. The South African national audit of critical care resources (Critical Care Society of Southern Africa, Audit of ICU and High Care Resources in South Africa, 2005 – unpublished) revealed that there were 444 critical care and high-care units in the public and

private sector in June 2003. Although not all these units will employ an advanced nursing practitioner, there is nevertheless a major shortage of suitably qualified nursing practitioners, which implies a need for more critical care nurses to obtain appropriate postgraduate qualifications.

It is also generally known that critical care nurses with postgraduate qualifications are not involved in direct critical care nursing. Communication with programme leaders indicates that many postgraduate students are frustrated by their career prospects as currently little – if any – professional and financial credit is given for postgraduate critical care nursing qualifications. This acts as a powerful disincentive for enrolling in clinical postgraduate programmes.

Problems in critical care nursing in South Africa have been highlighted at various forums recently. One of the problem areas that has been highlighted by various postgraduate studies⁵⁻⁸ is that in general intensive care nursing staff show alarmingly low levels of the expected knowledge required in order to discharge their day-to-day critical care nursing responsibilities.

There is an urgent need for identification of important research needs/areas in critical care nursing, such as the low level of knowledge of critical care nurses indicated above, and to address these problems with evidence-based solutions. One such initiative is the Clinical Trials Group (CTG), currently being established by the Critical Care Society, which can potentially make a contribution to this process.

The communication of research results is the first step in the process of research dissemination.⁹ Based on the results of this study, only 18.2% of the research projects were presented at national and international forums, and only 15.6% were published. The majority of the articles were published in South African journals of which only one is ISI accredited.

The Critical Care Society of Southern Africa offers financial assistance for its members to present at their annual congress and also offers substantial financial awards for the best respective nursing presentation and the best nursing publication submitted for review. Regardless of these incentives, very few nurses present at congresses and publish their research results.

Certain questions consequently arose:

- Should the Critical Care Society promote their support to disseminate critical care nursing research more actively?
- Why are critical care nurses undertaking postgraduate research?
- Is research done just to obtain a qualification, or is it to contribute to the body of critical care nursing practice?

This study was undertaken as a contribution to facilitate the dissemination of critical care research. A

list of all completed postgraduate critical care nursing research for the period 2000 - 2005 is given in Table II. One of the objectives of the CTG is to formalise and maintain this process of documentation. Such efforts will contribute to critical care teams in units throughout the country becoming aware of evidence available to improve clinical practice. These initiatives will also help critical care educators to improve critical care nursing education and allow authorities and management to address the problems in the delivery of effective critical care services.

This first attempt towards a critical care nursing research database currently only includes postgraduate critical care nursing research conducted at the various South African universities. Next year an attempt will be made to include self-initiated critical care nursing research.

There are barriers that hinder critical care nursing research in South Africa, but we must actively work towards putting measures in place to overcome these barriers. A study by Chaboyer *et al.*³ concluded that Australian critical care nurses are successfully doing

Table II. Completed postgraduate critical care nursing research, 2000 - 2005

University and project title	Year completed	Level	Congress name	Publication details
Nelson Mandela Metropolitan University				
Registered nurses' experience of the withdrawal of treatment from critically ill patient in an intensive care unit	2000	Masters		<i>Curationis</i>
Critical care nursing specialists' experiences of their work environment	2001	Masters		
Nursing accompaniment of parents with an infant in a critical care neonatology unit	2001	Masters		
The lived experience of a patient on a mechanical ventilator	2001	Masters		<i>Health RSA</i>
Registered nurses' understanding and utilisation of neurological assessment	2002	Masters		
The accompaniment needs of the family with a loved one in the critical care unit	2002	Masters		
Nursing management of critically ill patients with herbal intoxication	2003	Masters		
Registered nurses' experience of the withdrawal of life-supporting treatment from critically ill patients	2003	Masters		
The experiences of registered nurses on initial placement in critical care units	2003	Masters		
Registered nurses' knowledge of infection control principles related to the caring for patients on mechanical ventilation	2005	Masters		
Registered nurses' knowledge related to the management of patients with diabetic keto-acidosis	2005	Masters		
Registered nurses' perceptions of factors causing stress in the intensive care environment in state hospitals	2005	Masters		
Stellenbosch University				
Factors influencing the implementation of an effective infection control process in a neonatal intensive care unit	2000	Masters		
A process of quality improvement for outcomes-based critical care nursing education	2001	PhD		
Nursing outcome standards for polytrauma patients with traumatic brain injuries in the greater Mafikeng area	2001	Masters		
Examination of the efficacy of a fast-track cardiothoracic algorithm in a hospital in Dublin, Ireland	2004	Masters		
An investigation into the scope of practice of a registered critical care nurse in a private hospital	2005	Masters		
University of Cape Town				
The lived experience of wives of first-time myocardial survivors during the convalescent period	2001	Masters		
Critical care nurses' experience of the sudden unexpected death of a patient. A phenomenologic study	2003	Masters	CCSSA, Cape Town 2003	
Nurses' lived experience of caring for long-term mechanically ventilated patients in intensive care units	2004	Masters	CCSSA, Sun City 2005	SAJCC
An investigation into the scope of practice of a critical trained registered nurse in the private hospital industry	2005	Masters		

Table II.

Completed postgraduate critical care nursing research, 2000 - 2005 (continued)

University and project title	Year completed	Level	Congress name	Publication details
University of Johannesburg				
Die belewenis van koronêre vatomleidings pasiënte na blootstelling aan 'n pre-operatiewe onderrigprogram	2001	Masters		
Die gebruik van outotransfusies in die kardo-torakale pasiënt	2001	Masters		
Riglyne vir die respiratoriese hantering van die kardo-chirurgiese pasiënt post-ekstubasie	2001	Masters		Health RSA
Standaard van die volwasse pasiënt op druk-gekontroleerde ventilasie in kritieke sorg-eenhede	2001	Masters	CCSSA, Sun City 2001	Health RSA
Toepassings van infeksie beheermaatreëls in kritiekesorgeenhede	2001	Masters		
'n Uitkoms gebaseerde leerbegeleidingsbenadering vir die preceptor in intensiewe sorg-eenhede	2002	Masters		
Kliniese bevoegdheid van die kritiekesorgverpleegkundige tydens die verpleging van 'n pasiënt op 'n IABP	2003	Masters		
The perception of health care professionals regarding blood conservation in the private health sector	2003	Masters		
Verpleeg standaard vir 'n pasiënt met 'n abdominale aneurisme na 'n endovaskulêre stent-herstel	2003	Masters		
The influence of a pre-programme study guide for the diploma in critical care	2005	Masters		
University of KwaZulu-Natal				
Exploring the fear of contracting HIV/AIDS among trauma nurses in KwaZulu-Natal	2000	Masters	International AIDS Congress, Durban 2000	<i>Curationis</i> <i>Africa Journal of Nursing and Midwifery</i>
Exploring the trauma nurse's lived experiences of dealing with violent death of their clients	2000	Masters	CCSSA, Conference Of African Honor Society, Swaziland 2002	<i>Curationis</i> <i>International Journal of Trauma Nursing</i>
Survey of medical doctors' views on cadaveric organ donation and transplantation	2002	Masters	CCSSA, Cape Town 2004	
Witnessed resuscitation – exploring the attitudes and practices of the emergency staff working in level one emergency departments in the province of KwaZulu-Natal	2002	Masters		<i>Curationis</i>
A health system's analysis of the interface between the tertiary and peripheral health care services	2003	PhD	CCSSA, Cape Town 2003 WONCA, Australia 2002 RUDASA, Sabie 2003	
An analysis of patients' awareness and attitude concerning end-of-life issues	2003	Masters		
An exploratory study of the lived experiences of critical care nurses with Muslim traditional illness practices	2003	Masters		
Closed suctioning system of endotracheal tube: The practice and perception of intensive care nurses in UAE	2003	Masters		
Stress among critical care nurses in Abu-Dhabi hospitals	2003	Masters		
The health education needs of the patient and family upon discharge after myocardial infarction	2003	Masters		
The knowledge and practice of ICU practitioners with regard to the instillation of normal saline solution during endotracheal suctioning	2003	Masters		
A descriptive survey of factors that facilitate adherence to haemodialysis therapy among patients with chronic renal failure	2005	Masters		
The development of an intervention model for managing abrupt death trajectories in KwaZulu-Natal level I emergency departments	2005	PhD	CCSSA, Durban 2004	<i>Curationis</i> International Trauma Congress, Durban 2003
The attitudes and perceptions of health care professionals to alternatives to blood transfusion: a case with Jehovah's Witness patients in a critical care setting		Masters		

Table II. Completed postgraduate critical care nursing research, 2000 - 2005 (continued)

University and project title	Year completed	Level	Congress name	Publication details
University of Limpopo – Medunsa Campus				
Experiences of nurses registered for and those who completed the med-surg nursing (crit care)	2004	Masters	CCSSA, Durban 2004	
University of Pretoria				
Information needs regarding cardiac rehabilitation of family members of patients in a hospital in Gauteng	2002	Masters		
Knowledge needs of family members of critical care patients in a hospital in Gauteng	2002	Masters		
The knowledge of acute care nurses working in the critical care units of a Gauteng hospital regarding cardiopulmonary resuscitation	2002	Masters		
Core competencies of the A&E nurse in life threatening situations in the emergency care environment in South Africa	2003	Masters		
Critical care nurses knowledge regarding the most commonly used antibiotics in a hospital in Gauteng	2003	Masters		
Recovery room nurses' knowledge regarding postoperative airway emergencies in adults in private hospitals in northern Gauteng	2003	Masters	CCSSA, Sun City 2005	SAJA
Skills needed by critical care nurses when nursing patients with oncological emergencies in two private hospitals in Gauteng	2003	Masters		
The effects of selected routine nursing procedures on the critically ill patient's metabolism as measured by indirect calorimetry	2003	Masters		
The needs of nurses working in a critical care unit in Gauteng, regarding bereavement counselling	2003	Masters		
The use of nasal cannulas as post-extubation method of oxygen delivery to cardiothoracic surgical patients	2003	Masters		
Ways of coping of registered nurses in critical care units in northern Gauteng	2004	Masters	CCSSA, Sun City 2005	
An educational programme for critical care nurses on the interpretation of ventilator graphics	2005	Masters	CCSSA, Sun City 2005 & Bloemfontein 2006	
Die gebruik van 'n beramingsinstrument vir delirium in die monitering van intensiewesorg pasiënte	2005	Masters		
The perceptions of accident and emergency nurses regarding a structured debriefing programme in a private hospital in Gauteng	2005	Masters		
University of South Africa				
The knowledge of acute care nurses regarding acute coronary syndromes	2000	Masters		
The knowledge of critical care nurses regarding intra-aortic balloon pump counter pulsation therapy	2000	Masters		
Cardiopulmonary resuscitation knowledge of registered nurses working in private hospital wards	2001	Masters		
Die effek van inligtingverskaffing in fase II rehabilitasie proses by heupvervangingschirurgie pasiënte	2003	Masters		
A description of the theoretical and practical experiences of critical care nursing students	2004	Masters		
University of the Free State				
Die bepaling van pasiënte se gemak tydens meganiese ventilasie	2001	Masters		
Die post-operatiewe effek van kardiopulmonêre omleiding op gemete data wat aanduidend van alveolêre gaswisseling is	2001	Masters		
Evaluering van geslote torakale onderwaterdreineringsstelsel in intensiewesorg eenhede	2001	Masters		
Opname van verpleegsorg van pasiënte wat epidurale pynbeheer ontvang	2001	Masters		
The prevalence of cardiac congenital conditions in Universitas Hospital, Bloemfontein	2003	Masters		
The use of sodium bicarbonate in the critically ill cardiothoracic patient	2003	Masters		
University of the Witwatersrand				
Profile of care given to patients with blunt chest injuries during the first 48 hours	2000	Masters		<i>Curationis</i>
Professional support needs of critically ill adult patients	2002	Masters	CCSSA, Durban 2004 & Sun City 2005	

Table II. Completed postgraduate critical care nursing research, 2000 - 2005 (continued)

University and project title	Year		Congress name	Publication details
	completed	Level		
A comparison of two pressure ulcer risk assessment scales in intensive care unit patients	2004	Masters		SAJCC
Comparison of arterial blood gas measurement and pulse oximetry in the intensive care unit	2004	Masters		
Rehabilitation of patients with coronary artery disease: a comparison of lifestyle changes	2005	Masters		
The role of the emergency nurse within pre-hospital and emergency room: An action research	2005	Masters	CCSSA, Sun City 2005 & Clinical Practice on the Edge, 2005	

important research and are effectively disseminating the research results.

Conclusion

Nursing research is fundamental to the development of nursing and the individual nurse. Undertaking and implementing research will ensure that nurses practise evidence-based nursing and that we find novel solutions to our problems.

The universities offering critical care postgraduate programmes and the authorities (public and private) should urgently put in place a career path for nurses with postgraduate qualifications.

Critical care nursing research can make a difference. Critical care nurses must take the responsibility to undertake research, but more importantly research results must be disseminated. This is an objective way to ensure that critical care nurses maintain (and improve) their position in the critical care team.

Note. The information presented in this article was provided to the author by the respective universities. In many cases it was clear that this was the first time such an information request had been received and that the information requested was not readily at hand. If any of the information presented is not fully correct or not up to date, I apologise in advance and ask that the reader assists me in updating the respective data.

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