

# **CHAPTER FIVE**

## **5.0 SUMMARY OF THE STUDY AND CONCLUSIONS**

### **5.1 Introduction**

This chapter presents a summary of the findings in relation to the purpose and objectives of the study, the main findings and the limitations of the study. Recommendations for policy formation, nursing education and practice and future research were based on the findings of this research.

### **5.2 Summary of the Study**

There is a rapidly increasing demand for emergency health care due to violence, substance abuse, political unrest, accidents, trauma, medical emergencies and the lack of adequate health care facilities. According to Goosen et al (2003:705) a Cape Town study showed that 60% of trauma patients had positive alcohol levels, 40% had recently used at least one illicit drug and in South Africa 76% of all interpersonal violence related deaths were shown to be alcohol related. This huge need was indicated by the study where an estimated 1.25 to 2.5 million trauma cases were reported to state hospitals during April 2001 and March 2002 (Violence and Injury Surveillance Consortium (2000:3,4,5,6). The time delays as patients are transferred from level three hospitals or primary health care clinics, offering an inadequate level of health care negatively affect chances for survival in emergencies and increase the level of care required. The demand is not only related to quantity but also to quality of emergency health care services. This, combined with scientific and technological advancements, has created a need for appropriate specialist care. The patient requiring emergency health care is a special patient with special needs.

As a result of military experiences an efficient systematically organized emergency health care system approach was established. The morbidity and mortality profiles of trauma patients with major injuries improved, which resulted in a concomitant evolution of management of medical emergencies. The emergency systems approach required a team whose members had appropriate knowledge and skills, which gave rise to the development of emergency nursing as a speciality. However, the services of these emergency nurses are inappropriately and/or under utilized, due to a lack of knowledge regarding their educational and skills preparation.

Emergency nurses are expected to function at an advanced level, but current legislation has created a deficiency in role clarity, which can lead to role confusion and which can affect the level at which this emergency nurse will practice. This in turn has led to problems regarding patient care and the emergency nurse has become susceptible to infringement of current legislation. The current perception that emergency nurses work is restricted to hospitals, together with unclear professional guidelines and support, has created a problem for emergency nurses who would like to work in the pre-hospital environment where emergency medical technicians or paramedics dominate the services. This situation is a matter of concern as these emergency nurses' educational preparation includes health care to be delivered in the pre-hospital environment. A team approach to emergency health care requires that the team members be adequately trained to render their health care services throughout all the phases of emergency health care need. These factors were the impetus for this study.

Action research was undertaken to co-generate knowledge through collaborative, participatory enquiry which is contextual, with the aim of integration of theory and praxis

to solve the problem identified regarding the roles of emergency nurses and their scope of practice. Through democratic inquiry solutions were sought for resultant self-determination and empowerment of the emergency nurse. This research process is a form of scientific enquiry that presents an adequate scientific trail for rigor, replication and scientific scrutiny. The design was led by the research problem rather than the requirements of a particular methodology, thus including both a quantitative and a qualitative approach. It was found suitable for improvement of educational practice and for initiating/directing change in the existing policy controlling practice. Action research was used in a phased approach to uncover new knowledge to bring about effective organizational change.

The purpose of this study was to explore and describe the role of the South African emergency nurse in the pre-hospital environment and the emergency room, so as to develop guidelines for the education of this nurse and to influence the development of an appropriate Scope of Practice.

In order to meet the above purpose the objectives of the study were:

- to explore and describe the role of the emergency nurse in the pre-hospital environment
- to explore and describe the role of the emergency nurse in the emergency room
- to formulate an instrument that can be used for policy formation, education, training and evaluation.

### **5.3 Main Findings**

As a four phased action research study was undertaken the findings have been presented according to these four phases.

### 5.3.1 Phase One

During this phase consensus data were obtained from an expert emergency nurse focus group interview who agreed that the environment in which the emergency nurse practices includes the pre-hospital environment. Deficiencies were identified in the current educational system, especially with regard to roadwork experience, and suggestions were made by the expert focus group to overcome these.

The roles identified were based on the American ENA's Scope of Practice regarding the scientific process, prioritization, emergency preparedness, stabilization and resuscitation, crisis intervention and provision of care in an uncontrolled environment. The expert focus group added one component that they considered important but not included as such in the ENA's Scope of Practice: prevention, promotion and rehabilitation. This was added, as the emergency nurse renders care in all cycles of health from prevention through to rehabilitation, in accordance with South African health care policies. After analysis of these main-items the expert focus group identified, analysed and clarified roles as sub-items for each main-item within the pre-hospital environment and the emergency room. The numbers of sub-items varied for each main-item. Important information was obtained from the discussions regarding the issues listed below:

- **Inadequate roadwork experience.** The possibility of extending the qualifying course over two years to increase students' clinical exposure was in principle accepted and recommended by all in the group, in accordance with SAQA requirements for registration at level eight.
- **The scientific nursing process.** It was clarified that emergency nursing exists beyond the actions, which take place during the resuscitation, whereby a holistic model of care necessitates the use of the scientific nursing process.

- **The independent, autonomous functioning of the emergency nurse.** The importance of this role within the South African context and the concomitant need to obtain and/or confirm the necessary legislative support for this emergency nurse to practice, were identified.
- **Pharmacological interventions.** The need for pharmacological protocols and recognition of the increased responsibility that accompanies this during emergencies was identified.
- **Defusing.** It was agreed that emergency nurses are not trained to do crisis intervention, nor do they have the time to do so. However, they play a vital role in defusing crises and then appropriately referring the patient.
- **Underlying knowledge.** The knowledge of all relevant anatomy, physiology, pathophysiology and professional practice aspects that enable the nurse to care for any patient and relevant others, requiring emergency care is a fundamental pre-requisite throughout all the identified roles.

### 5.3.2 Phase Two

The expert focus group estimated the relative importance of the main and sub-items in a pair-wise linear fashion through the use of visual analogue scales. A methodology, “Modeling of Human Judgment”, where a Judgment Matrix modeling for main-item and sub-item weights using the general linear model was employed. Weighting scales for each main and sub-item were calculated for use during Phase Four when a quantified instrument was developed.

The expert focus group also did a competency rating by means of a VAS. This was for use in the development of the quantified instrument. The results according to the VAS indicated the following:

- not competent = 0 i.e. 0%
- competent = 0.72 i.e. 72%
- highly competent = 1 i.e. 100%

### 5.3.3 Phase Three

The roles identified during Phase One were used to develop a questionnaire, which was sent to the rest of the emergency nurse population for testing, validation and verification. Despite a low response rate of 22.59% it was considered acceptable owing to the high rate of agreement from the participants, which confirmed the reliability and validity of the findings of the expert focus group.

Analysis of the questionnaires indicated the median for agreement = 96.81%, a mode = 98.94%, average deviation = 3.19 whilst the standard deviation = 4.33. **The highest numbers of disagreement about a role in the pre-hospital environment** were: crowd control = 18.08%, with an agreement = 81.92% and defusing = 15.96%, with an agreement of 84.04%. **The highest numbers of disagreement about a role in the emergency room** were, crowd control = 15.96%, with an agreement of 84.04% and the use of forensic medicine principles = 14.8%, with an agreement of 85.11%. All the additional items identified by the participants were included under those identified by the expert focus group. Therefore the document developed during Phase One was not changed. This eradicated the need to re-weight all the emergency nurses' roles.

### 5.3.4 Phase four

An instrument (**Table 4.12**) was developed from the data identified by the expert focus group during Phase One. It was validated and verified during Phase Three. This can be

used for policy development. This instrument was then quantified, using the scaled weights and the competency rating developed during Phase Two (**Table 4.15 and Table 4.16**). It was developed for use as an educational and evaluation tool. The weighting of each role influences the level of education, training and evaluation. This was exemplified by main-items one versus main-item four, where one is the scientific nursing process with a weighting of 0.094 and four is resuscitation with a weighting of 0.147 (Table 4.13). This indicates that more time and resources should be allocated to education and training for resuscitation as compared to the time and resources spent on the scientific nursing process to enable the emergency nurse in training to meet the requirements for that role. This would also impact on the level and type of evaluations implemented to ensure competency for that role. This is different to common practices in education. A formula has been provided to assist in the use of this instrument for evaluation purposes. The advantage being that it can be used for formative and summative evaluation.

#### **5.4 Discussion of the findings**

**The first two objectives** of the study were achieved during Phase One and Three when the expert focus group identified and clarified the roles of the emergency nurse and these roles were validated and verified by the emergency nurse population. The results of the questionnaire indicated a high level of agreement with the data identified and clarified by the expert focus group, which was: median for agreement = 96.81%, whilst the standard deviation = 4.33. They also accepted that the emergency nurse should work in the pre-hospital environment although experiential time for nurses in training was acknowledged as inadequate.

This role clarification is very significant for emergency nurses as they are independent health care practitioners who are expected to perform role functions at an advanced level and for which they are accountable. It could be used to advance the emergency nurses collaborative role within the emergency health care team thus avoiding the problems being experienced in practice due to a lack of role clarity. The health care needs in South Africa have created an opportunity for emergency nurses to develop their practice as independent emergency primary health care practitioners. This role clarification could assist the process.

The third objective was achieved through Phase One and Three of role identification, clarification, validation and verification. Utilizing the data from these phases an instrument was developed during Phase Four that could be used for policy formation. In this instance, for motivation of an appropriate scope of practice for emergency nurses. The weighting scales developed from the subjective pair-wise comparisons, together with the competency rating done during Phase Two by the expert focus group, were used to quantify the instrument so it could be used for education, training and evaluation of the emergency nurse in training. This could enable the development of a coherent educational strategy that is supported by an adequate framework for practice.

It should be noted that these instruments would require regular review as emergency health care is a dynamic process and emergency nursing must keep abreast of the changes and growth within this specialization and within nursing. This is what action research requires. The information that was discovered must be put into practice to bring about change, which must then be evaluated to assess the change brought about. This cyclical process

will then be repeated to continue to meet the needs of this dynamic emergency nursing speciality.

## **5.5 Limitations of the Study**

Emergency health care involves a collaborative team approach whereby members have overlapping roles that require consideration. The exclusion of opinions of other health care professionals within the emergency health services may have an effect on the application of the results of this research. While the contextual nature of the study excluded the other team members at this level, consultation should be entered into to remove the possibility of any negative impact that might arise.

The small response rate is an academic limitation although the concurrent analysis indicated a high level of agreement. The study could be replicated, or a different methodology employed to achieve a more favorable response. However, the small population and the reality that many emergency nurses are practicing outside South Africa could lead to the same response.

Reliability and validity of action research is still questioned but it draws attention to the complexities and anomalies of the situation being researched and through acceptable internal logic in all phases of the research process it can produce reliable data (Foss & Ellefsen, 2002:247). Researcher involvement may have influenced the reliability of the findings of Phase One but action research supports proximity and involvement as an important source of strength where collaboration is essential for relevant outcomes (Williamson et al, 2004:162). A collaborative and participatory enquiry was essential to production of relevant data, as the problem was common to the researcher and the

population. The involvement of expert emergency nurses was included to improve reliability. Through the process of triangulation, whereby multiple methods of data collection were employed, the data was then validated and verified by the rest of the emergency nurse population. Action research involves reflective validity and was done throughout the research.

The analysis of the data (included under others in the questionnaire) obtained during Phase Three was done by the researcher, which could have created a bias. This data is open for scrutiny and the discussions during Phase One assisted with their grouping.

As this was a contextual study, the results cannot be generalized to other settings but it can provide direction for future research in this and other clinical nursing specialities.

The use of the SG Emergency Nursing Instrument could initially be daunting for many evaluators owing to the calculations required. However, it is anticipated that with appropriate training and repetitive use of the instrument it would become easier. The instrument has not been tested as yet, due to the scope of this study. A recommendation is that it be tested.

## **5.6 Recommendations**

As advanced practitioners, emergency nurses require a clear framework in the form of a scope of practice to guide and legitimise their practice. This scope of practice should clearly define the boundaries of emergency nursing practice for the benefit of educational preparation and practice. Clarification of the roles of the emergency nurse is an essential step towards developing a specific Scope of Practice for emergency nurses. Change in the

current system is crucial, for legislative and developmental reasons. The literature review points out the importance of emergency nurses defining their own practice for self-determination and empowerment. This study offers an opportunity to do so, which would be in accordance with international trends but, more importantly to meet the increasing needs for emergency health care in South Africa. **This process could and should be used by other clinical nursing specialists** to improve the quality of health care services being rendered by them as specialist nurses and to make provision for continuous professional development.

### **5.6.1 Policy formation**

To develop emergency nursing in a coherent manner and for practice to be more clearly defined it is necessary that national training and accreditation be discussed and developed in the context of the nurses' extended/advanced roles and to broaden their scope of practice. The role clarification achieved through this study could be the preliminary phase for development of a policy or framework (scope of practice) for this advanced level of education, accreditation and practice.

Awareness needs to be enhanced regarding the need for change. This information will therefore be communicated to the SANC, as they are the authority responsible for the development of the scope of practice, according to the Nursing Act No. 50 of 1978 as amended. Recommendations will be made to the SGB for the development of appropriate unit standards that should be based on the role clarification. A report will be given to DENOSA as a member of the ICN, to gain their support for this project and to enhance awareness. The research will be published in an accredited South African and international journal of emergency/critical care nursing.

### **5.6.2 Nursing education**

The weighting of the identified emergency nurses' roles indicated that not all roles are of equal importance. This has always been acknowledged but it was not evidence-based. The quantified SG Emergency Nursing Instrument could be used to indicate the relative importance of the various roles and the level of education and training that is required. It must be remembered that emergency health care is dynamic and the weighting can change, likewise, the decisions made regarding the quantification of competency rating. Thus the SG Emergency Nursing Instrument should be seen and used as a living document. Educators have to become critical thinkers and not continue practices known to be flawed.

The collaborative functioning of the emergency team needs urgent attention for improved service delivery at every level. Recognition of the overlapping roles within the emergency team creates an opportunity for different educational systems to be developed with the aim of providing an improved quality of service within an educational system that is more fiscally conscious. Multidisciplinary education and training need to be considered for improved educational preparation and service delivery that is economically feasible.

The educational preparation of this emergency nurse must develop high levels of competency that includes aspects which encourages sound interdependent and autonomous decision-making. Emergency nurses must assume responsibility and accountability for their autonomous practice. This should be based on the knowledge of their role expectations and sound professional decision making, which is supported by appropriate legislation.

### **5.6.3 Nursing practice**

The volume and range of emergency health care require emergency nurses to be highly competent to render health care in an unstructured, unpredictable situation where the possibility exists for legislative infringements. This level of practice requires a clear policy framework that specifies the expected roles of that specialist. This would improve practice standards and decrease the possibility of negligent practice. This role clarification process has created awareness and provided evidence that will enable emergency nurses to develop an appropriate scope of practice. It now becomes the responsibility of all emergency nurses to motivate and assist the relevant authorities to achieve this. The change agents will have to take up the challenge within the context of emergency nursing.

The environment in which the emergency nurse should practice has been clarified. The role of the emergency nurse in the pre-hospital environment should be discussed with other members of the emergency health care team to eradicate the problems that are currently experienced. The discussions held during the study period also indicated the need to increase the roadwork experiences, to enhance the level of competency of the emergency nurse.

The SG Nursing Education Instrument needs to be analysed by the nursing educators for identification of the individual clinical competencies that are required to meet each role (sub-item). This will have to be done on a regular basis to keep abreast of changes within the emergency health care speciality and others and to ensure a high level of competency and holistic nursing practice.

#### **5.6.4 Research**

The introduction of a different method of evaluating needs to be tested to assess whether it will improve the level of competency of the emergency nurse and resultantly practice standards. Testing of the instrument using a case study design could give better results regarding the reliability of its use in practice.

Action research has proved to be useful for this nursing study and could be used more often, considering the caring and curing aspects of nursing that require more than a pragmatic approach to research. It has proven to be a powerful tool, owing to its collaborative, participatory approach, for change and improvement. Credibility and validity can be achieved through the multiple repetitious action research cycles that focus on professional development. Reflective thinking of the researcher and others involved in the research is an essential aspect of this methodology, which allows for richer more valuable data to be produced. One of the factors that increase its usefulness is in the exploration of the data and not only whether a change process occurred successfully (Foss & Ellefsen, 2002:247).

#### **5.7 Summary**

Through this research study collaborative processes were used to identify, analyse and weight the roles of emergency nurses within the pre-hospital environment and the emergency room. A competency rating was also done. From these processes an instrument was developed for use as a policy document to bring about change in the scope of practice, and then quantified to influence education and evaluation practices of the emergency nurse. Therefore, the planned objectives for this study were met in order to improve the

legal framework for practice as well as to provide evidence on which to base the education an evaluation of the emergency nurse.

In our journey into the future emergency nursing services will be revolutionized as technology and knowledge expands. We will have to constructively and continuously reflect upon our experiences as the scope and complexities of our practice expands to meet the demand for a concomitant increase in knowledge and competence.