

CHAPTER 2

RESEARCH DESIGN AND METHODOLOGY

2.1 INTRODUCTION

This chapter offers a more in-depth discussion of the research design and methodology. First, the objectives of the research will be stipulated, followed by the research design and strategies. The research method consists of three phases – each of which will be discussed individually, together with the principles of trustworthiness, validity and reliability. The chapter concludes with the ethical considerations relevant to this research.

2.2 RESEARCH QUESTION

The research question that forms the basis of this study is:

What are the core competencies required by the A&E nurse in order to manage life-threatening situations in the emergency care environment?

2.3 RESEARCH AIM AND OBJECTIVES

The overall aim of this research was to investigate the core competencies needed by the A&E nurse in order to manage life-threatening situations in the emergency care environment.

To reach this aim, the objectives were to –

- investigate the development of A&E nursing in South Africa and internationally
- describe the “emergency care environment” in which the A&E nurse practises
- determine the core competencies required by the A&E nurse in life-threatening situations in the emergency care environment
- make recommendations as to what core competencies are required by the A&E nurse in order to manage life-threatening situations in the emergency

environment – in other words, what competencies should be included in a curriculum for the training of these nurses

2.4 RESEARCH DESIGN AND METHODOLOGY

The research design is the overall plan for collecting and analysing data (Polit & Hungler 1997: 467; De Vos 1998: 123). Research design refers to the researcher's overall plan for obtaining answers to the research problem. It is associated with the structural framework of the study and concerns the planning of the implementation of the study in order to reach the goals set out (Burns & Grove 2001: 223; De Vos 1998: 77). The research design also provides the guidelines and instructions to be followed when addressing the research problem (Mouton 1996: 107; Polit & Hungler 1993: 445). Thus, by thoroughly planning the research design or "blueprint" of the research, it anticipates what the appropriate research decisions should be in order to increase the validity, and to minimise or, where possible, exclude errors within the research (Mouton 1996: 107-108). Research methodology on the other hand refers to the steps, procedures and strategies used for gathering data and analysing the data in the course of the research investigation (Polit & Hungler 1997: 461).

An explorative, a descriptive and a contextual research design were used, including both qualitative and quantitative methodology to investigate the core competencies of the A&E nurse in life-threatening situations in the emergency care environment. To reach the above-mentioned aim and objectives, this research was done in the following three phases:

- Phase 1 – Conceptual (explorative, descriptive and contextual design using qualitative methodology)
- Phase 2 – Empirical (explorative, descriptive and contextual design using quantitative methodology)
- Phase 3 – Interpretative (descriptive and contextual design)

2.4.1 Use of the research designs and methodologies

Each of the above-mentioned designs and methodologies, as well as its uses within the research project, will be discussed.

2.4.1.1 Designs

Three different designs were used in this research, namely an explorative, a descriptive and a contextual design. The rationale for the use of these designs will now be discussed.

a) Explorative design

The explorative research design was used in both Phase 1 and Phase 2. A large portion of research was conducted to explore a topic or provide a basic familiarity with the specific topic (Babbie & Mouton 2001: 79). It was also aimed at exploring the full nature of the phenomenon, how it manifested and other relevant factors (Polit & Hungler 1997: 20).

This research study had to be exploratory in nature as the researcher wished to explore a phenomenon of which very little was known, namely the core competencies of the A&E nurse in life-threatening situations in the emergency care environment. The researcher aimed to explore the dimensions of the research problem through a literature review, an FGI with experts in the A&E environment and a questionnaire sent to A&E nurses (qualified and students) and A&E nursing lecturers in the emergency care environment. The researcher also aimed to acquire new insight into the full nature of the research problem (Polit & Hungler 1997: 20). This method implied that the researcher would be willing to study new ideas and possibilities and would not allow predetermined ideas and hypotheses to direct the research (Mouton & Marais 1990: 45).

b) Descriptive design

A descriptive design was used for all three phases. Babbie and Mouton (2001: 80) state that the major purpose of many social scientific studies is to describe situations and events. The researcher aimed to use description in both the qualitative and quantitative phase. The A&E nurse and his/her professional practice would be described as a phenomenon. The research

study would also be descriptive as it intended to describe the phenomenon accurately within the context, and would be based on the collected data. The concepts would be examined, as well as the relationship or differences between the concepts and some of the other factors, such as the demographical data of the A&E nurse regarding his/her opinion in relation to the research topic.

c) Contextual design

A contextual design was used in all three phases. According to Babbie and Mouton (2001: 272) the researcher aims to describe and understand events within the concrete, natural context in which they occur. The unique context used for the purpose of this research was the emergency care environment within which the A&E nurse functions as a professional person in SA. If one understands the events against the background of the whole context, then one can truly claim to understand them (Babbie & Mouton 2001: 272). It was therefore important to investigate the context within which the A&E nurse practised and to clarify his/her position. In other words, was only the emergency care unit part of the professional practice of the A&E nurse, or were other areas such as the pre-hospital environment and primary health also included? This research was context-bound – it described the core competencies of the A&E nurse in life-threatening situations in the emergency care environment. The research had to take place within the South African context as the survey would be distributed to all the A&E nurses (qualified and students) and A&E nursing lecturers nationally.

2.4.1.2 Methodology

Qualitative as well as quantitative research methodology was used in this research (see Figure 2.1 - A schematic representation of the research methodology). One of the rationales for using a combination of research methodologies was that according to Krueger (1994: 29) a combination of qualitative and quantitative research methodology strengthens the research design. Other rationales for the use of this combination of methodologies will now be discussed.

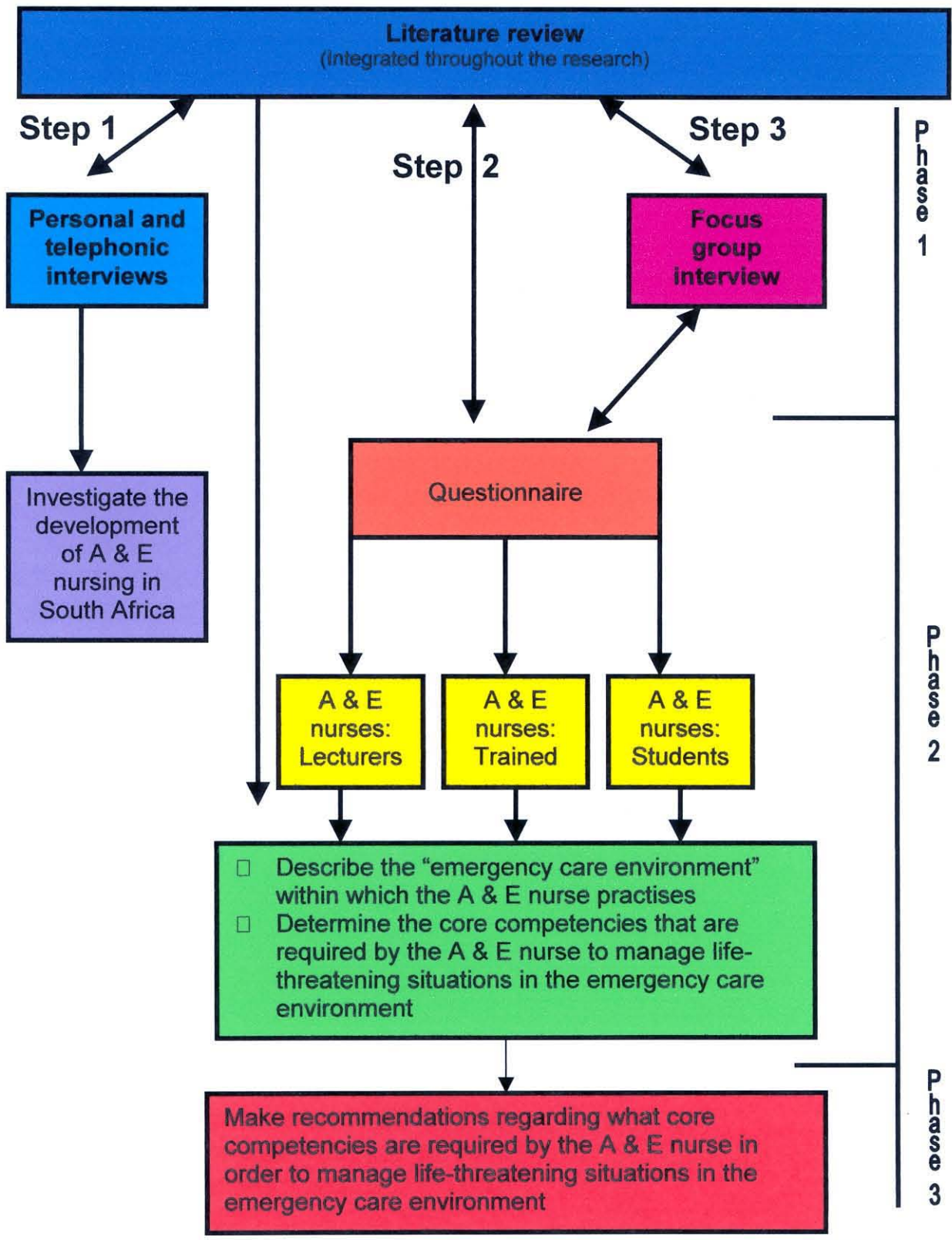


Figure 2.1 - A schematic representation of the research methodology



a) *Qualitative methodology*

During Phase 1 qualitative research methodology was used. Qualitative research is seen as a systematic, subjective approach used to describe life experiences and give them meaning, as well as a way to gain insights through discovering meaning (Burns & Grove 2001: 61). According to Babbie and Mouton (2001: 646) the qualitative researcher studies human action from the insider's perspective and the goal of the research is defined as describing and understanding.

In this study qualitative research was conducted among experts within the emergency care environment to gain a clear understanding of their experiences, perceptions and facts regarding the core competencies of the A&E nurse in life-threatening situations in the emergency care environment. The process of qualitative research was inductive and the researcher had to build concepts from the details obtained from the FGI. By using the FGI prior to quantitative research, the researcher made sure that she discovered the A&E nurses' perceptions of reality within their professional practice. This would ensure that the critical issues were addressed in the questionnaire by asking the appropriate questions – thereby warranting the efficiency and validity of the questionnaire (Krueger 1994: 29). The researcher had decided to include the experts' opinions due to the fact that there was no literature available in SA pertaining to the research problem and because the researcher valued the input of the respondents and their experiences (Parahoo 1997: 60).

b) *Quantitative methodology*

Quantitative research methodology was used for Phase 2 of this research. A quantitative research methodology was used to provide quantifiable data and objective measurement of the data from A&E nurses nationally to explore and describe the core competencies of the A&E nurse used in life-threatening situations within the emergency care environment (Stewart & Shamdasani 1990: 15; Parahoo 1997: 51, 54).

The reason for using quantitative research was that by generating applied research knowledge the clinical practice of the A&E nurse could be improved, ensuring the development of this clinical speciality into a true profession that would be recognised by the different health care givers (Burns & Grove 2001: 38). It would also enable the researcher to make inferences about a larger population (Krueger 1994: 29).

Combining qualitative methodology during the first phase and quantitative methodology during the second phase would ensure triangulation. The researcher would add an additional dimension to the data obtained from the FGI, by discovering the opinions of A&E nurses regarding the topic nationally (Rae 2001: 161).

2.4.2 Phases of the research

As explained above, the research consisted of three phases. The research design and methodology used for each of the three phases will be discussed individually.

2.4.2.1 Phase 1 – Conceptual

The conceptual phase included personal and telephonic interviews with A&E nurses involved in the clinical practice and A&E nurses who were involved in the education of A&E nurses, a comprehensive literature review and an FGI with experts within the emergency care environment. With the help of experts within the clinical environment the aims of this phase were to –

- investigate the development of A&E nursing in South Africa and internationally
- describe the “emergency care environment” within which the A&E nurse practises
- determine the core competencies required by the A&E nurse in order to manage life-threatening situations in the emergency care environment

To enable the researcher to reach the set objectives for Phase 1, the phase was conducted in the following three steps:

- Step 1 – Personal and telephonic interviews



- Step 2 – Literature review
- Step 3 – Focus group interview

This data would be used to provide information regarding the development of A&E nurses in SA in the literature study as well as to compile a questionnaire regarding the set objectives in Phase two.

a) *Step 1 – Personal and telephonic interviews*

i) Introduction

The aim of this step was binomial. Firstly, the researcher would investigate the development of A&E nursing in SA. This would provide insight to the researcher and A&E nurses as to what the reasons were for starting a clinical speciality such as A&E nursing and where the programmes originated. This would also serve as a starting point for collecting contact persons to use during Phase 2 when the questionnaires would be distributed.

Secondly, the problems experienced by A&E nurses within the emergency care environment were investigated to confirm whether they too experienced problems similar to those of the researcher. By gathering more data regarding problems experienced by A&E nurses in the emergency care environment, the researcher would come closer to the phenomenon she was studying and it would increase her insight and familiarise her with the national propensity (Babbie & Mouton 2001: 289). This would increase the reliability of the background to the research project.

ii) Population

The population included A&E nurses who were then or previously involved in the education and/or development of programmes for A&E nurses in SA. A total of nineteen A&E nurses were contacted throughout SA.

iii) Sampling

Snowball sampling, a form of non-probability sampling, was used for this step. Snowball sampling involved approaching a single participant who was involved in A&E nursing and then requesting this participant to identify further

participants that would fit the criteria set out for participants (De Vos 1998: 200; Polit & Hungler 1997: 469). The researcher started by approaching a single A&E nurse involved in the education of A&E nurses from an early stage of development of this discipline. She requested that person to identify other A&E nurses who met the criteria of inclusion, namely A&E nurses that were either at that stage involved in or who had previously been involved in the education and/or development of programmes for A&E nursing in SA (De Vos 2002: 208). The researcher then contacted those A&E nurses and, depending on their physical addresses, either personal or telephonic interviews were scheduled.

iv) Data collection

Data was collected by means of either personal or guided telephonic interviews. A guide containing questions was prepared to make sure the relevant topics were covered. The questions were as follows:

- What was the rationale for the courses started for A&E nurses in South Africa?
- Where was the first course offered for A&E nurses and who presented this course?
- What other courses were offered that you know of and who presented these courses?
- What problems do A&E nurses experience within the emergency care environment?
- Can you identify other A&E nurses whom the researcher can contact to collect more data?

The same questions were asked to all participants. Prompting and probing were used during the interviews to reduce the anxiety for both the researcher and informant and to search for elaboration, meaning and reasons (Holloway & Wheeler 2002: 84). Personal interviews were taped and notes were taken during and immediately after the interview. Permission was asked before taping (Holloway & Wheeler 2002: 86). Notes were taken during the telephonic interviews and then reread to verify the facts. Notes were also taken after these interviews. The researcher terminated the personal and

telephonic interviews as soon as she realised that the data was saturated, in other words, as soon as no new information was received from the participants. The process included nineteen participants.

v) Data analysis

The perceptions and facts of the different participants were analysed and then the results were compared. The problems identified by the persons interviewed were included in Chapter 1 and were much the same as those experienced by the researcher. This research would be based on those problems. The researcher included the data regarding the development of A&E nursing in SA in the literature review (Chapter 3).

vi) Trustworthiness

Trustworthiness refers to the methodological accuracy and adequacy in qualitative research (Holloway & Wheeler 2002: 224). Guba and Lincoln (1985 in Krefting 1991: 215) regard trustworthiness as the method to ensure rigour in qualitative research without sacrificing relevance. Guba's model of trustworthiness (Krefting 1991: 215-217) was used to ensure validity and reliability of the research project. After the definitions of credibility, transferability, dependability and conformability provided below, the application of each of these principles of trustworthiness are addressed in Table 2.1 – Strategies to ensure trustworthiness (Step 1).

-a Credibility

Credibility addresses the question of whether the research has established confidence in the truth of the results, and deals with the question of how the results of the research match the reality within the context of the study (De Vos 2002: 351).

-b Transferability

Transferability refers to the degree to which the findings can be applied to other contexts or with other respondents (Babbie & Mouton 2001: 277; De Vos 2002: 352). Although the findings of this study cannot be applied to other contexts, it will after analysing the quantitative data obtained via the

questionnaire, be applicable to A&E nurses nationally working in the emergency care environment. During this phase the strategies of Guba and Lincoln (1984) will be followed for transferability as cited by Babbie and Mouton (2001: 277).

-c Dependability

The researcher will provide evidence that if the study was to be repeated, the findings will be comparable (Babbie & Mouton 2001: 278; Klopper 1995: 27). Thus, using the techniques outlined in relation to credibility will be sufficient to demonstrate dependability.

-d Confirmability

This entails to which degree the result of the study is the product of the inquiry (Babbie & Mouton 2001: 278; Klopper 1995: 27). An expert supervisor will be involved in the auditing of the research to ensure confirmability.

Table 2.1 – Strategies to ensure trustworthiness (Step 1)

Strategy	Actions	Application criteria
<i>Credibility</i>	Prolonged engagement	Researcher profile: -actively involved in A&E nursing -A&E nurse for total period of ten years -various positions within the emergency care environment (pre-hospital, emergency care unit, management and lecturer)
	Persistent observation	-Consistently pursued interpretations in different ways -Followed a process of constant and tentative analysis
	Referential adequacy	-Use of audiotapes -Use of notes
<i>Transferability</i>		-A&E nurses nationally working in emergency care environment
<i>Dependability</i>	Dependability audit	-Kept personal logs and field notes
	Dense description	-Described research methodology comprehensively
	Peer examination	-Used expert supervisor
<i>Confirmability</i>		-Used expert supervisor



b) *Step 2 – Literature review*

The literature review was performed throughout the research study. The literature review in this research served mainly three purposes. Firstly, it was used to acquaint the researcher with existing knowledge on the subject. It ensured that the researcher discovered the most recent and authoritative theory available on the subject of the research project and enabled the researcher to state why the research project was needed and important for A&E nurses working in the emergency care environment (Mouton 2001: 87; Parahoo 1997: 81). It also warranted that the researcher was thoroughly knowledgeable regarding the topic, understood the nature and meaning of the problem to be exploited, and was able to refine and redefine the aim and objectives of the research study (De Vos 2002: 127, 128 & 267; Parahoo 1997: 82). It also identified gaps in the literature that would be compensated for by the results of this research.

Secondly, the literature review, expounded in Chapter 3, was performed to indicate why the current study was so important and where it would fit into the overall body of knowledge on the topic being researched (Parahoo 1997: 98). The literature review therefore aimed to place the research study in the context of what is already known about the topic (Parahoo 1997: 91). The aim of the literature review was therefore the same as the overall aim and objectives set out for this research (see 1.5 – Research aim and study objectives)

Thirdly, the literature review drew from a body of related research that supported, validated and substantiated the research.

c) *Step 3 – Focus group interview*

i) Introduction

A focused discussion by means of an FGI was predetermined and sequenced after the literature review. The FGI took place in a permissive, comfortable and non-threatening environment (Hollis, Openshaw & Goble 2002: 2; McDaniel & Bach 1994: 4; McDougall 1999: 48; Krueger 1994: 6). The aim of using the FGI was to use experts to guide the researcher as to what to include

in the questionnaire, and to enable the researcher to achieve the following objectives:

- To describe the “emergency care environment” within which the A&E nurse practises
- To determine the core competencies required by the A&E nurse in order to manage life-threatening situations in the emergency care environment

The rationale for using an FGI was that the researcher was looking for a range of shared ideas from experts within A&E nursing as to what the content of a questionnaire should entail regarding the research topic (De Vos 2002: 307). These experts could help to delineate the problems more sharply and provide the researcher with valuable information as to what the core competencies of A&E nurses in life-threatening situations should include. These ideas were then used to compile the questionnaire.

The strength of a focus group was fully used. The group contexts also gave members the opportunity to exchange and explore ideas and made them aware that there was some degree of security in expressing oneself in a crowd (Beck 1986 as cited by Bulmer 1998: 34-36). The ultimate goal was to understand the reality within which the A&E nurse practised in life-threatening situations in the emergency care environment and not to make decisions regarding the content to be included in the questionnaire (Holloway & Wheeler 2002: 111).

Bulmer (1998: 34-36) also cites the view of Stewart and Shamdasani (1990) that an FGI provides rich data concerning human experiences and reflects real life experiences of the members of the group. By design, an FGI relies on the dynamics of the interaction within the group to stimulate thinking and the formation of new ideas, thus incorporating the verbal contributions of the participants concerning the content of the questionnaire (Asbury 1995: 415; De Vos 1998: 316).

Another reason for using an FGI was that the participants would have an opportunity to influence one another, to reflect on what were realistic

questions to ask in the questionnaire, and what A&E nurses perceived as core competencies used in life-threatening situations in the emergency care environment. The participants were also influenced by comments from other participants and made decisions as a group (Krueger 1994: 19 & 34; McDaniel & Bach 1996: 53).

All the above enabled the researcher to obtain relatively cheap qualitative data for compiling a realistic questionnaire and augmenting the validity of the questionnaire that was distributed nationally (Krueger 1994: 35 – 37; McDaniel & Bach 1994: 4).

ii) Population

According to Burns & Grove (2001: 424) the individuals taking part in a research are important resources of information, and as a group the A&E nurses could generate authentic information, superior to individual interviews or efforts to develop this questionnaire.

The explicit selection criteria for the participants included:

- Lecturers in A&E nursing science
- A&E nurses working in provincial emergency care units
- A&E nurses working in private emergency care units
- A&E nurses working in peripheral emergency care units
- A&E nurses as unit managers of emergency care units
- A&E nurses working as clinical preceptors
- A&E nurses working in the pre-hospital environment
- Knowledgeable persons regarding legislation and policy within this context to further enrich the data

The above heterogeneous group provided a diversity of insight, knowledge and perceptions regarding the core competencies required by the A&E nurse in order to manage life-threatening situations in the emergency care environment. This group ensured differences in opinions that would promote a stimulating discussion (Reiskin 1992: 199).

iii) Sampling

A sample is defined as a subset of the target population (Parahoo 1997: 221; Polit & Hungler 1997: 468). The intent when gathering a sample for the focus group interview was to ensure that the group consisted of representative members of the larger population so that conclusions about the population of interest could be reached during the interview (Stewart & Shamdasani, 1990: 53). This method would also provide rich context-bound information, using the inductive approach, when developing the questionnaire (De Vos 1998: 46; Babbie & Mouton 2001: 272).

Snowball, purposive and convenience sampling were combined in selecting participants to participate in the focus group interview. Snowball sampling was defined on page 27. This method of sampling was used to identify expert A&E nurses working within the government hospitals, peripheral hospitals and the pre-hospital environment.

Purposive sampling involved a conscious selection of participants to include in the focus group (Burns & Grove 2001: 376; Polit & Hungler 1997: 466). The researcher decided what specific characteristics the participants should possess and then purposively included those participants in the focus group. By using this type of sampling, the researcher ensured that the focus group included participants with different characteristics. This again maximised the range of information that was obtained within the context in order to compile a high-quality questionnaire.

Convenience sampling may be used during an FGI (McDaniel & Bach 1994: 4). This type of sampling refers to a selection of the most readily available participants for the focus group interview – saving both time and money and not eliminating the need to consider the characteristics of the group (Polit & Hungler 1997: 454; Stewart & Shamdasani 1990: 53). The participants were all from the Johannesburg and Pretoria regions and due to the fact that the questionnaire would be distributed nationally, the researcher felt that this was an appropriate target group.

iv) Data collection

A semi-structured focus group interview was held with 12 experts. Some of these experts were chosen for their varied clinical experience within the A&E environment, therefore fitting more than one of the set selection criteria.

All the participants were carefully selected according to their expertise and knowledge on the topic, thus obtaining rich experiential data from which the questionnaire could be developed inductively (Hollis et al. 2002: 5). The researcher ensured that the participants came from different backgrounds within the A&E environment, reflecting opinions that would promote stimulating discussions (Reiskin 1992: 199). See Table 2.2 – Participants reflected as they relate to set criteria.

Table 2.2 – Participants reflected as they relate to set criteria

Criteria	Experts
Lecturers in A&E nursing science	4
A&E nurses working in provincial emergency care units	2
A&E nurses working in private emergency care units	4
A&E nurses working in the pre-hospital environment	6
A&E nurses working in peripheral hospitals	1
A&E nurses working as clinical preceptors	3
A&E nurses as unit managers of emergency care units	4
Knowledgeable person regarding legislation and policy within this context	1

The focus group of participants were contacted personally or telephonically, followed by a formal letter of invitation (Reiskin 1992: 199). A follow-up telephone call to remind them of the purpose and importance of the FGI and the time, date and place of the meeting was scheduled two days before the meeting (Reiskin 1992: 199; Holloway & Wheeler 2002: 114).

Specific questions and the order in which they appeared were designed before the initiation of data collection by the researcher. These questions were asked during the audiotaped interview. The researcher thereby provided control over the content of the interview (Burns & Grove 2001: 421).

The questions were open-ended, single-dimensional, short and clear and a language comprehensive to the participants was used (Hollis et al. 2002: 6). The questions were asked to stimulate ideas and were thoroughly planned to form one of the most important ingredients for a successful focus group interview (Hollis et al. 2002: 6).

The questions were sequenced in order to allow maximum insight, thereby ensuring that the participants became familiar with the topic, and that each had a chance to recollect his/her personal opinion and to listen to the opinions of the other participants (Krueger 1994: 127). The following three key questions were predetermined by the researcher after considerable reflection:

- What, in your opinion, is the context within which the A&E nurse practise?
- The treatment of the seriously ill patient requires a systematic approach. Identify the components that you would include when treating a patient in a life-threatening situation.
- What specific knowledge, skills, attitudes and values does an A&E nurse require for each of the above-mentioned components?

The main strengths and weaknesses of focus groups as a method of data collection are related to group interaction. In view of this, the choice of facilitator and group construction was a major consideration (McDougall 1999: 48). The questions were asked by a skilful, independent facilitator to stimulate ideas, and the group was allowed to build on responses of others, raise their own questions and question one another (Hollis et al. 2002: 6). The lack of an effective facilitator could result in less assertive group members not fully participating, and dominant group members taking over (McDougall 1999: 49). In contrast, a skilled, effective facilitator could ensure that less assertive members became involved and dominant members did not take over (McDougall 1999: 49). The researcher, who had no previous experience as facilitator, therefore decided to use an independent facilitator, who had vast experience in focus group interview techniques, to lead the session.

Based on Krueger (1994: 100-103) the focus group interview was conducted by an independent registered nurse. This person was a psychiatry-nursing specialist, as well as a competent interviewer with the following skills:

- Comfortable and familiar with group processes
- Previous experience of working with groups
- Training in and knowledge of group dynamics
- Excellent communication skills
- Self-discipline
- Mild and unobtrusive control over group
- Ability to maintain group enthusiasm and interest for the subject
- Curiosity about the topic and participants
- Respect for participants and acknowledgement of their expertise
- A friendly manner and sense of humour

An independent fieldworker was used during the FGI and the rules as set out by Krueger (1994: 124-125) were explained to her. She had to take full responsibility for all the arrangements regarding the venue, equipment and refreshments provided during the focus group interview. The morning before the interview she was asked to arrange the allocated venue in such a way that all the participants, including herself and the independent facilitator, would be seated around a table, then set up the equipment, which included two tape recorders. She was asked to welcome the participants as they arrived, issuing each with a nametag and showing them their designated seats. She was asked not to take part in the interview and to monitor the recording equipment. She was also asked to take thorough field notes during the interview.

Specific instructions were given regarding the field notes. These notes also had to record the seating arrangement, the order in which people spoke to aid voice recognition from the recording, non-verbal behaviour such as eye contact, posture, gestures between group members, crying or fidgeting, themes that were striking, and highlighting as much of the conversation as possible, just in case both recorders failed (Côté-Arsenault & Morrison-Beedy 1999: 280-283).

At the end of the focus group interview she had to join the facilitator and researcher for a debriefing session. On completion of the questionnaire she was asked to provide feedback on the analysis, which increased the validity of this instrument.

All the participants invited to the focus group interview turned up, a confirmation that A&E nurses in the clinical setting regarded this research study as highly important. As the participants arrived at the venue, they were greeted by the researcher and fieldworker and provided with refreshments (McDaniel & Bach 1996: 56).

The interview was conducted in a quiet room with a round table that allowed all members to be seated around it and therefore be able to see one another (Reiskin 1992: 200; McDaniel & Bach 1996: 56). The facilitator set the mood of the group by creating a non-threatening, warm, accepting, enthusiastic and objective environment, which encouraged all the participants to share their views (Reiskin 1992: 200; Hollis et al. 2002: 3; McDaniel & Bach 1994: 4).

In her opening remarks the facilitator extended a hearty welcome to all the participants, thanking each one for his/her willingness to participate in the focus group interview. An overview of the topic and outline of the purpose of the research were provided and participants were allowed to ask questions regarding the research study (Krueger 1994: 113; McDaniel & Bach 1996: 56; Reiskin 1992: 199).

The fieldworker was introduced and her purpose with taking notes was explained. Permission to audiotape the session was confirmed (Hollis et al. 2002: 3; McDaniel & Bach 1996: 56). Two audiotapes were used during the session in case one audiotape did not record the interview and both audiotapes were visible. Ground rules were set for the period of the interview and the first question was asked to start the interview (Krueger 1994: 113-114).

The facilitator was responsible for ensuring that the established questions were discussed and that all the participants took part in the discussions (McDaniel & Bach 1994: 5). After each participant had answered a question, further pre-established questions were asked, the facilitator ensuring that everybody in the group answered a follow-up question (McDaniel & Bach 1996: 56). The facilitator was aware of cues that participants provided and encouraged them to share their thoughts (McDaniel & Bach 1996: 56). Two essential techniques, namely pausing and probing, were used throughout the interview and were helpful in soliciting additional information from the group (Krueger 1994: 115). At the end of the session a summary of the discussion was provided, seeking verification from all the participants concerning the content of the discussion (McDaniel & Bach 1994: 5). The focus group interview lasted two and a half hours, with one break in between during which refreshments were served.

The focus group interview included five of the six characteristics set out by Krueger (1994: 16), namely that a focused discussion was held with people and that they all possessed the characteristics as set out in the criteria of the population. Furthermore, the focus group interview provided rich qualitative data.

Only one characteristic, namely that a series of groups should assemble, was not applicable to this research project, due to the fact that a questionnaire was developed and would be distributed nationally, which therefore made follow-up groups unnecessary.

v) Data analysis

Krueger (1994: 140) cites Yin (1984: 99) stating that data analysis consists of examining, categorising, tabulating or reorganising the evidence in order to address the initial propositions of the study.

Content analysis was used to determine the meaning of the data gathered in the FGI (McDaniel & Bach 1996: 57). It included verbal communication, non-

verbal communication and observations of behaviour as gathered from the audiotapes and observed by the fieldworker (McDaniel & Bach 1996: 57).

All the tapes and field notes were labeled. The first step was to transcribe the entire interview, and the transcript was used as the basis for analysis. The transcription included laughter and pauses. A large margin was left on the transcript for coding and categorising (Holloway & Wheeler 2002: 116). Transcribing is necessary for analysis and also establishes a permanent record of the interactions that can verify the researcher's conclusion (Reiskin 1992: 200). The researcher augmented the transcript with notes taken by the fieldworker during the interview and the debriefing summaries (McDaniel & Bach 1996: 57). The transcripts were then read to identify the sections that were relevant to the research questions (McDaniel & Bach 1996: 57).

The transcription was read and a coding system for major topics and ideas was developed (McDaniel & Bach 1996: 57; Holloway & Wheeler 2002: 116). Following the coding, the data was organised into various categories (Holloway & Wheeler 2002: 116). Documentation of each step provided evidence of the decision trial, which is an integral part of auditability, confirmability and credibility (McDaniel & Bach 1996: 57).

After agreement was reached with the researcher's supervisor on the categories, labels and definition of themes, the investigator returned to the audiotape to validate the categories based on voice reflection and context (McDaniel & Bach 1994: 5).

The principles set by Krueger (1994: 126-139) were used when analysing the data. The first principle, namely that the analysis should be systematic, was implemented by –

- sequencing the questions to allow maximum insight
- capturing the data by both audiotape and additional field notes
- coding the data
- sending the data, in the form of a questionnaire, to three participants for verification of content

- a debriefing session between the facilitator, researcher and fieldworker immediately after the focus group interview to capture first impressions
- sharing draft copies of the questionnaire with various research experts, for purposes of review, substantiation and comment

The second principle states that the analysis should be verifiable. This was ensured by audiotaping the FGI, taking field notes, providing an oral summary of the key points during the focus group interview, and having a debriefing session with the moderator after the focus group interview.

The following principles were also followed. The researcher stayed focused on the research questions and objectives throughout the analysis, and the analysis was appropriate to the situation. The analysis was straightforward, due to the fact that the patterns were clearly identifiable and minimal differences existed across the group. The researcher knew that the analysis would be time-consuming and therefore scheduled ample time for this purpose. The interview was transcribed immediately after the focus group interview to prevent erosion of the analysis. The analysis did help the researcher in compiling the questionnaire as it confirmed her suspicions regarding the core competencies of A&E nurses in life-threatening situations in the emergency care environment. It also brought new insights, thus augmenting the validity of the questionnaire.

Triangulation of data refers to the multiple methods used to collect and interpret data (Babbie & Mouton 2001: 275). Two methods were used to ensure triangulation as to the content of the questionnaire. The researcher asked feedback regarding the data analysis following the FGI from various sources, including experts within the field of compiling a questionnaire, experts from an A&E nursing environment who were not present in the focus group interview, colleagues and the supervisor. The tapes, a transcription of the interview and the questionnaire were also given to an independent coder to analyse. The independent coder was a nursing researcher familiar with qualitative data analysis. The independent researcher would analyse the

interviews independently of the researcher. After the analysis both would have to reach consensus regarding the reflected data and its accuracy.

After the data analysis a literature control was done whereby information gained from the literature had to be compared with the findings from the present research project in order to determine similarities and differences. These findings were combined and reflected the current knowledge about the phenomena (Burns & Grove 2001: 124). Literature control is a strategy used to ensure trustworthiness of data. The data analysis of the focus group interview is set out in Chapter 4 (see 4.2 – Results and analysis of the qualitative data).

vi) Trustworthiness

Guba's model of trustworthiness (Krefting 1991: 215-217) was used to ensure the validity and reliability of Step 3 in this research. As the aspects of trustworthiness have been described previously (see 2.4.2.1 – Phase 1: Conceptual), the application of these strategies as used during Step 3 are summarised in Table 2.3 – Strategies to ensure trustworthiness (Step 3).

vii) Limitations of focus group interview

The limitations of an FGI, as described by Krueger (1994: 36-37), were overcome in this research project by addressing the negative issues. The researcher took the fact into consideration that group members could influence and interact with each other regarding what they perceived as core competencies. Using a survey with both open-ended and closed-ended questions to verify the perceptions and attitudes of A&E nurses nationally, would, lessen the chance of prejudiced results.

A trained, independent and experienced moderator was used to conduct the focus group interview. The moderator had to ensure that in their discussions the group would focus on the topic, and whenever detours in the discussion occurred, or irrelevant issues were raised, she had to direct the group back to the topic under discussion. Due to the fact that the data would be difficult to

analyse if comments were lifted out of context, the researcher would confirm the data by making use of the national survey. Appointing the specific

Table 2.3 – Strategies to ensure trustworthiness (Step 3)

Strategy	Actions	Application criteria
<i>Credibility</i>	Prolonged engagement	Researcher profile: -actively involved in A&E nursing -A&E nurse for total period of ten years -various positions within the emergency care environment (pre-hospital, emergency care unit, management and lecturer)
	Persistent observation	-Consistently pursued interpretations in different ways -Followed a process of constant and tentative analysis
	Triangulation	-Conducting literature review -Conducting focus group interview -Using independent coder -Using experts to evaluate questionnaire
	Referential adequacy	-Use of audiotapes -Obtaining extensive field notes -Verbatim transcripts -Debriefing summaries
	Peer debriefing	-Questionnaire evaluated by three focus group respondents to confirm content
	Member checks	Participants with varied experience and expertise: -independent coder -four equal status colleagues -expert supervisor -statistician -two non-participant A&E nurses in focus group interview
<i>Transferability</i>	Thick transcription	-Provide rich, comprehensive description of data obtained -Provide research methodology
	Purposive sampling	-Purposively selecting participants -Obtain maximum quantity of specific information

Table 2.3 – (continued)

Strategy	Actions	Application criteria
<i>Dependability</i>	Dependability audit	-Personal logs and field notes will be kept -Use of independent coder
	Dense description	-Describe research methodology comprehensively
	Triangulation	-Compare independent coder's data analysis with researcher's version to ensure correctness -Use more than one source of data
	Peer examination	-Data given to experts within the field to examine -Independent coding -Expert supervisor
	Code-recode procedure	-A consensus discussion between coder and researcher
<i>Confirmability</i>		-Use independent coder -Use expert supervisor

moderator also ensured that appropriate skills and techniques would be used, such as probing and pausing, and knowing when to move to a new topic.

By making use of purposive sampling, the researcher was able to use participants from Pretoria and Johannesburg to participate in the interview. This lessened the time consumed and the costs of the focus group interview. The FGI was conducted in a friendly environment and situated in an area conducive to conversation.

The fact that the limitations were taken into consideration, also increased the trustworthiness of Phase 1.

2.4.3 Development of the questionnaire

The first step was to search the literature for questionnaires or items in questionnaires that could match the criteria set out for this research project. The researcher found no such information.

The layout of the questionnaire is discussed in Chapter 4 (see 4.2 – Results and analysis of the qualitative data; Annexure D – Questionnaire). The sections included in the questionnaire were:

- A covering letter (see Annexure B – A letter of invitation to participate in the focus group interview) explaining the purpose of the study, with clear instructions regarding the completion of the questionnaire and including the researcher's contact details
- Section A – Demographical information
- Section B – Context
- Section C – Advanced life-support skills performed by A&E nurses in life-threatening situations
- Section D – Advanced skills essential for A&E nurses in life-threatening situations to be included in curricula
- Section E – Attitudes and values of the A&E nurse

A pilot study was then conducted by making use of seven A&E nurse students. According to De Vos (2002: 211) a pilot study is the pre-testing of a measuring instrument by trying it out on a small number of people with similar characteristics to those in the population of the research project. The newly constructed questionnaire was handed out to ensure that any errors could be rectified at little cost (De Vos 2002: 177).

The respondents were asked to complete the questionnaire and time was allowed for questions and discussions after completion. An open space was left on the questionnaire for comment and evaluation. The respondents stated that a question should be included to indicate whether the respondent is registered as midwife/accoucheur or not. The respondents stated that A&E nurses registered as a midwife/accoucheur might indicate that supportive management for obstetric emergencies are not necessary to include in the curriculum, whereas A&E nurses who do not have this qualification might feel it necessary. The modifications were made, the questionnaire was presented to the statistician and then distributed to the full sample (De Vos 2002: 177; Babbie & Mouton 2001: 244). The value of making use of a pilot study was to prove the success and effectiveness of the investigation.

The questioner was then used during the empirical phase as described in 2.4.4 – Phase 2 – Empirical.

2.4.4 Phase 2 – Empirical

2.4.4.1 Introduction

According to Polit and Hungler (1997: 469) a survey takes place when the researcher selects a sample of respondents and poses direct questions to them. In this research project the survey was used for descriptive and exploratory purposes (Babbie & Mouton 2001: 232). The literature review and focus interview enabled the researcher to compile a questionnaire. By making use of the previous phase, the researcher had assured a realistic questionnaire and prevented prejudice.

The aims of this phase were to –

- describe the “emergency care environment” within which the A&E nurse works
- determine the core competencies required by A&E nurses to manage life-threatening situations in the emergency care environment

During Phase 3 data would be analysed and it would then be possible to make recommendations regarding what the core competencies of the A&E nurse in life-threatening situations in the emergency care environment should be.

2.4.4.2 Population

The population is a group of people who have some common characteristics, and about whom the researcher wants to draw conclusions (Babbie en Mouton 2001: 100; Polit & Hungler 1997: 464). The population included during this phase consisted of nationally registered nurses, representing –

- A&E nurses with a post-basic qualification in A&E nursing, registered with the SANC
- students at present studying A&E nursing
- lecturers presenting the A&E nursing programme

2.4.4.3 Sampling

A letter was sent to the SANC to determine the number of nurses registered as A&E nurses as well as their contact details. According to a letter received from the SANC (2002) there were only 184 A&E nurses registered with A&E nursing as post-basic qualification. Following a discussion with a statistician and taking into account the relatively small population, the researcher decided to include the total population of registered persons as mentioned above.

Further contact was made with the various institutions presenting the post-basic programme in A&E nursing through lecturers, and students were also asked to complete the questionnaire. The method of including the not-yet-registered A&E nurses as part of the sample, can be seen as snowball sampling (see page 27 for definition).

2.4.4.4 Data collection

The data was collected by making use of a questionnaire consisting of both open-ended and closed-ended questions (see Annexure D – Questionnaire). Burns and Grove (2001: 426) state that questionnaires are printed self-report forms that can be obtained through written responses of participants. By making use of a questionnaire, facts could be obtained from participants regarding the use of certain skills within the emergency care environment, as well as perceptions and opinions regarding the research in question.

The following advantages as proposed by Polit & Hungler (1997: 259) were taken into consideration when deciding on this method of data collection:

- Questionnaires are economical, since they demand less time and energy to administer.
- Questionnaires provide anonymity, which is important to ensure that the respondents are as honest as possible.
- The absence of an interviewer helps to eliminate bias in the responses.

Burns & Grove (2001: 427) confirm the last-mentioned advantage and conclude that questions are presented in a consistent manner to all the participants.

Three methods of distribution were used, namely mailed, hand-delivered and group-administered questionnaires (see Table 5.1 – Copies of the questionnaire distributed and returned). De Vos (2002: 172) states that according to Grinnell and Williams (1990: 216-217) a mailed questionnaire implies that the researcher sends a copy of the questionnaire to each registered A&E nurse, hoping that the respondent will complete and return it. Firstly, the researcher contacted the SANC for a list of the names and addresses of all SANC registered A&E nurses. A list of 184 A&E nurses was received from the SANC. Copies of the questionnaire, each accompanied by a letter of explanation and together with an addressed franked envelope, were mailed to all these A&E nurses (Babbie & Mouton 2001: 259; De Vos 2002: 177). A follow-up letter of encouragement was mailed to all respondents within three weeks after copies of the questionnaire were mailed (De Vos 2002: 177; Babbie & Mouton 2001: 260).

The advantages of a mailed questionnaire are that the costs are relatively low, the target group can be reached nationally, and the respondents are allowed a high degree of freedom when completing the questionnaire (De Vos 2002: 172). Taking into consideration the numerous disadvantages, of which the most important one will be poor response, the researcher may decide to deliver questionnaires by hand or make use of group-administered questionnaires.

For the research in question the response rate for the mailed questionnaires was very low. Only 11 (6%) were returned, in spite of the encouragement letter. One of the reasons for this could be that some of the A&E nurses had already completed the questionnaire that was either delivered by hand or group-administered, and therefore did not return the mailed questionnaire (see next paragraph). Another reason could be that the SANC could not state whether all these nurses were working within South Africa or abroad. With the huge number of nurses with specialised post basic qualifications migrating to other countries, it could possibly have influenced the response rate.

Secondly, the researcher personally delivered 50 questionnaires to A&E nurses working in emergency care units in Gauteng. The questionnaires were delivered by hand to the respondents by the researcher and they were asked to complete them in their own time. After a week the questionnaires were collected from the registered nurse in charge of every unit. The name list of registered A&E nurses, received from the SANC, indicated that 111 (60%) of these A&E nurses were living in Gauteng. The researcher therefore thought it sensible to deliver questionnaires by hand to emergency units in this province, thus obtaining a rich source of data and increasing the return rate. A total of 31 (62%) questionnaires were received back with this method. Response rates might have been high on account of personal contact between the researcher and A&E nurses in the emergency environment when she delivered the questionnaires (De Vos 2002: 174).

The third method used was group-administered questionnaires and a total of 178 questionnaires were distributed in this manner. Lecturers were contacted nationally. Copies of the questionnaire were posted to the individual lecturers and they, as well as their students, were asked to complete the questionnaire. The lecturers were asked to provide each student with a questionnaire that could be completed in his/her own time and then returned to the lecturer the next week. The students were also asked to take questionnaires to their individual hospitals and ask A&E nurses there to complete them. All the questionnaires were collected by the lecturer and then returned to the researcher by mail. The advantage of this method was that time and costs were saved (De Vos 2002: 174).

The researcher also delivered questionnaires to registered nurses in charge of emergency units of a private group of hospitals at their monthly meeting. The aim and objectives of the research were explained to these nurses by the researcher and they were asked to take the questionnaires to their different units, distribute them amongst the A&E nurses employed, collect them from the respondents and return them at their next monthly meeting. A total of 100 questionnaires were distributed in this manner, of which 55 (55%) were returned.

2.4.4.5 Data analysis

The quantitative data was analysed and interpreted with the assistance of a professional statistician. The quantitative variables took on numerical values (De Vos 2002: 225), the data was measured at ordinal level and descriptive statistics were used during the interpretative phase (Brink 1987: 23, 83).

Descriptive statistics allow the researcher to organise the data in such a way that it gives meaning and facilitate insight (Burns & Grove 2001: 499). Numerical descriptive measures provide precise, objectively determined values that can easily be interpreted and compared (Keller & Warrick 2000: 90).

The description of the data was done by means of determining representative characteristics such as frequencies, percentages, means and numbers (N). The data was organised and presented by means of frequency distribution tables, graphs and pie charts.

a) Terminology

The following terminology were used during the analysis of the quantitative methodology:

- *Frequency and frequency distribution*
- *Percentage*
- *Mean*
- *Numbers*
- *Spearman correlation coefficient*
- *Chi-square correlation*

Each of the above-mentioned terms and phrases is briefly described, including the rationale for the use of the Spearman correlation coefficient and Chi-square correlation.

i) Frequency and frequency distribution

The term *frequency* refers to the occurrence of an event, that is the number of times that a result or value occurs (Brink 1987: 32). *Frequency distribution*

refers to the spread of a series of measurements or values grouped into classes, and their corresponding frequencies (Brink 1987: 32).

ii) Percentage

Percentage indicates a fraction with 100 as its dominator (Brink 1987: 18). All percentages that were used to provide results in this research were rounded off to the first decimal.

iii) Mean

The *mean* is the sum of the measurements divided by the number of measurements and specifies the balance point of the distribution (De Vos 2002: 236). The mean was used when the variables were compared in the graphs. Because the mean makes use of every score of the distribution it is the most accurate measure of the central tendency, and therefore the best manner to present a set of data (De Vos 2002: 237; Keller & Warrick 2000: 90). According to Keller and Warrick (2000: 90) the mean can be defined as follows:

$$\text{Mean} = \frac{\text{Sum of the observations}}{\text{Number of observations}}$$

When reporting the mean the researcher rounded it off to the third decimal.

iv) Number

“N” denotes the total *number* of observations (Keller & Warrick 2000: 90).

v) Spearman correlation coefficient

The *Spearman correlation coefficient* indicates the magnitude of a relationship between variables measured on an ordinal scale (Polit & Hungler 1997:469). The Spearman rank correlation coefficient is calculated by first ranking the data and then the Pearson correlation coefficient of the ranks is calculated (Keller & Warrick 2000: 659).

Correlation analysis was used to determine whether there were relationships between the variables used in Section C (*frequency of performance*) and the corresponding variables used Section D (*importance*). The sample statistic used to estimate its value is labelled “ r_s ” (Keller & Warrick 2000: 659).

vi) Chi-square test

The *Chi-square* (χ^2) test was done to determine whether there is a relationship between the respondents working in state hospitals and respondents working in private hospitals regarding the *frequency of performance* of the skills and *importance* of these skills.

vii) Simplify statistics and analysis

To simplify the statistics regarding the relationship between the various hospitals pertaining to the *frequency performance* and *importance* of the skills to be included in the curriculum, the researcher decided to combine the respondents working in the ***provincial hospitals and military hospitals*** and to refer to them as ***state hospitals***, whereas respondents working in ***private hospitals/clinics*** were referred to as ***private hospitals***.

Although the statistics regarding each skill were illustrated in the graphs provided, they were not used to determine the core competencies required by A&E nurses to manage life-threatening situations and were therefore not described in detail. They could, however, provide important research material for future researchers using this study as a basis.

Section C and Section D will be analysed simultaneously. By combining the analyses of Section C and Section D the researcher will be able to determine how often advanced life-support skills are performed (*frequency of performance*) by A&E nurses in life-threatening situations and whether the A&E nurses regard these skills as essential skills (*importance*) to be included in the curriculum.

To simplify the data analysis, the scales of both Section C and Section D were reduced and changed to the following:

- Section C
 - ***Never and at least once a year*** were combined and changed to ***seldom/never***
 - ***At least once a month*** was changed to ***periodically***
 - ***At least once a week and at least once a shift*** were combined and changed to ***frequently***
- Section D
 - ***Strongly disagree and disagree*** were combined and changed to ***disagree***
 - ***Strongly agree and agree*** were combined and changed to ***agree***

2.4.4.6 Validity and reliability

According to De Vos (2002: 166) a measuring instrument should measure what it is actually supposed to measure. Reliability refers to the accuracy and consistency of the measuring instrument (Burns & Grove 2001: 395). Validity of content, face and other methods were used to ensure the validity of the questionnaire. Each of these strategies will be discussed individually.

a) Content validity

Content validity refers to the representativeness of the content of the instrument (De Vos 2002: 167). To ensure the content validity, the researcher made use of the literature as secondary source of data, which is therefore a supplementary validation of the accuracy of the findings. The researcher constructed the questionnaire by making use of the data collected from experts during the focus group interview. The questionnaire was then given to five of the participants involved in the focus group interview, as well as the researcher's supervisor, colleagues with experience of compiling a questionnaire and to the statistician to review. The necessary amendments were made accordingly. Although this method is judgemental, the researcher relied on it to ensure content validity (De Vos 2002: 167).

b) Face validity

De Vos (2002: 167) states that it is important to structure an instrument so that it measures the attributes of the research project and appears to be a relevant measure of these attributes. This was ensured by making use of an expert supervisor and statistician to evaluate the questionnaire on completion.

c) Other methods

A covering letter (see Annexure D – Questionnaire) was attached, explaining the purpose of the study, stating the names of registered nurses who were able to participate in the study and clarifying the implication of obtaining informed consent from a specific participant to complete the questionnaire. The instructions for completing the questionnaire were clear, ensured (see 2.4.4.6 a) Content validity) and included contact details of the researcher to avoid misinterpretation and/or misunderstanding. Open spaces were allocated for elaborating on responses, allowing each respondent to give his/her opinion on the subject (Burns & Grove 2001: 430).

Thereafter a pilot study was conducted, making use of participants similar to the respondents, and amendments to the questionnaire were made accordingly (see 2.4.3 – Development of the questionnaire).

2.4.5 Phase 3 – Interpretative

Research results and analysis of the findings will be discussed in Chapter 4 and the discussions, conclusions and recommendations will follow in Chapter 5. These two chapters will therefore be seen as the interpretative phase of this research.

This phase flowed directly from the first two phases. The researcher would use the facts and opinions obtained during the previous two phases to define the emergency care environment and to make recommendations regarding the core competencies needed by A&E nurses in order to manage life-threatening situations in the emergency care environment.

2.5 ETHICAL CONSIDERATIONS

In the light of the confidential nature of the information obtained in this research, and the possible legal consequences of any breach of confidentiality, the researcher was bound to maintain a high professional standard regarding all issues of confidentiality. Consideration was therefore given to the ethical considerations described by Brink (1996: 40-46) and the Belmont Report quoted by Polit and Hunger (1993: 355-371). The principles of ethics are also supported by Bandman and Bandman (1988: 67), Burns and Grove (2001), Quick (1996: 71-72), Reason and Rowan (1981: xiii-xiv), and Wilkinson and McNeil (1996: 67-69). The ethical considerations, namely the actions and competence of the researcher and the publication of findings were also included in this discussion (De Vos 2002: 69-73).

2.5.1 Informed consent and autonomy

Informed consent and autonomy was discussed in detail in Chapter 1 (see 1.8 – Ethical considerations).

2.5.2 Principle of beneficence

One of the most fundamental ethical principles of this research is that of beneficence, which is encompassed in the maxim: Above all, do no harm. This principle has many dimensions.

2.5.2.1 *Freedom of harm*

Since discomfort and harm may be physical, emotional, spiritual, economic, social or legal, the researcher conducted the research in a safe environment and with sensitivity. Careful consideration was given to framing questions so that they would not inflict any kind of harm.

2.5.2.2 *Freedom of exploitation*

Participants had to be assured that their participation and/or the information that they might give to the researcher would not be used against them in any manner.

The risk/benefit ratio was considered in terms of whether the risks for research participants were commensurate with the benefits for society and the emergency care profession. It is the researcher's honest opinion that this research will benefit society as well as the profession of the emergency care nurse working in the South African society.

2.5.3 Principle of respect for human dignity

This principle involves the following convictions:

2.5.3.1 *Diminished autonomy*

Those individuals with diminished autonomy (in this research, each person that completes a questionnaire) will be protected by not having their names or any form of identification disclosed in any way.

2.5.3.2 *The right to self-determination*

The right to self-determination was guaranteed by ensuring the right of the participant to voluntarily participate in the research or to refuse to disclose information of any kind at any stage of the research. Participants could at any stage ask for clarification about the purpose of the research or any matter concerning the research. Should any person refuse to participate, no means of coercion would be applied.

2.5.3.3 *The right to full disclosure*

The researcher would not withhold the right to full disclosure at any time during or after the research. The full nature of the research, the participant's responsibilities and the likely risks and benefits that could be incurred, would be fully disclosed in writing.

2.5.4 The right to fair and equitable treatment

The participant's right to fair and equitable treatment before, during and after his/her participation in this research, would be ensured by adhering to the following measures:

- Participants would be selected in a fair and non-discriminatory manner, so that any risks and benefits would be shared equitably. The selection of

participants would be based on research requirements, and not on convenience, gullibility or the compromised position of certain types of people.

- People who declined to participate or who withdrew from the research would not be treated with prejudice.
- All agreements between the researcher and the participants would be honoured.
- Participants would at all times be treated with respect and courtesy.

2.5.5 Actions and competence of the researcher

The researcher is ethically obliged to ensure that she is competent and adequately skilled to undertake the research project (De Vos 2002: 69). For this reason the researcher completed a postgraduate programme in research methodology and ensured that an expert supervisor was actively involved in the research project.

2.5.6 Publications of findings

The researcher ensured that the final report of the research findings was clear, objective and accurate. The researcher also tried to stay objective throughout the research project – giving recognition to sources and people consulted and admitting shortcomings. The respondents will be informed about the findings, without impairing the principle of confidentiality to express gratitude and recognition for their participation (De Vos 2002: 72).

2.6 CONCLUSION

This chapter outlined the research methodology implemented in this research project. It included in-depth discussion of the three phases that were used.

In the following chapter the literature review will be discussed.