REGISTERED NURSES’ PERCEPTIONS OF FACTORS CAUSING STRESS IN THE INTENSIVE CARE ENVIRONMENT IN STATE HOSPITALS

by

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Submitted in partial fulfilment of the requirements for the degree of Magister Curationis

in

The Faculty of Health Sciences

at the

Nelson Mandela Metropolitan University

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January 2006
DEDICATION

With love.

To my two sons.

Lutho and Thabiso
ACKNOWLEDGEMENTS

I would like to express my thanks and gratitude to the following people:

- God Almighty, who has provided me with the strength to carry on and complete this study.
- Dr S Carlson, my supervisor, for her expert advice and guidance and endless support during this study.
- Ms S James, my co-supervisor who helped me a lot in the initial stages of the study.
- To all registered nurses who willingly participated in this study. Thank you colleagues, you made this study a success.
- My beloved family – my dearest husband Michael for ongoing support and understanding. My sister Nobonke and her two children, Unathi and Noxolo who prayed for me and supported me throughout the study.
- Ms Bothma, for her typing skills. This study wouldn’t have been completed without you.
ABSTRACT

The complex environment of an intensive care unit is associated with a considerable amount of stress. Intensive care nurses are confronted daily with increasing work demands, emanating from the growing numbers of critically-ill patients; the introduction of highly sophisticated technologies in the intensive care environment; increasing competition between health care institutions; increased work loads; and limited career opportunities caused by, among other things, budget cuts by the government (Janssen, De Jonge & Bakker, 1999:1360). Research has shown that such stressors can result in mental, physical and behavioural stress reactions among nurses (Demerouti, Bakker, Nachreiner and Schaufeli, 2000:454).

The objective of this study is to explore and describe registered nurses’ perceptions of factors causing stress in intensive care environments of state hospitals. The main purpose of the study is to develop guidelines for a stress management programme, to assist registered nurses to cope with the stressors in an intensive care environment.

The research design is placed within a quantitative, explorative and descriptive contextual framework. Validity and reliability in testing and evaluating the research questionnaire are discussed, as well as the ethical and legal considerations relating to this research study.

Findings of the research study will be utilized to assist the researcher in developing guidelines for a stress management programme to assist registered nurses in coping with stress in an intensive care environment.
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CHAPTER 1

OVERVIEW OF THE STUDY

1.1 INTRODUCTION AND PROBLEM STATEMENT

The intensive care environment involves a barrage of stressors. Death and dying, as well as the unpredictable course of action in the clinical situation, are leading stressors, causing a feeling of powerlessness on the part of the nurse (Hudak, Gallo and Morton, 1998:94). The patient’s fight for life appears to be an endless battle for the registered nurses working in an intensive care environment. Registered nurses caring for critically-ill patients are relentlessly exposed to illness, suffering, death and the emotional demands from families regarding their loved ones. These registered nurses are expected to empathize and assist patients and their families in coping with these challenges (Hudak et al, 1998:95). The nature of the work in an intensive care environment imposes tremendous tension and stress on intensive care nurses. In the experience of the researcher, intensive care registered nurses describe the intensive care environment as very “demanding and strenuous”. This could be due to constant noise from the beeping and buzzing sounds of monitors, the lifting of heavy unresponsive patients, some of whom are lying emaciated, mutilated and discoloured because of their illness. According to Woodrow (2000:490) nurses experiencing stress tend to work less efficiently, are more irritable and are unable to help each other. Patients who are admitted to an intensive care environment are trauma-surgical patients, who are often ventilatory dependent and require the constant bedside presence of a registered nurse.

Worldwide studies have been conducted on work-related stress in the health care sector. These studies indicate that nursing personnel have been found to exhibit more of the consequences of work related stress than other professional groups such as teachers, social workers and occupational therapists (McGuire, 2002:402). Omdahl and O'Donnell (1999: 1351) also state that stress and burnout can be very costly to individuals, as well as organisations. Registered nurses in the intensive care environment of the Nelson Mandela Metropolitan hospitals, in the Eastern Cape region of South Africa, are subject to various forms of stressors, which if not dealt with early enough, may result in staff experiencing burnout (compare Hudak et al., 1998:98).
In addition to affecting well-being and health, stress is also identified as a reason nurses leave the profession. In the experience of the researcher, stress is also the reason why many registered nurses have left South African intensive care environments for overseas countries, to look for better working conditions, leaving an increased amount of unfilled registered nurses posts and thus causing gross shortage of human resources. Official recognition of this shortage of registered nurses was made public by the Minister of Health, Dr Manto Shabalala-Msimang, announcing via a press release that 31,000 public sector nursing posts across South Africa were vacant (Geyer (2004) cited in King (2005:1)). According to King (2005:1) this situation is further compounded by reports and evidence from both private and public sector organisations of substantial losses of nursing personnel due to either internal migration, (movement of health care personnel across sectors or out of the health care profession), or to external migration (movement of health care professionals to international destinations).

The South African Nursing Council’s statistical records support the Minister’s statement, stating that an overall increase in the total number of nurses on the registers from 173,703 to 177,721 over the period 1998 to 2003, represent only a modest growth rate of 2,3% and is a matter of concern because the South African population has increased from approximately 42.1 million to 46.43 million over the same period – a growth rate of 10,2%. This means that for a population of 46,43 million people there is a total of 177,721 nurses (registered, enrolled nurses and enrolled nursing assistants) on the registers and rolls. Currently the population per qualified nurse (all categories) nationwide is 261:1; for registered nurses alone it is 480:1 (King, 2005:3). It is likely that the shortage of nursing personnel across South Africa is set to continue.

Some of the contributory factors related to the shortage of registered nurses in South Africa as identified by King (2005:16) were associated with dissatisfaction with working conditions, lack of professional autonomy and population growth. Colavecchio (1982) and Booyens (1985) (cited in King (2005:17)) argue that while nurses complain about the work environment and their working conditions, it is not the patients or nursing work that drive nurses out of the profession. This finding is reinforced by Callaghan (2003) (in King (2005: 20)) who found that other aspects related to the stress of nursing personnel were low remuneration; lack of support for continuing education; limited opportunities for promotion; lack of resources; and job insecurity, all of which contribute to the low morale and high turnover of nursing personnel.
The prolonged time taken by the government to fill vacant posts has led to registered nurses who are left behind to work even harder. This creates high levels of absenteeism in intensive care environments, with registered nurses becoming ill and spending more time off duty. Registered nurses in an intensive care environment work longer hours without, or with minimal, tea breaks. This leads to lack of concentration and unnecessary mistakes being made. Furthermore, allowances such as the intensive care risk allowance and nightshift allowances have been taken away by the government, due to financial constraints. Salary-work imbalances, lack of study opportunities and lack of staff development have caused registered nurses to verbalize their dissatisfaction.

Stress and burnout can increase the economic costs of a health organisation in the form of high absenteeism and labour turnover, and poor quality control. The complex intensive care environment requires skills in the intricate coordination of technical, psychological, and family related dimensions of patient care (Lachman, 1983:109).

Supervisory support can play a substantial role in buffering the deleterious effects of work stressors such as emotional exhaustion and burnout (Stordeur, D’hoore and Vandenberghe, 2001:533). According to European epidemiological studies, stress appears to be affecting approximately 25% of all nurses around the world. This is correlated with the amount of time spent by registered nurses caring for patients with poor prognoses; the intensity of emotional demands posed by patients and their family/relatives; frequent work interruptions; and lack of time to plan and prepare the work that needs to be done (Demerouti, Bakker, Nachreiner and Schaufeli, 2000:455).

According to Toft and Anderson (cited in Stordeur, D’hoore and Vandenberghe, 2001:537) stressful working situations for intensive care registered nurses stem from the physical, social and psychological stressors of their environment. The physical stress factors relate to increased workloads, lack of adequate resources and feelings of failure in meeting patients’ needs. Furthermore, the excessive workload without adequate resources leads to decreased productivity. The high rate of sick leave because of stress related illnesses, verbal complaints of tiredness from staff members; and the lack of interest result in feelings of stress. Media reports about nurses’ lack of a caring attitude and commitment has also decreased the morale of registered nurses and their sense of responsibility (Nevhutalu, 2004:30).
There are various types of stressors (Hudak et al., 1998:95 and Sullivan and Decker, 1997:216), which are:

- psychological;
- physiological;
- organisational factors or;
- external work related stressors; and
- general stressors.

Psychological stressors include the death and dying of patients; uncertainty about treatments; and lack of support from superiors or management. Studies in California indicate that reducing the shortage of registered nurses and giving education to upgrade employees’ skills can reduce the stress levels of registered nurses. This has helped to retain registered nurses and improved job satisfaction (Kaliath and Morris, 2002:653).

The researcher has identified a grossly high shortage of registered nurses in the intensive care environment, with the nurse-patient ratio at times being 1:3 for mechanically ventilated patients. This information was obtained from the hospital at which this research study was conducted. Furthermore, according to the hospital’s monthly statistics, during the period of September to December 2001/2, due to the high turnover of doctors, the intensive care environment had to run without an allocated site doctor. This resulted in a lot of pressure and stress falling upon the registered nurses, and their feeling insecure about anything happening without a supervisory doctor.

In the United Kingdom the registered nurse-patient ratio in intensive care environments is 1:1 for ventilatory supported patients and staff development is the main priority, especially with recent epidemics and advances in science (Granger, 1996:15). In South African hospitals nurses are faced with high levels of stress due to the shortage of nurses. According to Xaba and Gray, (2001) writing in the Democratic Nursing Organisation of South Africa (Denosa) report about emigrating nurses, approximately 1006 nurses have left South Africa to work in Britain in the year 2000 alone, and 75% of these nurses are skilled professional nurses who have additional training and qualifications from areas such as intensive care. The Department of Health reports that the South African Nursing Council daily receives applications from registered nurses intending to leave South Africa to seek better working conditions elsewhere. As stated by Xaba and Gray (2001) the reasons for migrating registered nurses are as follows:
• lack of competitive incentives in the public service, while foreign countries offer better remuneration;
• work pressure from long working hours and poorly resourced hospitals;
• the nurse-patient ratio in South Africa is very high (currently one nurse in South Africa is responsible for 24.3 patients (SANC 1998/1999), compared to the UK’s ratio of 1:1; and
• the experience and expertise of registered nurses are not recognised and salaries are not corresponding with job demands or responsibilities.

People respond to stress in many different ways. Literature reveals that a large number of the working population experience varying degrees of stressors, which may affect an individual’s quality of life. When one is stressed one tends to focus more on the negative side of things rather than the positive (McGuire, 2002:402). A person reacts to stress not only with biological symptoms but also with behavioural changes. The most common biological or physiological responses to stress include, increased frequency of headaches and insomnia; irritability; excessive fatigue; dull and aching pain on the neck and shoulders; a tight chest; and elevation of blood pressure or heart rate (Hudak et al, 1998:97). Behavioural indicators of stress are anxiety; decreased work productivity; disorganisation in thinking; an inability to concentrate; forgetfulness; and nervousness. This can cause nurses to not function optimally in their work environment.

To investigate/illuminate the above-mentioned problem, the researcher has formulated the following research questions:

1. What are the perceptions of registered nurses regarding the factors causing stress in intensive care environments at state hospitals?

2. How is this information going to be utilized in developing guidelines for a stress management programme to assist registered nurses in coping with stress in an intensive care environment?
1.2 RESEARCH OBJECTIVES
The objectives of this study are:

- The primary objective of this study is to explore and describe registered nurses’ perceptions of factors causing stress in intensive care environments at state hospitals.
- The secondary objective of this study is to develop guidelines for a stress management programme to assist registered nurses in coping with stress in an intensive care environment.

1.3 CONCEPT CLARIFICATION
The description of concepts for this research study include the following:

- **Registered nurse**
  According to the South African Nursing Act (No. 50 of 1978), a registered nurse is a person registered as a nurse under Section 16 of the Nursing Act, Act 50 of 1978 as amended (South African Nursing Council Terminology List, 1994:30).

- **Intensive care environment**
  Intensive care environment is described by Phipps, Cassmeyer, Sands and Lehman (1995:653) as an unique environment in which the most sophisticated medical, surgical and technical interventions can be integrated to combat life-threatening illnesses.

  In this study the intensive care environment refers to the intensive care units where registered nurses spend most of their time caring for patients.

- **Stress**
  Stress is defined by Wilson (1997:5) as an emotional or physical discomfort that takes place over time and can be experienced when internal or external stimuli are too demanding and exceed the body’s usual coping mechanisms.

- **Stressors**
  Stressors refer to anything that leads to a stress response or disrupt the equilibrium of the individual (Rice, 2000:6).
• Perception
Perception means one’s opinion of what something is and what it is like. The way one notices things in a sensible way (Longman, 1998: 488).

• Guidelines
Guidelines are statements that give general advice about something (Treffry and Ferguson, 1998:248).

1.4 RESEARCH METHODOLOGY
The research methodology pertaining to this study will now be discussed.

1.4.1 Research design
Mateo and Kirchhoff (1999:269) refer to the research design as the plan, structure and strategy of an investigation. The research design is a blueprint, specifically created to answer the research question. A quantitative, explorative, descriptive and contextual design will be used in this study in order to gather information to determine perceptions of registered nurses regarding factors causing stress in an intensive care environment.

Quantitative design
According to Polit and Hungler (1993:18) a quantitative approach involves the systematic collection of numeric information; the analysis of that information using statistical procedures; and tends to emphasize deductive reasoning, the rules of logic and the measurable attributes of human experience. This study is quantitative as the researcher uses a structured questionnaire in order to obtain data/information on registered nurses’ perceptions of factors causing stress.

Explorative design
Exploratory research examines the relationship between or the causes of phenomena. In this study the researcher explores the registered nurses’ perceptions of factors causing stress in an intensive care environment (Mateo and Kirchhoff, 1999:220).

Descriptive design
Descriptive designs are used when the primary purpose of a study is to name, characterize or thoroughly describe a phenomenon. Numerous methods can be used to collect data ranging from observation and physiological monitoring to interviews and questionnaires (Mateo and Kirchhoff, 1999:273). In this study the perceptions of
registered nurses regarding factors causing stress in an intensive care environment will be described.

**Contextual design**
A contextual design is one in which the phenomena of interest are in the immediate environment and physical location of the people being studied (Holloway and Wheeler, 1998:192). This study was conducted among registered nurses working in intensive care environments at state hospitals in the Nelson Mandela Metropole.

**1.4.2 Research method**
Research methods are techniques used by the researcher to structure a study, gather and analyse information relevant to the research question (Burns and Grove, 2001:13).

This study was conducted in two phases. Phase one involved the exploration and description of registered nurses’ perceptions of factors causing stress in an intensive care environment. Phase two involved conducting a literature control study and the development of a stress management programme based on the results from phase one. The stress management programme is designed to assist registered nurses in coping with stress related to working in an intensive care environment.

**Target population and sample**
Brink (1996:132) defines a population as the entire group of persons or objects of interest to the researcher, or those who meet the criteria the researcher is interested in studying. In this study the population of interest is all registered nurses working in an intensive care environment at a Nelson Mandela Metropole state hospital, at the time that the research study was being conducted. The sample must meet the following inclusion criteria, namely:

- registered nurses working in intensive care units, irrespective of additional qualifications in intensive care nursing;
- have at least two years or more working experience in an intensive care environment;
- be able to express themselves clearly in English; and should be willing to participate in the study.

**Sampling procedure**
A convenience sampling method was used. Questionnaires were distributed to participants working in intensive care environments that were accessible to the
researcher. According to Polit and Hungler (1989:434) convenience sampling comprises the selection of the most readily available persons at the time of data collection. All registered nurses who met the inclusion criteria and work in intensive care environment at state hospitals in the Nelson Mandela Metropole were each given a questionnaire. There were however some registered nurses who were on annual leave and did not complete the questionnaire.

Data collection method
A structured questionnaire was distributed to registered nurses included in the sample and who meet the inclusion criteria mentioned in 5.2, in order to obtain data regarding their perceptions of factors causing stress in an intensive care environment (see Annexure C).

The format of the Intensive Care Unit Environmental Stressor Scale by Adomat and Killingworth (1994:912–922) was used as a guideline and was adapted to develop the questionnaire applicable to this study. The questionnaire includes two sections: section A relates to biographical data, and section B includes factors causing stress in an intensive care environment. Twenty-one (21) questions were asked, requiring a Likert scale response. Questions 22–34 required a yes/no response; questions 35–49 required a satisfying/dissatisfying response; questions 50-67 again required a Likert type response; and questions 68-74 relate to physical symptoms of stress. All questions in the questionnaire are related to factors causing stress in the intensive care environment. The questionnaire was administered by the researcher.

Data analysis
The data obtained from the questionnaires regarding the perceptions of registered nurses about stress causing factors were analysed by means of descriptive and inferential statistics, with the assistance of a statistician. The results obtained are displayed in graphic form. Statistical methods enable the researcher to reduce, summarise, organise, manipulate, evaluate and communicate collected data into visual representations of the research problem (Brink, 1996:179).

1.5 PILOT STUDY
A pilot study is a small study conducted prior to a larger piece of research to determine whether the methodology, sampling, instruments and analysis are adequate and
appropriate. The purpose of a pilot study is the investigation of the feasibility of the planned project (De Vos, 2002:211). The researcher distributed the questionnaire to two registered nurses to determine whether the questionnaire succeeds in answering the research question. The pilot study will also help to identify any questions that might be misinterpreted by participants.

1.6 QUALITY OF RESEARCH METHODS
Valid and reliability are two of the most important concepts in the testing and evaluation of research instruments and methods used in research investigations (De Vos, 2002:166).

1.6.1 Reliability
Reliability refers to the degree to which the instrument can be depended upon to yield consistent results if used repeatedly over time on the same person or used by two different investigators (Brink, 1996:171). This is discussed in more detail in chapter three.

1.6.2 Validity
Validity refers to the degree to which an instrument measures what it is supposed to measure. To judge the accuracy of the research instrument, content validity and face validity are ensured (Mateo and Kirchhoff, 1999:264). These are discussed fully in chapter three.

1.6.2.1 Content validity
Content validity involves an assessment of whether a measurement adequately covers all aspects or components of a particular body of content (Yegidis and Weinbach, 2002:208).

1.6.2.2 Face validity
Face validity merely means the instrument appears to measure what it is supposed to measure. It is essentially based on an intuitive judgement made by experts in the field (Brink, 1996:168). Before the questionnaire was utilized in the field, it was reviewed by nursing research experts in the field of Advanced General Nursing Science to determine the validity of the instrument.

1.6.3
1.6.3 Other measures to improve validity
The researcher ensured that the participants had a clear understanding of the purpose and nature of the research; that is, how data would be collected; that their names would be protected and what would happen to data after data collection.

1.7 ETHICAL AND LEGAL CONSIDERATIONS
The following ethical principles as set out by the South African Society for Nursing Researchers were adhered to throughout the study (Brink, 1996:41).

1.7.1 Confidentiality
Subjects were guaranteed confidentiality, that is that any information provided by the subjects would not be publicly reported or made accessible to anyone else other than those involved in the research (Brink, 1996:41). The subjects were ensured that the information gathered from each individual would be kept confidential.

1.7.2 Anonymity
Anonymity was ensured by substituting names and assigning a number or code to each questionnaire, so that no identification is recorded on the questionnaires. Thus questionnaires distributed to participants, were returned without any identifying information on them (Polit and Hungler, 1993:363).

1.7.3 Informed Consent
The protection of the rights of research subjects revolves around the concept of informed consent. In order to receive consent, the researcher provided each individual participant with sufficient understandable information regarding his/her participation in the research project. This included information on the purpose of the study, its objectives, as well as the dissemination of results. Participants have the power of free choice, enabling them to consent voluntarily to participate in the research or to decline participation at any time, without fear of reprimand (Pilot and Hungler, 1993:359). Participants were asked to sign a consent form (see Annexure A).
Permission to conduct the research was requested from the following authorities:

- relevant regional health authorities;
- relevant local health authorities (see Annexure B); and
- the Advanced Degrees Committee of the Nelson Mandela Metropolitan University (see Annexure D).

### 1.8 DISSEMINATION OF RESULTS

The information obtained through the questionnaires were utilized to formulate guidelines for a stress management programme to assist registered nurses in coping with stress in an intensive care environment. This programme will be made available to all registered nurses in an intensive care environment, and an in-service education programme will be offered to assist them in this regard. An article will also be prepared for publication in a relevant recognized nursing research journal. The results of the study will be printed, bound and sent to relevant authorities, and presented at research conferences.

### 1.9 CHAPTER DIVISION

- Chapter One: Overview of the study
- Chapter Two: Literature review
- Chapter Three: Research design and method
- Chapter Four: Results and discussion
- Chapter Five: Conclusions, limitations, recommendations and stress management programme

### 1.10 CONCLUSION

The aim of this study is to explore and describe registered nurses’ perceptions of factors causing stress in an intensive care environment at state hospitals. This is done within the framework of a quantitative, explorative, descriptive and contextual research design.

In chapter two a review of existing literature on stress, burnout, coping and coping resources is provided. The concept of stress; sources of stressors in an intensive care environment; burnout; coping and coping resources are defined. Different stress models are discussed, with specific reference to their key features. Different approaches to coping as well as various coping strategies are also discussed.
CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION
In chapter one, an introduction and problem statement was given, relating to the perception of registered nurses of factors causing stress in the intensive care environment. In this chapter a literature review is given, relating to the concept of stress; stress as a stimulus; stress models; factors causing stress in nursing; stress and burnout; and the concept of coping with stress. The research design and methodology was described briefly in chapter one and will be dealt with in more detail in chapter three.

2.2 LITERATURE ON STRESS
Stress is an universal phenomenon that every person experiences. A stressor is anything that leads to a stress response or disrupts the equilibrium of an individual (Rice, 2000:6). Urden, Stacy and Lough (2002:58) identified that every individual's sensitivity and vulnerability to a stressor is unique and depends on a variety of environmental factors and individual differences. This means that, what is acutely stressful to one person may not necessarily be perceived the same way by another person. Therefore it is more important to determine the way in which individuals cope with the stressor than to determine the frequency or severity of the stress episode.

Nursing is considered to be inherently stressful. Many challenges exist in intensive care environments. These involve the constant interaction with seriously-ill patients: uncertainty about the illness outcomes, demoralising situations when patients do not get better despite the nurses and doctors’ best efforts; and having to deal with distraught families. In the intensive care environment situations often call for immediate decisions with life and death implications (e.g. cardiac arrests and having to implement resuscitation procedures) (Sulivan and Decker, 1997:216). In a study by Cooper and Baglion (in Charnley, 1999:13) on 100 occupations, using a stress rating scale to compare work pressures, nursing had one of the highest scores among service occupations. Furthermore, other studies reveal that the major contributory
factors to the stress of registered nurses in intensive care environments are related to the unnecessary prolongation of life, insufficient and malfunctioning equipment; limited participation in decision-making; as well as communication difficulties with nursing leadership (Shoemaker, Ayres, Grenvick and Holbrook, 2000:2044). Many people cope constructively with these work pressures, but this is not always the case.

Stress has proven to be a relatively complicated concept and has inspired considerable confusion. The term “stress” has been used by many researchers to refer to physical strain, such as taxing an organism beyond its strength; and to psychological strain when an individual experiences negative emotional reactions as a result of conflict with other people. Researchers have conceptualised stress in a number of ways. Selye and Folkman (in Rice 2000:7) identified stress as a stimulus, as a response and a transaction. Their description will be discussed further.

2.3 STRESS AS A STIMULUS

This approach views stress as a stimulus, characteristic of a negative or disturbing environment, producing feelings of tension (Rutter, Quine and Cheshan, 1993:81). Stress as a response focuses on people’s physiological or psychological reactions to stressors. A person’s response to a stressor is called a strain. Lastly, stress as a response is seen as a process that involves continuous interactions and adjustments (transactions) between the person and his/her environment. Many factors contribute to differences in perception of, and reactions to, potential sources of stress. These include individuals’ differences in past experiences in similar settings, methods of coping, autonomic nervous system stimulation, and attitude.

There is considerable agreement about the effects of excessive stress on employees. According to Selye and Folkman (in Rice, 2000:4) there is a range of physical effects, which in principle may have an impact on any of the body systems. However, the cardiovascular, gastrointestinal and immune systems have shown to be particularly vulnerable. For example, the fight and flight response which occur as a result of the sympathetic nervous system stimulation may cause an elevation in blood pressure, heart rate, alertness or increased muscle tone to other people (Urden et al. 2002: 55). Physiologist Walter Cannon (in Zimbardo and Weber 1994: 339) argues that, when the body is stressed chronically, increased production of “stress hormones” taxes the immune system by wearing down the body’s natural defenses. Some people may
experience gastro-intestinal disturbances or even ulcers due to prolonged exposure to stress.

The psychosocial impact of work stress is manifested by signs and symptoms of depression; anxiety; impaired social and family relationships; alcohol and drug abuse. The experience of stress, particularly chronic stress, can take a significant toll on a person's well-being in terms of emotional and physical discomfort, and functional ability (Rice, 2000:4).

In the next section some of the major theories on stress will be discussed, with reference to their key features. In addition, the strengths and weaknesses of each model or theory is highlighted.

2.4 STRESS MODELS

According to Brooker and Nicol (2003:94) models of stress attempt to examine the physical, psychological and social changes that occur in response to stressors. Selye's (1984) General Adaptation Syndrome focuses more on the physiological response system than social and psychological aspects. Selye's theory of stress (in Rice, 2000:7) involves three stages of reaction in the stress response, namely the alarm reaction; resistance and a stage of exhaustion. The alarm reaction usually follows exposure to a stressor. During alarm reaction the body's resistance becomes diminished and an individual may experience 'freezing' or 'paralysis', functioning inefficiently. Resistance renders an individual able to mobilize compensatory coping mechanisms, awareness and ability for 'fight or flight' becomes heightened. Lastly the exhaustion stage follows when prolonged exposure to stressors overwhelms resistance or energy reserves to overcome the stressors become depleted (Woodrow, 2000: 493).

The psychological responses to stress on the other hand suggest a pathway from eustress to distress. Selye (in Rice 2000:6) defines eustress as the stress that stimulates people to function more efficiently and as those kinds of stress that make people find life enjoyable and rewarding. Distress is referred to as bad stress (Woodrow, 2000:491). Continued exposure to distress renders an individual unable to concentrate and lacking in problem-solving capacity. Many people adopt mental defense mechanisms in order to cope with psychological distress. Mental defense mechanisms are identified by Brooker and Nicol (2003:97) as being unhealthy in combating the stressor.
In turn, social theory focuses on a large scale of factors, such as overpopulation or crowding; poverty; AIDS-related diseases; material resources; and how these affect the mental well-being of a person (Dahrendorf, 1979 and Dooley and Catalo (cited in Rice, 2000:498). Each view has its unique strengths, but also inherent weaknesses. Table 2.1 below provides a summary and explanation of key features, as well as the strengths and weaknesses of each of the theories.
Table 2.1: Comparison of key features, strengths and weaknesses of stress models (adapted from Rice, 2000)

<table>
<thead>
<tr>
<th>Stress Model</th>
<th>Definition of Stress</th>
<th>Sources of Stress</th>
<th>Model's strengths</th>
<th>Model's Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Theory (Dahrendorf, 1979 and Dooley and Catalo, 1984)</td>
<td>Pressure to conform or adapt to social systems or norms.</td>
<td>Social conflict and coercion. Social change and living conditions. Lack of access to resources.</td>
<td>Incorporate many plausible social factors related to stress.</td>
<td>Very broad and ill-defined. Lack of operational definitions of some concepts. Ignores biological variables and individual differences.</td>
</tr>
<tr>
<td>Salutogenesis Model (Antanovksy, 1979)</td>
<td>Seek to describe the process of staying healthy despite exposure to stress.</td>
<td>Endemic to human conditions and environment – occurring from within or from without and imposed, or freely chosen, or both.</td>
<td>Compatible with both social and biological models. Empirically proven and tested.</td>
<td>Application of the model to children seems unclear.</td>
</tr>
</tbody>
</table>
The relationship among concepts from the model of stress in Figure 2.1 may not be explicitly stated but can be inferred from the schematic presentation of the model.

The antecedent variables in the model include a person, stressors and resources. The importance of all these variables lies in the possibility that they can play a role in making a person resistant or vulnerable to stress experiences (Rice, 2000: 545).

Lazarus (in Zimbardo and Weber, 1994: 337) defines cognitive appraisal as an evaluative process that determines whether a situation is perceived as being stressful or not and what coping strategies will be used. According to Lazarus, cognitive appraisal plays a central role in defining a stressful situation – whether harm has occurred or not or how big a threat it is, what resources one has for meeting it and what strategies are appropriate.

A stressor (Zimbardo and Weber, 1994: 330) is referred to as a stimulus event, either an internal or external condition that places a demand on an organism or on a person for some kind of adaptive response. The effect of a stressor on an individual depends on what the stressor is and what it means to that particular individual.

Resources on the other hand include perceived availability of network support to address the threat or challenge. The following model provides a range of ideas about what can be useful to individuals as they live in a stressful health care environment.
Figure 2.1 demonstrates the elements of the stress process – stressors, stress, cognitive appraisal (mental evaluation of the situation), resources and stress responses.

How much stress is experienced is determined by the quality of the stressor, how it is interpreted and the resources available to deal with the stressor, as well as the strain this places on the individual. Individuals respond to threats on various levels – physiological, behavioural, emotional or cognitive.

The salutogenesis model by Antonovsky (cited in Rice, 2000:177) seeks to describe the process of staying healthy despite exposure to stress. Within the model of
salutogenesis stressors are viewed as occurring within an individual or externally and when recognised as such by the individual engender a state of tension. The nature and outcome of tension in respect to health depends on the individual’s ability to manage tension and if tension is not managed effectively, one enters a state of stress. Antonovsky (in Rice 2000) further states that the ability of a person to manage or avoid tension and stress is influenced by factors called general resistance resources (GRR’s). GRR’s include material resources (money, shelter, food); knowledge and intelligence (ego identity and self-efficiency); a coping strategy that is rational and flexible; and social support.

Rice (2000:186) concludes that none of these theories provide a complete picture, but rather provide some important pieces of information that can help in making inferences. According to Rice, each theory or model has a role in regulating functions within their respective spheres. The biological subsystems account for physical balance, yet interacts with the cognitive system also.

The following discussion deals with coping. The concept of coping is defined and a detailed description of various theoretical aspects on coping is covered in the discussion. Sources of stress in nursing; stress and burnout; factors causing stress in the intensive care environment; and the nurse are discussed first.

2.5 FACTORS CAUSING STRESS IN THE INTENSIVE CARE ENVIRONMENT IN NURSING

Intensive care nurses are daily exposed to high stress levels. The type of patients usually admitted in intensive care units are trauma–surgical patients. Some are received postoperatively and are connected by wires and tubes to the machines (ventilators) upon which they totally depend. These patients are often unable to communicate with their caregivers and the challenge of successfully communicating with anxious relatives/families can be overwhelming for intensive care nurses. These patients often need constant monitoring for total care and nurses are expected to work productively with minimal resources; that is, being short staffed; lacking lifting devices for heavy patients; insufficient or malfunctioning equipment; and the lack of managerial support. All these factors can create tremendous pressure and strain for the registered nurses (Flynn and Bruce, 1993:39).
Other stressful factors in the intensive care environment, identified by Hudak et al (1998:95), arise from being exposed to critically-ill people for a prolonged period of time, some with poor prognoses, and attending to emotionally disturbed families. This can in turn be emotionally and physically exhausting for intensive care registered nurses. The incessant routine documentation of every action by the registered nurse or other health team members (e.g. doctors, physiotherapists, radiographers, etc.) also causes strain. All these factors lead to excessive work interruptions and subsequent strain and pressure to the registered nurses, who have limited time to complete the job. The lifting of heavy, unresponsive patients, some wasted and mutilated because of their illness; the purulent discharges from wounds; dressings soaked in blood; excretions of urine and faeces as a result of incontinence related to patient disease conditions, all add up to the stress of intensive care registered nurses.

In many instances, these stressors lead to a feeling of powerlessness. However, though doing their best in providing quality and responsible care, some of the above factors are beyond the registered nurses’ power of responsibility (Hudak et al, 1998:95). The lack of rewards and promotions; low salary scales; and the lack of study opportunities are major sources of stress for intensive care registered nurses, who are constantly at patients’ bedsides. Demands from the organisational structure and environment are the most commonly cited source of stress for intensive care registered nurses. These include the multiple roles of the registered nurses; shift rotations; medical personnel having less experience in the management of acutely ill patients; problems with off-duty scheduling; and organisational demands and expectations that conflict with individual needs, such factors as excessive workloads and understaffing, and having to work productively with minimal resources (Sullivan and Decker, 1997:217). Booyens (1998:148) states that nurses often experience conflict when they must make a quick role shift from working as professionals in the hospital to then going home to be mothers, housekeepers, spouses and parents. Added to this is the strain of working rotational shifts. This is perceived as exhausting, resulting in one’s biorhythm taking several days/weeks to adjust to shift changes.

Other major causes of stress in the intensive care environment can be the constant noise made by machinery, such as the beeping and buzzing sounds from monitors and ventilators; the gurgling of suction machines; and the continuously ringing telephones, some with calls from patients’ families who want to know about the condition of their loved ones, others from x-ray departments to find out if the time is conducive to take patient’s images. Sullivan and Decker (1997:218) identified nurse-physician
relationships as not always good, probably due to the mounting pressure of work. This is often displayed through outburst by physicians, when awakened during night calls to attend to patients’ problems.

Several studies classify work related stress as arising from internal (within the nurse) or external (stemming from the organisational structure or environment) origin. In comprehending the stress in intensive care practice, it is important to consider both perspectives. According to Hudak et al (1998:95) the internal work related stressors are those that originate within the nurse. These include nurses’ concern about patients’ illness and the extent of injuries sustained; and an inability to make the situation better for the patient. The quick, accurate assessments and rapid decisions that nurses have to make regarding patients’ illness can also be strenuous and tension provoking.

Insufficient knowledge, skills and experience can be another source of stress in the complex intensive care environment, with its high technological systems. New technology; increasing expectations from patients and their families; competitions among health care organisations; and the pressure of efficiency associated with this environment, has made the role of intensive care nurses more difficult and stressful (Sullivan and Decker, 1997:217).

In order to identify stress, a person should be able to identify the most common symptoms of stress. Below is a table showing individual and organisational symptoms of stress, as adapted by Meyer, Van Niekerk and Naude (2004:189).

Table 2.2: Symptoms of stress: Meyer et al, 2004

<table>
<thead>
<tr>
<th>Individual symptoms</th>
<th>Organisational symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physiological indicators</td>
<td>High absenteeism and turnover</td>
</tr>
<tr>
<td>• Headaches</td>
<td>• Reduced performance</td>
</tr>
<tr>
<td>• Alteration in blood pressure</td>
<td>• Reduced productivity and quality of work</td>
</tr>
<tr>
<td>• Constant fatigue</td>
<td>• Increased industrial disputes acci-</td>
</tr>
<tr>
<td>• Pain in neck, shoulder muscles and lower back</td>
<td></td>
</tr>
</tbody>
</table>

Meyer et al (2004:190) state that it is the responsibility of the unit manager to identify his/her own stress and that of his/her personnel, and to implement stress management strategies. They also add that it is important to ensure that one’s work life is separated from one’s personal life. In order to reduce stress for intensive care nurses, job descriptions, policies and procedures need to be clear, updated and familiar to the personnel. Effective performance management (performance appraisals) and staff development can also help reduce stress. Effective planning of duty schedules and having a plan B available when a problem arises in the unit (for example, when a staff member is sick) will also help lower the stress levels of nurses. Sullivan and Decker (1997:222) identify that past experiences in coping with stress can provide insight into the individual’s ability for successful coping with current experiences.

Booyens (1998:146) identify many variables that contribute to the stress and burnout of nurses in the health profession. Stress is also experienced when a person does not feel in control of his/her life; lacks confidence; has low self-esteem, which results in the inability to cope with ambiguous and conflicting roles, or has unrealistic high expectations of what the employer has to offer.

Role ambiguity occurs when there is a lack of clear, consistent information about an assignment. Other sources of stress are associated with organisational factors, such as frequent or major changes in policies on procedures or the organisation undergoing

<table>
<thead>
<tr>
<th>Psychological indicators</th>
<th>Behavioural</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Tension</td>
<td>- Altered eating or sleeping patterns</td>
</tr>
<tr>
<td>- Anger, frustration, irritability, anxiety</td>
<td>- Abuse of alcohol or drugs</td>
</tr>
<tr>
<td>- Depression, indecision and impaired judgement</td>
<td>- Excessive smoking</td>
</tr>
<tr>
<td></td>
<td>- Low or poor group cohesion</td>
</tr>
<tr>
<td></td>
<td>- Conflict</td>
</tr>
<tr>
<td></td>
<td>- Low quality of work</td>
</tr>
<tr>
<td></td>
<td>- Impatience towards colleagues and patients</td>
</tr>
<tr>
<td></td>
<td>- Ineffective planning</td>
</tr>
</tbody>
</table>

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Role ambiguity occurs when there is a lack of clear, consistent information about an assignment. Other sources of stress are associated with organisational factors, such as frequent or major changes in policies on procedures or the organisation undergoing
major reorganisation. The rapidly changing health care services; new technology; liability issues; and increased pressure for efficiency due to competition among institutions is making the work of nurses more difficult and stressful (Sullivan and Decker, 1997:218).

2.6 STRESS AND BURNOUT
Stress is a complex individual reaction to stressors, with both physiological and psychological manifestations. When stressors exceed individual coping abilities, distress usually ensues and unresolved or continued distress may progress to burnout (Woodrow, 2000:493). Burnout involves physical and emotional exhaustion, stemming from the stressors associated with the work of caring for ill people. According to Maslach (in Hudak et al, 1998:97) the condition of burnout renders the individual feeling resigned, ineffective and hopeless about working in such an environment. The behaviours common in burnout include feelings of anger, frustration, loss of commitment, anxiety and high levels of absenteeism. As a consequence of burnout, the employee may either leave the profession, or remain, but working inefficiently (Sullivan and Decker, 1997:221).

Maslach (cited in Omdahl and O'Donnell, 1999:1351) describe burnout as a negative psychological experience, characterized by three components:

(I) Depersonalisation (perceiving recipients of care as objects or a difficulty) particularly obese, delirious and confused patients in an Intensive Care Unit;

(II) reduced personal accomplishment (when the caregiver perceives him/herself as a failure, lacking in skills and knowledge to deal with critically ill patient's needs); and

(III) emotional exhaustion (when the caregiver feels fatigued, worn out and generally lacking energy to carry out their work).

However, Brooker and Nicol (2003:101) emphasize the fact that burnout often occurs as a result of factors outside the individual's control and burnout has contributed to many nurses leaving, not only intensive care environments, but also the profession of nursing.
Burnout is not only seen as costly for the organisation, but for the patient as well, because a nurse who feels ineffective, frustrated and stressed is unlikely to deliver quality care (Hudak et al, 1998: 97).

Lewis (in King, 2005:20) states that burnout contributes significantly to staff turnover and that burnout may be attributed to a combination of factors inherent in the work situation, such as staff shortages; lack of time; and excessive workloads. Additional factors that contribute towards burnout are identified as relating to organisational relationships – relationships that reveal a paucity of social support from management structures; an absence of constructive feedback from colleagues; and unrealistic and unclear expectations from management (King, 2005:20). Geyer (2004:34) argues that this absence of ‘caring for the carer’, in addition to being a major factor for the low morale evidenced in nursing, is one of the biggest contributing factors to compassionate fatigue and burnout among nurses.

King (2005:21) states that stifled professional growth in terms of lack of opportunities for promotion and continuing education are additional contributing factors to burnout. She further argues that there is a need for employers to acknowledge that the causes of burnout are embedded in the work environment and that employees need to formulate strategies to identify burnout and combat it.

Geyer (2004:37) identified the predominant international trend, in respect of the alleviation of excessive workloads; avoiding compassionate fatigue and preventing burnout, as the implementation of legislation advocating minimum adequate staffing ratios per unit. Most international ratios stipulate that a ratio of one registered nurse to four patients is required for a general ward and one nurse–to-patient ratio in intensive care units, in addition to other categories of nurses, for example staff nurses and nursing auxiliaries.

Lewis (in King, 2005) further argues that if management structures are to be proactive in preventing burnout among personnel, they need to recognize that nursing personnel require not only satisfaction regarding their working needs, but also quality living in their workplace environment. This is supported by Callagnan (2003:46) stating that job satisfaction is related to the freedom to make decisions and of having ‘job control’ in terms of being able to exercise professional latitude (King, 2005:21). Many sources of stress exist and what may be a source of stress to one person may cause no stress to another person.
2.7 THE CONCEPT OF COPING

Coping is one of the important concepts in research on stress. Coping is defined by Urden et al (2002:68) as a dynamic process involving cognitive and behavioural efforts to manage internal and/or external demands that are perceived to be exceeding the person's resources. Coping efforts fall into two functional categories which are problem solving efforts and efforts at emotional regulation (also known as emotion-focussed coping). Problem solving efforts (also known as problem focussed coping) involves taking direction to change a stressful situation or to prevent or reduce its effects. According to Lazarus and Folkman (in Zimbardo and Weber, 1994:333) people tend to use problem focussed coping when they believe that there is something they can do about the stressful situation they face.

On the other hand emotion-focussed coping is aimed at regulating the emotions tied to the stress situation – for example trying to accept the problem if one can do nothing about it (Rice, 2000:54). Coping refers to all attempts (regardless of their success) to manage a stressful transaction so as to make it less stressful (Lazarus and Folkman, 1985). These attempts are based on an appraisal of the situation (primary appraisal) and one's responsibilities of dealing with it (secondary appraisal). The central feature in Folkman and Lazarus's model of coping (in Rutter, Quine and Chesham, 1993:120) is the process of cognitive appraisal, a mental process by which people assess whether a demand threatens their well being and appraise their resources for meeting it (Rutter, Quine and Chesham, 1993:120). Secondary appraisal is a cognitive assessment of the resources available for coping and the formulation of a response to the stressor.

Stressors are events or circumstances that are perceived as threatening, producing feelings of tension or arousal (Rutter et al, 1993:120).

Figure 2.2 illustrates the Lazarus – Folkman Model of stress and coping.
According to Folkman, Shaefer and Lazarus (in Rutter, Quine and Chesham, 1993:127) there are 5 categories of coping resources. These are:

- **Utilitarian resources** which include money, socio economic status, available services, health and energy as well as morale;

**Explanation of terms**

- **Harmless**: Not in danger/no damage
- **Threat**: Expectation of future harm
- **Challenge**: Opportunity to achieve growth and mastery
- social networks;
- general and specific beliefs including mastery, self-esteem, self-efficiency;
- problem solving skills; and
- analytic ability.

The types of coping strategies that an individual chooses depend a great deal upon the situation and the unique interaction of the individual and the situation.

2.7.1 Coping mechanisms/strategies
Coping mechanisms/strategies are a set of behaviours that persons under stress use in struggling to improve their situations (ways of getting along with life events) (Wilson and Kneisl, 1992:88). A person can cope on different levels, including physical, social, cognitive and emotional. However, the techniques or manners that people choose to cope with stress depend on external circumstances; the suddenness and intensity of the stress; resources available to the person; and the person’s predisposition to one or another coping pattern. Most often, to cope with stress people use behaviours that have worked well for them in the past. Common coping methods as stated in Wilson and Kneisl (1992:88) are discussed below.

2.7.1.1 Relying on self-discipline
This type of coping style involves pride in the ability to laugh off problems, endure frustrations and credit anxiety. Self-control is valued by many cultures and subcultures in dealing with stress.

2.7.1.2 Turning to comforting person
This category of coping highlights a means of getting reassurance from others and may take the form of physical touching, patting or verbal reassurance of various kinds, such as intensive expression of feeling.
Crying and laughing tend to relieve tension by releasing energy and exerting a soothing effect on a person who is experiencing tension. Laughter gives a person a brief physical workout by increasing airflow through the lungs and improving blood flow. Schlebusch (2000:142) emphasizes the fact that humour needs to be genuine in order to reduce stress and that people should not laugh at other people as a way of relieving tension or stress.
2.7.1.3  **Keeping a diary**
Keeping a diary is another form of controlling tension and managing stress. A diary can be valuable in planning one’s time; setting priorities; designing a work plan; and keeping to it. Taking regular restorative breaks from daily work and giving oneself time to communicate with others can provide relief from tension; refresh one’s mind; and may increase effectiveness at the work. Reviewing one’s work plan at the end of each day, week or month is vital in the constructive use of time (Schlebusch, 2000:153).

2.7.1.4  **Exercise**
Research suggests that exercise can help people to cope with stress by serving two important functions. Exercise helps to decrease the strain that results from stressful events, and can also reduce the emotional strain that has already manifested itself in an individual’s life. In a study by Dinsdale, Alpa and Schnederman (in Rutter, Quine and Cheshan, 1993:119) exercise is found to have a substantial effect in reducing blood pressure and heart rate; and an increased efficiency in cardiac functioning thus decreasing the likelihood of becoming ill.

2.7.1.5  **Sleep**
Kenton’s (1994:128) 10 Day De-stress Plan identifies sleep as the greatest healer of stress. According to Kenton sleep can help regenerate one’s body, clear emotional conflicts, and render the individual able to think better and work more efficiently. Sleep is believed to afford the human body a period of recovery and rest from a busy, challenging working day and most sources recommend 6 to 8 hours of sleep for a healthy adult (Hudak et al, 1998:99). With regard to coping resources, social support and internal personality dispositions (for example personal hardiness; optimism; an internal locus of control; a sense of coherence; and self-efficiency) serve as moderating, buffering or resiliency factors in the relationship between stress, health and illness. These dispositions have in common whether people perceive themselves as being in or out of control, or being meaningfully involved, and whether events and change are seen positively as a challenge, or as a threat (Schlebusch, 2000:153 and Rice, 2000:132).

2.7.1.6  **Social support**
Stressful situations and attempts to cope with these experiences have a direct impact on the psychological, behavourial and physiological systems. Antonovsky (1979) (cited in Rice, 2000:369) suggests that resources such as social support can increase a person’s resistance to stress. Social support is described by Zimbardo and Webb
(1993) as the support or help one obtains from other human beings, such as friends; co-workers; family members; neighbours; and acquaintances. Three identified forms of social support involve being there (physically, emotionally and spiritually); giving help, information and advice. The moderating or buffering effect of social support has been supported by many researchers (Hatchett, Friend, Synister and Wadman, in Rice, 2000:372). These researchers studied 42 end-stage renal disease patients and found that increased perceived social support from family correlated with decreased feelings of hopelessness; and social support from medical staff also correlated with an increase in optimism. These researchers hypothesize that there is a direct relationship between well-being and the helpfulness of others in providing emotional, informational and general support (Rice, 2000:372).

2.7.1.7 Hardiness

Hardiness is a psychological construct that refers to an individual’s stable characteristic way of responding to life events. According to Kobasa and Maddi (in Hudak et al, 1998:98) the concept of hardiness involves 3 components: commitment versus alienation; a sense of control versus powerlessness; and a sense of challenge versus threat (Hudak et al, 1998).

The commitment (versus alienation) component of hardiness incorporates the recognition of one’s own goals and priorities, allowing valid assessment of oneself in terms of values and abilities. Rather than feeling alienated, committed individuals believe that there is an overall purpose to the actions of day to day living (Di Mateo, 1991:108).

The second hardiness characteristic is control (versus powerlessness). Persons high in control believe they indeed can influence events they encounter, rather than remaining powerless in the face of external forces. They perceive their lives and choices as being under their own control (Hudak et al, 1998:98).

Finally, people who have a sense of challenge regard life changes to be the norm or as a necessary part of life by which they are not threatened. They anticipate and welcome life changes as a stimulus and an opportunity for personal growth. Hardy persons are open and flexible in their thinking and are able to tolerate ambiguous situations. They experience the strains of life as challenges (Di Mateo, 1991:109).
2.7.1.8 **Optimism**

There is sufficient evidence to prove that negative stress and emotions are harmful to physical health, while positive emotions create an increased ability to counteract physical illness (Schlebusch, 2000:132). Optimistic persons tend to attribute failure to a temporary cause. They cope with stress by being problem-focused – that is, they focus more on what they can do about the problem that causes stress than how they feel about it.

2.7.1.9 **Locus of control**

Rotter (in Rutter, Quine and Cheshan, 1993:115) uses the term locus of control to explain people’s expectancies. This means that they have a general perception that their thoughts and actions are under their own control. According to Schlebusch (2000:134), when a person feels he/she is the ‘master of their own fate’ that person is better able to deal with stress and is seen as having an internal locus of control. On the other hand, people whose behaviour is reinforced by the expectancies that their accomplishments are ruled by luck, chance, fate or by powerful others have a high external locus of control (Rice, 2000:462). Research on psychological adjustment indicate that individuals with an external locus of control are more vulnerable to psychological maladjustment. Rice (2000:464) states that people with an internal locus of control show assertiveness and are more successful in several work performance variables. This is because they are more self-sufficient in planning and executing tasks, more motivated and can take responsibility for their own decisions and the outcome thereof.

2.7.1.10 **Sense of coherence**

Antonovsky (in Rice 2000:179) uses the sense of coherence as a construct in his salutogenic paradigm. This paradigm indicates the individual’s ability to maintain health and avoid illness in the presence of stressful events or situations. According to Antonovsky (in Rice, 2000:179), a sense of coherence is a general resistance resource and those with a sense of coherence view the world as manageable, comprehensible and meaningful. People with a sense of coherence have a solid belief that things will work out well, as can be reasonably expected and that events in life happen for a reason. They perceive work as motivational and challenging rather than stressful.

2.7.1.11 **Self efficacy**

Bandura (in Rice 2000:498) came up with the concept of self-efficacy. Self-efficacy refers to an individual’s personal judgement of his/her own ability. It is coupled with
outcome expectancy, meaning that certain behaviours can lead to specific results or desirable outcomes. According to Bandura, self-efficacy may be one of the powerful self-regulatory mechanisms to improve performance behaviours. It touches on a person's self-evaluation, self-reflection and intrinsic motivation to be in control and to realize his/her own potential. Self-evaluation may reveal a need to improve the ability to cope with stress in an intensive care environment (Woodrow 2000:496 and Rice, 2000:498).

2.8 CONCLUSION
Intensive care registered nurses are susceptible to many work related stressors that have both long-term physiological and psychological consequences. Two major categories of work related stressors that are a problem for intensive care registered nurses are organisational or environmental stressors, and those that originate from within the individual.

Organisational or environmental stressors identified in this chapter appear to center around lack of managerial support; excessive workloads; shortages of staff; and conflicting roles. Internal work related stressors include insufficient knowledge and skills and were found to be the most commonly occurring stressors.

The above-mentioned discussion emphasizes the importance of research in the manner in which intensive care registered nurses cope with and adjust to the changing circumstances in their environment.

The next chapter describes the research design and method of this study.
CHAPTER 3

RESEARCH DESIGN AND METHOD

3.1 INTRODUCTION

In the previous chapter, a literature review study was conducted. In this chapter, the research design, method of data collection and data analysis are discussed.

3.2 OBJECTIVES OF THE RESEARCH STUDY

The objectives of this study are to:

- explore and describe registered nurses' perceptions of factors causing stress in intensive care environments at state hospitals; and
- develop guidelines for a stress management programme to assist registered nurses in coping with stress in an intensive care environment.

3.3 RESEARCH DESIGN

Mateo and Kirchhoff (1999:269) refer to research design as the plan, structure and strategy of an investigation and as a blueprint, specifically created to answer the research question. A quantitative, explorative, descriptive, contextual research design was employed in this study in order to gather information about the perceptions of registered nurses regarding factors causing stress in an intensive care environment.

3.3.1 Quantitative research

Quantitative research is defined by Babbie and Mouton (2001:80) as a systematic, formal, objective process in which numerical data are used to obtain information about the world. According to Mouton and Marais (in De Vos, 2002:15), quantitative research is an approach to research, used in social sciences, that is highly formalized and explicitly controlled. Polit and Hungler (1993:18) further define quantitative research as involving the systematic collection of numeric information and the analysis of that information using statistical procedures. These authors tend to emphasize deductive reasoning, the rules of logic and the measurable attributes of human experience to explain this approach.
This study is quantitative in nature because the researcher used a structured questionnaire in order to obtain data/information on registered nurses’ perceptions of factors causing stress in intensive care environments.

3.3.2 Explorative research
Explorative research begins with some phenomenon of interest, and is aimed at exploring the dimensions of that phenomenon, the manner in which it is manifested and other factors to which it is related (Polit and Hungler, 1993:14). According to Bless and Higson-Smith (1995, in De Vos 2002:109), exploratory research is conducted to gain insight into a situation, phenomenon, community or individual, where little is known regarding a specific topic. By exploring registered nurses’ perceptions regarding factors causing stress in intensive care environments, new knowledge is generated and insight gained in understanding their experience. This will assist the researcher in designing guidelines for a stress management programme to help registered nurses in coping with stress.

3.3.3 Descriptive research
Descriptive designs are used when the primary purpose of a study is to name, characterize or thoroughly describe a phenomenon. Numerous methods can be used to collect data, ranging from observations and physiological monitoring, to interviews and questionnaires (Mateo and Kirchhoff, 1999:272). In this study, the perceptions of registered nurses regarding factors causing stress in intensive care environments are described.

3.3.4 Contextual research
A contextual design is one in which the phenomenon of interest is in the immediate environment and physical location of the people being studied (Holloway and Wheeler, 1998:192). This study is conducted among registered nurses working in intensive care environments of state hospitals in the Nelson Mandela Metropole.

3.4 RESEARCH METHOD
According to Burns and Grove (2001:13) research methods are techniques used by the researcher to structure a study and to gather and analyze information relevant to the research question. The process of data collection and analysis is divided into two phases.
3.4.1 Phase One

Phase One of this study involves data collection by means of a questionnaire. The aim of this phase of the study is to explore and describe the perceptions of registered nurses regarding factors causing stress in intensive care environments. This phase consists of the following components:

3.4.1.1 Target population and sampling process

A population is the entire group of persons or objects of interest that meet the criteria the researcher is interested in studying (Brink, 1996:132). Mouton (2001:110) describes a population as the potential subjects who possess the specific attributes in which the researcher is interested. The population of interest in this study is all registered nurses working in intensive care environments in state hospitals in the Nelson Mandela Metropole at the time when this study was conducted. Participants for this study were chosen by using a convenience sampling method.

Brink (1996:133) defines sampling as the process of selecting samples from a population in order to obtain information regarding a phenomenon in a way that represents the population of interest. All registered nurses working in intensive care environments were requested to participate in this study, irrespective of whether they had additional qualifications in intensive care nursing. Thus only registered nurses working in intensive care environments, who met the following criteria were considered:

- be able to express themselves in English;
- have at least two years or more of working experience in an intensive care environment;
- be employed by the state hospital where the study was conducted; and
- be willing to participate in the study.

3.4.1.2 Data collection method

Data was collected by means of a self administered questionnaire. Adomat and Killingworth’s (1994:912) Intensive Care Unit Environmental Stressor Scale format was used and adapted in the development of the questionnaire. The questionnaire consisted of two sections:

Section A related to the biographical data of the participants, namely gender; age; number of years practising as registered nurses; level of experience in ICU; additional qualifications; as well as the current position of employment.
Section B of the questionnaire related to factors causing stress in the intensive care environment.

- Twenty one (21) questions that were asked required a Lickert Scale response.
- Questions 22-34 needed a ‘Yes’ or ‘No’ response.
- Questions 35-49 required a satisfied or dissatisfied response.
- Questions 68-74 related to physical symptoms of stress.

All questions in the questionnaire were related to factors causing stress in the intensive care environment (see Annexure C).

3.4.1.3 Procedure of obtaining permission to conduct the research study

The Senior Manager: Clinical Governance for Nelson Mandela Metropolitan State Hospitals together with the Chief Medical Superintendent for the specific hospital, were requested in writing to grant permission for the conducting of this research study. The Nursing Service Manager of the hospital and the Head of Department for Intensive Care Units were also consulted in this regard. The purpose of the study was explained to all of the above stated parties. Requests for permission from health authorities are included as Annexure B.

The participants were requested to sign a consent form (see Annexure A) and were informed of their right to voluntary participation. The purpose and aims of the study were explained to the registered nurses by the researcher, and potential benefits and any concerns and questions about the study were addressed. Approval to administer the questionnaire was obtained from the Advanced Degrees Committee of the Nelson Mandela Metropolitan University (see Annexure D).

3.4.1.4 Data analysis

The data obtained from the questionnaires, regarding perceptions of registered nurses about factors causing stress, was analysed by means of descriptive and inferential statistics, with the assistance of a statistician. Descriptive statistics may be used to synthesize and organize data. Frequency tables and/or distributions and inferential statistics are used to analyse and display the data generated, where applicable. Frequency tables facilitate the presentation of a large amount of data in a concise way, so as to enable the researcher to reduce, summarise, organise, manipulate, evaluate and communicate data in a visual presentation of the research problem (Brink, 1996:179). Inferential statistics are used to generalize findings from samples onto
equivalent populations. This was implemented with the help of a statistician and statistical software, to ensure accurate statistical data as well as the presentation thereof.

3.5 QUALITY OF THE RESEARCH METHOD

3.5.1 Validity and reliability study
Validity and reliability are central issues in all scientific measurements. Validity refers to the degree to which an instrument measures what it is intended to measure (Mateo and Kirchhoff, 1999:264). According to Babbie and Mouton (2004:122) validity is the extent to which an empirical measure adequately reflects the real meaning of the concept under consideration.

To ensure validity and reliability the researcher personally administered the questionnaire. The subjects individually completed the questionnaire, therefore no compromise of data occurred as the researcher was able to clarify any uncertainties that arose about the questions.

Data collection for this study was specific to the registered nurses’ perceptions of factors causing stress in their environment. A pilot study was conducted to help with the prevention of problems which may occur during research and was helpful with ensuring the reliability and validity of the instrument (Polit and Hungler 1993:643).

3.5.1.1 Validity
Validity is discussed under the following headings:

Content validity
Content validity refers to the assessment of whether a measurement adequately covers all aspects or components of a particular body of contents (Yegidis and Weinbach, 2002:208). Content validity is concerned with the representativeness or sampling adequacy of the content of an instrument (for example topics or items). To determine content validity, two questions can be asked:

- Is the instrument really measuring the concept we assume it is?
- Does the instrument provide an adequate sample of items that represent that concept?
Hudson (in DeVos, 2002:167) states that content validation is by and large a judgemental process. Babbie and Mouton (2004:123) also refer to content validity as “how much a measure covers the range of meanings included within the concept”.

The questionnaire was designed to determine the perceptions of registered nurses relating to factors causing stress in intensive care environments. To ensure content validity in this research study, the researcher used and adapted Adomat and Killingworth’s reference Intensive Care Unit Environmental Stressor Scale to develop the questionnaire, which has been used before in other studies, as reflected in various literature sources (Cochran and Ganong, 1989:103 and Crystal, Barak and Yatz, 2004:743).

**Face validity**

Face validity means that an instrument appears to measure what it is supposed to measure and is based on intuitive judgement made by experts in the field (Brink, 1996:168). Before utilization of the questionnaire in this study, it was first reviewed by nursing research experts in the field of Advanced General Nursing Science, to determine the validity of the instrument. Other measures that were used by the researcher to improve validity are:
- ensuring that the participants had a clear understanding of the purpose and nature of the study;
- explaining how data will be collected;
- protection of the participant’s names after data collection; and
- explaining what will happen to the collected information.

**Criterion validity**

Criterion validity is relevant when the purpose of the research is to use an instrument to estimate some important form of behaviour that is external to the measuring instrument itself, the latter being referred to as the “criterion”. When the criterion and the other measurements are used simultaneously, this is referred to as concurrent validity (Mouton, 2001:128).

3.5.1.2 **Reliability**

Reliability refers to the degree to which an instrument can be depended upon to yield consistent results if used repeatedly over time on the same person or used by two different investigators (Brink, 1996:171). The format used and adapted by the
researcher in structuring the questionnaire is reflected in Cochran and Ganong (1989:1038) and Crystal et al (2004:743) as having been used in many studies before.

Mouton (2004:119) describes reliability as a matter of whether a particular technique applied repeatedly to the same object, would yield the same result each time. Reliability, however, does not ensure accuracy anymore than precision does. In social science research, reliability problems crop up in many forms. Reliability is a concern every time a single observer is the source of data, as there is no certain guard against the impact of the observer’s subjectivity. One cannot tell for sure how much of what is reported originated in the situation observed and how much in the observer. Three types of reliability are identified:

- **Stability reliability**
  Stability reliability is reliability across time. It addresses the question: does the measure or indicator deliver the same answer when applied in different periods? If what is being measured is stable and the indicator has stability reliability, then the same results will be obtained each time (Neuman, 1997:138).

- **Representative reliability**
  Representative reliability is reliability across subpopulations or groups of people. It addresses the question: does the indicator deliver the same answer when applied to different groups? An indicator has high representative reliability if it yields the same results for a construct when applied to different subpopulations (for example different classes, sexes, races or age groups) (Neuman, 1997:139).

- **Equivalence reliability**
  Equivalence reliability applies when researchers use multiple indicators, that is when multiple specific measures are used in the operationalisation of a construct (for example, several items in a questionnaire, all measure the same construct). Equivalence reliability addresses the question: does the measure yield consistent results across different indicators? If several different indicators measure the same construct, then a reliable measure gives the same results with all indicators (Neuman, 1997:139).
3.5.2 Phase Two
The results obtained from the collected data, once analysed, were utilized to formulate guidelines for a stress management programme to assist registered nurses in coping with stress in an intensive care environment.

3.6 ETHICAL CONSIDERATIONS
The following ethical principles, as set out by the South African Society for Nurse Researchers, were adhered to throughout the study (Brink, 1996:41), namely, confidentiality, anonymity of the participants, and informed consent.

3.6.1 Confidentiality
Confidentiality refers to the researcher’s responsibility to protect all data gathered within the scope of the project from being divulged or made available to any other person. This means that research data should never be shared with outsiders (Brink 1996:41). The participants were given an assurance that all information they shared would be deemed private and not be discussed with any other person besides those involved with the research.

3.6.2 Anonymity
According to Babbie and Baker (in De Vos, 2002:28) anonymity means no-one, including the researcher, should know the identity of any participant after the research is completed. The names of the participants were substituted with codes and the name of the hospital where the study was conducted is not revealed in the final report of the study.

3.6.3 Informed consent
According to De Vos (2002:24) informed consent refers to the consent obtained from the participants, once all the information regarding the study (that is, the purpose of the study, the potential risks or benefits and all other relevant information) has been revealed to the participants. Signed consent forms were obtained from all the registered nurses who met the inclusion criteria for this study and who were willing to participate (see Annexure A). The researcher assured participants that their participation was voluntary.
Permission to conduct the research was obtained from the following authorities:
- relevant regional health authorities;
- relevant local health authorities;
• participating registered nurses; and
• the Advanced Degrees and Ethics Committees of the Nelson Mandela Metropolitan University.

3.7 DISSEMINATION OF RESULTS
According to Fawcett et al (1994 in De Vos, 2002:414) the researcher has an obligation to communicate the results to individuals who can contribute to enhancing patient care. The research findings of this study will be disseminated to all registered nurses in intensive care environments of hospitals in the NMM and an in-service education programme will be offered to assist them in coping with stress in an intensive care environment. An article will be prepared for publication in a relevant recognized research journal. The results of the study will also be printed, bound and sent to relevant authorities.

3.8 CONCLUSION
This chapter provides a detailed discussion of the research design and method of this study. The data collection and analysis methods are discussed, as well as measures to ensure that legal and ethical considerations are observed.

The following chapter focuses on the interpretation of findings and the results of this study.
CHAPTER 4

DATA ANALYSIS

4.1 INTRODUCTION
This chapter presents the findings of the study. The biographical information of the respondents is described, as well as the results of the survey questionnaire. These are displayed in the form of tables and graphs using frequency and percentage scores. Brink (1990:31) frequency refers to the occurrence of an event, that is to the number of times that a result or value occurs. Brink (1990:32) states that frequency tables describe the arrangement of a series of measurements or values across different locations or categories. Out of the thirty questionnaires distributed by the researcher, twenty-four were returned by the respondents, allowing for an 80% response rate.

Discussions held with a statistician indicated that the criteria should be grouped for adequate analysis. It was agreed by the statistician and the researcher that the criteria for analysis be reflected as follows:

<table>
<thead>
<tr>
<th>Category</th>
<th>Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management attitudes</td>
<td>4, 13, 14, 18, 19</td>
</tr>
<tr>
<td>Emotions</td>
<td>5, 8, 15, 16, 20, 70, 72, 73</td>
</tr>
<tr>
<td>In-service education</td>
<td>6, 10, 11</td>
</tr>
<tr>
<td>Work environment</td>
<td>1, 2, 3, 7, 9, 17, 21</td>
</tr>
<tr>
<td>Remuneration</td>
<td>12</td>
</tr>
<tr>
<td>Stress related</td>
<td>22, 25, 26, 27, 31, 32, 33</td>
</tr>
<tr>
<td>Interpersonal relations</td>
<td>23, 28, 29, 30</td>
</tr>
<tr>
<td>Available policies</td>
<td>24</td>
</tr>
</tbody>
</table>
4.2 RESULTS OF THE QUESTIONNAIRE

4.2.1 Section A of questionnaire

Biographical information of respondents
The biographical information include gender, age, practice years as a registered nurse, additional qualifications, and length of time working in ICU, as well as position of employment of the respondents.

4.2.1.1 Gender of the respondents

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>23</td>
<td>95,8</td>
</tr>
<tr>
<td>Male</td>
<td>1</td>
<td>4,2</td>
</tr>
<tr>
<td>Total</td>
<td>24</td>
<td>100,0</td>
</tr>
</tbody>
</table>

The sample size was 24 and consisted of 23 female (95,8%) respondents and 1 male (4,2%) respondent.
4.2.1.2  *Age distribution of respondents*

The ages of respondents were grouped into three categories ranging from 20 – 30 years, 31 – 40 years and 41 years and higher.

**Frequency table 4.2: Age distribution of respondents**

<table>
<thead>
<tr>
<th>Age in years</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 – 30 years</td>
<td>1</td>
<td>4,2</td>
</tr>
<tr>
<td>31 – 40 years</td>
<td>6</td>
<td>25,6</td>
</tr>
<tr>
<td>41+ years</td>
<td>17</td>
<td>70,8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>24</strong></td>
<td><strong>100,0</strong></td>
</tr>
</tbody>
</table>

4.2.1.3  *Years practising as a registered nurse*

**Frequency table 4.3: Years practising as a registered nurse**

<table>
<thead>
<tr>
<th>No. of years</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 years</td>
<td>2</td>
<td>8,9</td>
</tr>
<tr>
<td>6 – 9 years</td>
<td>6</td>
<td>25,9</td>
</tr>
<tr>
<td>11 years+</td>
<td>15</td>
<td>61,4</td>
</tr>
<tr>
<td>0 years</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>24</strong></td>
<td><strong>100,0</strong></td>
</tr>
</tbody>
</table>

The respondents had varied experience practising as registered nurses. The highest number of 15 respondents (61,4%) having more than 11 years; six respondents (25,9%) falling between six – nine years; and two (8,9%) with two years. One respondent did not indicate his/her number of years practising as a registered nurse.

4.2.1.4  *Additional qualifications of respondents*

The respondents had varied educational backgrounds, but all were fully qualified registered nurses.
**Frequency table 4. 4: Additional qualifications of respondents**

<table>
<thead>
<tr>
<th>Additional qualifications</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intensive care training</td>
<td>13</td>
<td>54,2</td>
</tr>
<tr>
<td>Experienced</td>
<td>11</td>
<td>45,8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>24</strong></td>
<td><strong>100,0</strong></td>
</tr>
</tbody>
</table>

Thirteen of the respondents (54,2%) have intensive care certificates and eleven (45,8%) only have experience in the intensive care environment.

### 4.2.1.5 Intensive Care Unit experience of respondents

**Frequency table 4. 5: Intensive Care Unit experience of respondents**

<table>
<thead>
<tr>
<th>Years</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 4 years</td>
<td>20</td>
<td>83,3</td>
</tr>
<tr>
<td>&lt; or = 4 years</td>
<td>4</td>
<td>16,7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>24</strong></td>
<td><strong>100,0</strong></td>
</tr>
</tbody>
</table>

Most of the respondents (83,3%) have a long service record in intensive care (more than four years working experience) and only 16,7% had four or less.

### 4.2.1.6 Employment positions of the respondents

The majority of the respondents were employed as registered nurses with no authorised managerial position (95,8%). Only one of the participants held a managerial position (4,2%).

**Frequency table 4. 6: Employment positions of respondents**

<table>
<thead>
<tr>
<th>Position</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee</td>
<td>23</td>
<td>95,8</td>
</tr>
<tr>
<td>Managerial</td>
<td>1</td>
<td>4,2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>24</strong></td>
<td><strong>100,0</strong></td>
</tr>
</tbody>
</table>
4.2.2 Section B of questionnaire

Factors causing stress in the intensive care environment

The respondents were asked if they agree with specific statements. Using a 5-point Lickert style scale, items were evaluated ranging from ‘strongly agree’ to strongly disagree. The results were grouped into 3 categories, with respondent’s answers falling between 1–2 regarded as agreeing or strongly agreeing, 3 as unsure; and 4–5 as not agreeing or strongly disagreeing.

1 = Strongly agree
2 = Agree
3 = Not sure
4 = Not agree
5 = Strongly disagree

4.2.2.1 Responses to statements relating to management attitudes

- I always get feedback on my work performance.
- Nursing Service Managers write personal notes such as “Thank you” to personnel when it is due.
- There is access to senior management at all times.
- Unit managers keep a distance from personnel.
- Everybody is involved in decision-making regarding the organisation, unit policies and all aspects affecting personnel.

Figure 4.1: Responses to statements relating to management attitudes
The results revealed that the majority of respondents (17, that is 70,8%) did not agree or strongly disagreed with the fact that a positive management attitude exists; seven (29,2%) of the respondent were not sure, and no responses were positive.

For most individuals work is the central and defining characteristic of life; and is regarded as an important aspect in a person’s psychological well-being. It is through work that one attaches meaning and value to life. Social support is the most frequently identified moderator of stress. It can be divided into three groups namely family support; co-worker support and supervisory or managerial support (Quick, Murphy and Hurrel, 1992:40).

According to Cloete (1998:2), from employee viewpoint a supervisor is seen as the link to higher authority; a spokesperson for employees; and a person who can be consulted for guidance and advice in the workplace.

4.2.2.2 Responses to statements relating to emotions

- How often do you become irritated or angry with visitors, patients or fellow workers?
- I feel emotionally drained from my work.
- I often feel overloaded/overworked.
- How often do you become frustrated about stupid mistakes made by yourself or other staff members?
- My work is always interesting
- My work demands a lot of concentration.
- How often do you feel unhappy with your choice of work?
- Nurses are always portrayed by the media as being negligent and inhumane.

Figure 4.2: Statements relating to emotions
A total of 17 of the respondents (70.8%) strongly agreed with all statements, which could indicate the emotional signs of burnout. A minimum of seven respondents (29.2%) only agreed to the same fact.

4.2.2.3 Responses to statements relating to the availability of in-service education

- Refresher courses relating to the field of specialization (ICU) are available.
- An in-service training program exists to provide continuity of quality care.
- Good opportunities for continuing education at a university are available.

![Graph showing responses to in-service education statements](image)

N = 24

Figure 4.3: Statements relating to emotions

Seven of the respondents (29.2%) disagreed and thirteen (54.2%) of the respondents strongly disagreed with the statements about in-service education being available. Four respondents (16.6%) agreed with the statement, indicating that they knew about available in-service education.

Meyer, Van Niekerk and Naudé (2004:189) suggest that the most effective way or strategy for managing stress is to develop interpersonal, communication and assertiveness skills as well as maintain clinical nursing skills. Continuous updating of cognitive, psychomotor and technological skills are needed as uncertainty can create additional stress. Change should be viewed as a challenge and an opportunity to do something new and innovative.
4.2.2.4  Responses to statements relating to the work environment

- My work provides me with opportunities to be creative.
- My work permits me to decide how to go about doing my work.
- My work provides me opportunities to utilize a variety of skills.
- There is a cooperative, interdisciplinary relationship in the intensive care environment.
- A shift schedule is unfavourable for physical health, family life and social life.
- Does negative publicity affect your performance?

![Graph showing responses to statements]

Figure 4.4: Statements relating to the work environment

The results revealed that the majority of the respondents (16, that is 66.7%) were not sure whether the statements were a reflection of their work environment or not, whereas 4 (4.2%) agreed that the statements are a true reflection of their work environment.

4.2.2.5  Responses relating to remuneration

My years of experience are acknowledged through my monthly remuneration.
A high percentage (19, that is 79.2%) of the respondents strongly disagreed with this statement. One respondent (4.2%) strongly agreed. Four respondents (16.6%) did not agree that years of experience are acknowledged through monthly remuneration.

### 4.2.2.6 Responses to stress related statements

- Do you have any plans of leaving your institution and finding work somewhere else within a year from now?
- Do you sometimes feel stressed at work?
- Do you feel counselling is needed for intensive care environment personnel?
- Is your work physically taxing?
- When at home, do you always worry about work left unfinished at work?
- Are there times when you feel obliged to do non-nursing duties?
- In your unit, is any equipment being used, that you feel unsure about?
Frequency table 4.7: Responses to stress related statements

<table>
<thead>
<tr>
<th>Stress Level</th>
<th>Stress Responses</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>4.6 – 7</td>
<td>9</td>
<td>37.5</td>
</tr>
<tr>
<td>Moderate</td>
<td>2.3 – 4.6</td>
<td>13</td>
<td>54.2</td>
</tr>
<tr>
<td>Low</td>
<td>0 – 2.3</td>
<td>2</td>
<td>8.3</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>24</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Results indicated that nine respondents (37.9%) showed high levels of stress; 13 respondents (54.2%) were moderately stressed; and two respondents (8.3%) were not stressed at all.

4.2.2.7 Responses related to interpersonal relations

- Do you discuss work problems with your colleagues?
- If you have difficulty at work, do you feel yourself thinking about it at home?
- Is there somebody you can talk to at work or at home?
- Are there any patients you find difficult caring for?

Frequency table 4.8: Responses relating to interpersonal relations

<table>
<thead>
<tr>
<th>Responses</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>19</td>
<td>79.2</td>
</tr>
<tr>
<td>No</td>
<td>5</td>
<td>20.8</td>
</tr>
<tr>
<td>Total</td>
<td>24</td>
<td>100.0</td>
</tr>
</tbody>
</table>

A high percentage of the respondents (19 that is 79.2%) indicated that good interpersonal relations were in existence and that there is a good support system, while five respondents (21%) said that there are no interpersonal relations.

4.2.2.8 Responses relating to available policies

Do you have any clear policy to deal with stress in your unit?
Frequency table 4. 9: Responses relating to interpersonal relations

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>3</td>
<td>12,5</td>
</tr>
<tr>
<td>No</td>
<td>21</td>
<td>87,5</td>
</tr>
<tr>
<td>Total</td>
<td>24</td>
<td>100,0</td>
</tr>
</tbody>
</table>

A vast majority of the respondents (21 that is 87,5%) indicated that policies to deal with stress were non-existent in their units and only three respondents (12,5) said that policies to deal with stress were available.

4.2.2.9 Responses related to workload

- Is your work motivating you?
- Do you experience a lack of managerial support?
- Do you experience any problem working flexi-hour schedules?
- Do you experience any problem working a 12-hour shift?
- Do you experience any problem being in a routine unchallenging work environment?

Frequency table 4. 10: Responses relating to interpersonal relations

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>1</td>
<td>4,2</td>
</tr>
<tr>
<td>No</td>
<td>23</td>
<td>95,8</td>
</tr>
<tr>
<td>Total</td>
<td>24</td>
<td>100,0</td>
</tr>
</tbody>
</table>

Twenty three of the respondents (95,8%) were of the opinion that their work was not satisfying, due to the following problems: long working hours, e.g. 12 hour shifts; a lack of motivation with routine unchallenging work; and a lack of managerial support. The remaining one respondent (4.2%) reported satisfaction in his/her job.
4.3 RESPONSES TO STATEMENTS RELATED TO RESOURCES (HUMAN AND MATERIAL)

- Do you experience any problem with excessive workload?
- Is it a problem with you working with inadequate resources?
- Do you experience any problem regarding shortage of personnel?

Frequency table 4.11: Responses to statements related to resources (human material)

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>3</td>
<td>12.5</td>
</tr>
<tr>
<td>Yes</td>
<td>21</td>
<td>87.5</td>
</tr>
<tr>
<td>Total</td>
<td>24</td>
<td>100.0</td>
</tr>
</tbody>
</table>

In response to the statements related to human and material resources, 21 of the respondents (87.5%) indicated that they could not cope with inadequate resources, shortage of personnel and an excessive workload. Three of the respondents (12.5%) were of the opinion that they had no problem with resources.

4.3.1 Responses to the statements related to support systems

- There is insufficient equipment.
- Night shift and ICU allowances are offered.
- Communication between nurses and doctors is satisfactory.
- I receive good remuneration.
- The sight of dying patients or patients with poor prognosis is not a stressful experience.
- Lectures and seminars are arranged to ensure continuing education.
- There is a lack of recognition for good work.
- Opportunities for career advancement are available.
Frequency table 4. 12: Responses to statements related to support systems

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>3</td>
<td>12,5</td>
</tr>
<tr>
<td>No</td>
<td>21</td>
<td>87,5</td>
</tr>
<tr>
<td>Total</td>
<td>24</td>
<td>100,0</td>
</tr>
</tbody>
</table>

From the above statistical results the researcher deduce that the majority of the respondents (21 that is 87,5%) experience a lack of support in their work environment. Three of the respondents (12,5%) indicated the presence of a support system.

4.3.2 Responses related to statements regarding patient-related circumstances, using ‘bearable’ or ‘cannot cope’ responses

- Groaning and moaning patients.
- Constant interaction with critically ill patients.
- Delivering bereavement news to families/significant others.

Frequency table 4. 13: Responses related to statements regarding patient-related circumstances using ‘bearable’ or ‘cannot cope’ responses

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>14</td>
<td>58,3</td>
</tr>
<tr>
<td>No</td>
<td>10</td>
<td>41,7</td>
</tr>
<tr>
<td>Total</td>
<td>24</td>
<td>100,0</td>
</tr>
</tbody>
</table>

Fourteen of the respondents (58,3%) reported that it was bearable working with groaning and moaning patients and being in constant contact with critically ill patients, as well as delivering bereavement news, while ten (41,7%) said that they could not cope with any of the above.

4.3.3 Responses to statements related to rewards and recognition

- I cannot cope if there is a lack of rewards and promotion.
- I cannot cope with inadequate supervisory support.
- I cannot cope with an autocratic managerial style.
- I cannot cope with good managerial support during busy times.
**Frequency table 4.14: Responses to statements related to rewards and recognition**

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>4</td>
<td>16,7</td>
</tr>
<tr>
<td>No</td>
<td>20</td>
<td>83,3</td>
</tr>
<tr>
<td>Total</td>
<td>24</td>
<td>100,0</td>
</tr>
</tbody>
</table>

Twenty of the respondents (83,3%) indicated that they could not cope, or it was unbearable working in an environment where there was inadequate supervisory support; an autocratic management style and lack of rewards and promotion; but they said that good management support during busy times was bearable. On the other hand, four of the respondents (16,7%) responded that they could bear with all factors pertaining to the above.

### 4.3.4 Responses to statements relating to work related issues

- Are you coping with a heavy workload?
- Are you coping with working shift patterns?
- Are you coping listening everyday to beeping and buzzing sounds of machines?
- Are you coping having to work with inadequate knowledge of the use of equipment?
- Are you coping with the switching off of life support machines by doctors?
- Are you coping using damaged and problematic monitors?
- Are you coping with demanding physicians yelling at staff members in front of visitors?
- Do you think you can cope being found a scapegoat for disconnected machinery, non-working plugs and dislodging endotracheal tubes?
- Are you coping with fellow workers not doing their work properly?
- Are you coping with the fact that you must answer constant ringing telephones during busy hours?
- Are you coping with the fact that you must do the work of other health members when not on duty e.g. messenger work, general assistants – cleaning floors, dusting or dishing up food for patients?
Eleven (45,8%) of the respondents reported that they were coping with the above and thirteen (54,2%) indicated that they were not coping.

### 4.3.5 Responses to statements related to physical symptoms of stress

- How often do you get headaches at work?
- How often do you have to stay at home because of flu, colds, backache or skelemuscular pains?
- Does worrying about your work cause you to lose sleep or concentration?
- I feel fatigued when I get up in the morning and have to face another day at work.

Ten (41,7%) of the respondents agreed with the fact that they experienced problems resulting in physical symptoms of stress. Fourteen respondents (58,3%) did not agree with the statements, which indicate that the majority of respondents experience no physical symptoms of stress.

### 4.4 CONCLUSION

Questionnaires were analyzed, conclusions from the data analysis were drawn and these are described in chapter five.
CHAPTER 5

CONCLUSIONS, LIMITATIONS, GUIDELINES AND RECOMMENDATIONS

5.1 INTRODUCTION
In chapter four the research idea was presented; the questionnaire was scrutinized; data were analysed; and the results were presented in conjunction with available literature on the subject. At the beginning of this research project the aims and objectives of this study were stated to be as follows:

- to explore and describe registered nurses’ perception of factors causing stress in intensive care environments at state; and
- to develop guidelines for a stress management program to assist registered nurses in coping with stress in an intensive care environment.

The above objectives were reached on completion of this study and serves as a baseline for the development of guidelines; the identification of the limitations of the study; as well as the formulation of recommendations.

5.2 CONCLUSIONS
The following conclusions were drawn from the results of the study. The biographical data of the respondents together with their perceptions of factors causing stress in an intensive care environment are summarized.

5.2.1 Biographical data
The researcher acknowledges the fact that due to the small sample size, no real significant statistical inferences can be made.
5.2.1.1 Gender and age
The majority of the participants, all registered nurses, were females, with only one male participant. This obviously limits the generalizability of the findings. The highest number of participants (17) were older than 41 years of age.

5.2.1.2 Additional qualifications
More than half of the registered nurses who participated in this study (13) had an intensive care qualification and eleven (11) of the registered nurses were experienced in intensive care, leaving no room for inferences.

5.2.1.3 Years of experience in intensive care unit and practising as a registered nurse
A large proportion of the respondents (20, that is 83.3%) had more than 4 years of experience in an intensive care unit setting, with the average being more than 10 years. The results of this study reveal that the number of years experience are not on par with monthly remuneration. McShane and Von Glinow (2000:66) identified motivation as one of the key ingredients in employee performance and productivity. According to these authors, lack of motivation has a direct cost for the organisation, in that even when employees have clear work objectives and adequate skills, they will not get the job done without sufficient motivation to achieve those objectives. Lack of rewards in terms of personal growth, opportunities to participate in decision making, meaningful work autonomy and performance bonuses in an organisation can lead to feelings of demotivation and stress.

5.2.2 Factors causing stress in the intensive care environment
The following conclusions were reached regarding registered nurses’ perceptions of factors causing stress in intensive care environments. A wide variety of problems were indicated by the respondents. Among other things that were perceived as stressors, the following were identified as major contributing causes, as evidenced by high percentage scores:

- Unsatisfactory management attitudes towards nursing staff (registered nurses in this study), as indicated by 70,8% respondents’ positive responses (figure 4.1, chapter four).

- Lack of resources (human and material). The descriptive summary of results for frequency table 4.11 indicates that 87,5% (21) respondents were unable to
cope with excessive workload, shortage of personnel and inadequate resources. Positive responses to the statements indicate that registered nurses are also involved in the performance of non-nursing duties such as messenger work, dishing up of food for patients, and lifting of heavy patients.

- Inadequate compensation or remuneration. Figure 4.5 shows that 79.2% of the respondents strongly disagree with the fact that their years of experience are acknowledged through monthly remuneration. Much dissatisfaction regarding remuneration is also centred around discontinued special allowances, such as night shift and intensive care allowances.

- According to the researcher’s observations as a worker in the same environment as the participants in this study, nurses who cannot survive/make ends meet on their salary sometimes seek a solution to this problem by working part-time at another institution. However, this can result in nurses who are already under great pressure, overworking themselves and being unable to render or give their best service.

- Policies to deal with stress are not available in the nursing units.

- Unavailability of in-service education is also viewed as a serious problem. 54.2% of the respondents strongly disagree that in-service education is in existence and also 29.29% of the respondents disagreed to the same statement, giving a total of 83.4% negative responses. This means that all respondents are saying that there is no in-service education in their work environment.

### 5.3 GUIDELINES FOR A STRESS MANAGEMENT PROGRAMME

Phase Two of the study is formulated based on the results of Phase One. Phase Two of the study is aimed at developing guidelines for a stress management programme to assist registered nurses in coping with the stress of an intensive care environment. Data consolidated from this research study’s results indicate that a variety of stressors are prevalent in an intensive care environment, which are not only detrimental to the registered nurses/caregivers but to the patients and organisation as well.
The guidelines are based on the findings of the study, as identified through the analyzed data.

5.3.1 Establishment of a relationship of trust between the unit manager and the registered nurses
Interventions to establish a relationship of trust between the unit managers and registered nurses must include the following:

5.3.1.1 Promote awareness of interest and recognition
The following are strategies that could be utilized by unit managers to create an awareness of their personal interest in the registered nurses and recognition of individual efforts.

5.3.1.2 Recognition of the registered nurses’ identity
- To achieve this, unit managers should become familiar with registered nurses and their work. This can be done by learning and remembering their names, being more visible and/or doing more rounds in the units; and getting to know about the staff member’s best achievements.

- They should introduce newly appointed registered nurses to other health care team members. This will in turn build the self-esteem and confidence of the new registered nurse and create a feeling of acceptance and a sense of belonging (Carlson 2002:85).

5.3.1.3 Recognition of each registered nurse’s unique individuality
The unit managers must realize that each registered nurse is unique, with her/his own individual needs. This implies recognition of the need to:

- be flexible in his/her approach to each registered nurse and show respect to the registered nurses, consulting with them before taking action or initiating any change affecting personnel; being encouraging in difficult times and thanking people for their contributions to quality patient care;

- show openness by creating open lines of communication between managers and subordinates; being open about one’s uncertainties, faults and mistakes; and avoiding defensive responses when one feels that one is criticized;
- demonstrate good listening skills and empathy, allowing time to work through problems, be capable of identifying his/her own stress and that of his/her personnel, discussing problems and finding solutions together;
- avoid harsh criticism, insulting and sarcastic remarks and explore, utilize and enhance the existing strengths and knowledge of registered nurses in terms of handling stressful situations;
- have registered nurses feel that they are cared about as individuals; then they can accept and appreciate their own performance and achievements; strive to improve their weak areas when necessary; and build on their strengths; and
- demonstrate a belief in the registered nurses’ potential by instilling a sense of responsibility and selfworth within the registered nurses and building a non-judgemental, trusting environment.

5.3.1.4 Recognition of registered nurses’ individual personal rights
- Maintain equity, firmness and fairness in the treatment of all registered nurses. The unit manager must be consistent in implementing rules, standards and decisions regarding the managing of registered nurses’ affairs.
- Feedback on individual registered nurses’ work performance must be given when it is due.
- Maintain confidentiality at all times; reprimand registered nurses in private, that is away from patients bedsides, peers, visitors and other members of the staff. In this way the registered nurse will feel that his/her dignity is still respected.

5.3.2 Creating opportunities for critical incident debriefing sessions
This can be encouraged by meeting regularly with an objective to discuss the intensive care environment’s critical issues such as attending to grief and loss, and the emotional management of patients and families.

Debriefing serves as a way of venting after difficult decisions were taken and it is used to decrease the impact of traumatic and/or distressing situations. Strategies used to implement debriefing include the following: defusing, that is the incident is discussed informally by the unit manager and the person involved in the incident within the first 24-48 hours of its occurrence; and paraphrasing and reflecting, where the unit manager helps the person to verbalize and work through their feelings. If the unit manager is unable to help the staff member in any way, he/she must be referred to another professional for further assistance (Meyer et al, 2004:191).
According to Jackson (1997: 32) the aims of debriefing in an intensive care environment are to:
- lessen the impact of distressing critical incidents on ICU staff; and
- accelerate recovery from those events before harmful stress reactions damage the performance or health of the registered nurses.

Below are ground rules that unit managers must adhere to during debriefing sessions:
- it must take place after or following any traumatic incident occurring in the unit;
- it must occur during handover, between shifts and before a staff member goes home;
- nothing must be discussed outside the meeting;
- participation must be voluntary; and debriefing must last no longer than 30 minutes (Jackson 1997:32).

5.3.3 Provision of a clear and relevant policy relating to counselling services
- A counselling service will assist registered nurses in dealing with stressful and tension provoking situations.
- The registered nurse may not want to discuss specific issues with his/her unit manager/family, therefore a person with nursing experience and the necessary expertise and qualifications, who is not involved in the programme, should provide the counselling service.
- The registered nurses must be notified as to the time and dates that the counsellor will be available.
- The location of the venue must be accessible to all.
- Attendance must be voluntary.
- Contact telephone numbers and the consultation hours of the counsellor must be made available to the nurses.

5.3.4 Developing and managing a stress management programme
All registered nurses in an intensive care environment must be sent for a stress management course at least once a year.

The stress management course must be offered by a person who is skilled in the stress management field.

Topics to be included in the stress management programme must include the following:
- What is stress?
• Recognising symptoms of stress within yourself
• How to recognise stress in others
• Sources of stress and personal stress management strategies.

5.3.5 Creating opportunities for registered nurses to attend in-service education as well as enhancing continuing education
Continuing education and staff development should be promoted. In-service education involves education of the employee while he/she is doing his/her job or rendering a service to clients in an organisation. In-service education is aimed at updating employees about new diagnostic and treatment modalities on caring and the operation of new equipment; the optimal use of supplies and new institutional policy decisions. It is also designed to remedy deficiencies in the skills and knowledge of employees (Booyens, 1998:384).

The nursing unit manager must support and recommend individual programmes for continuing education, such as university degree courses relevant to the fields of specialization, attendance of workshops and staff development seminars.

5.3.6 Nursing unit managers must investigate the possibility of re-instating ICU and night shift allowances for all registered nurses
This can assist in improving remuneration. The development of salary scales by the government or those in the authority that accommodate registered nurses (both experienced and intensive care qualified) is recommended. This will help resolve the conflict among personnel, lessen stress levels and improve work performance.

5.3.7 Facilitate adequate management of human and material resources
This can be achieved by increasing staff infrastructure, filling vacant posts with immediate effect, and improving recruitment strategies.

Recruitment strategies can be improved by attracting employees with better salaries, incentives, promotions and rewards, appropriately given when it is necessary. The literature study shows that understaffing may have a tremendous impact on the organisational functioning and on its staff in terms of increased absenteeism and poor service delivery (Omdahl et al, 2001: 1351).
5.4 LIMITATIONS OF THE STUDY
There are obvious limitations to this study, the most important being the small sample size (N = 24), which limits the generalizability of the findings. Another limitation is that, when collecting data, the researcher repetitively used variables with similar meanings in the questionnaire. This, however, added to the reliability and validity of the study.

5.5 RECOMMENDATIONS
The statistician recommended that item-sets be described to reflect the analysis of findings.

5.5.1 Recommendations for nursing practice
It is important to acknowledge the limitations of this small explorative, descriptive study before any attempt is made to change or modify existing practice. In order to gain more insight and to extend the findings, a confirmatory study with a larger sample of registered nurses in intensive care units from different hospitals is deemed necessary.

As we enter the new millenium, the nursing shortage seems to be a major issue. There is an increasing need for highly skilled, experienced nurses to care for acutely ill patients. If the health system wants to retain nurses, it is essential for management to listen to the concerns of nurses, provide flexible scheduling, adequate staffing levels as well as appropriate rewards and recognition.

All registered nurses must attend a stress management programme arranged by unit managers each year.

5.5.2 Recommendations for nursing education
It is recommended that a stress management programme be incorporated into the curriculum of neophytes by nursing training institutions, with the aim of empowering them with coping resources as they enter the nursing profession. When nurses’ work is valued as the major product of a hospital, the quality of patient care improves greatly. It is therefore essential that nurses are supported and encouraged to gain the necessary skills that will assist them in dealing with stress.
5.5.3 Recommended further research

- This study can be utilized as a basis for further research relating to registered nurses’ perceptions of factors causing stress in intensive care environments at private hospitals.
- A replication of the same study can be undertaken, using a larger sample of registered nurses with full representation of the entire population.
- Research can be done to determine the relevance and value of the above guidelines when implemented and their effectiveness for registered nurses in intensive care units can be evaluated.

5.4 CONCLUSION

The research study was conducted using a quantitative, explorative, descriptive and contextual design, making use of a structured questionnaire to collect data.

This study concludes that intensive care nurses are susceptible to many work related stressors that have both long term physiological and psychological consequences. Guidelines for a stress management programme, to assist these nurses in coping with stress in the intensive care environment, was developed, based on the results of this study.
BIBLIOGRAPHY


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King, L.  2005.  A description of the hospital workplace experiences of registered nurses that have contributed to their resignation in the Durban Metropolitan area.  Durban: University of KwaZulu-Natal.


ANNEXURE A

Informed Consent
INFORMED CONSENT FORM

TITLE OF THE RESEARCH PROJECT: REGISTERED NURSES’ PERCEPTIONS OF FACTORS CAUSING STRESS IN THE INTENSIVE CARE ENVIRONMENT IN STATE HOSPITALS

Principal investigator: S.P. Beau
Address: Department of Nursing Science, NMMU, P.O. Box 1600, Port Elizabeth
Contact number: 041 – 3715258

DECLARATION BY OR ON BEHALF OF THE PARTICIPANT:

I, the undersigned ______________________________ (name) a registered nurse working in the intensive care unit of ___________________________________ (name of the hospital) Hereby confirm as follows:

I was invited to participate in the above-mentioned research project, which is being undertaken by Ms. S. Beau of the Department of Nursing Science in the Faculty of Health Science at the Nelson Mandela Metropolitan University.

The following aspects have been explained to me:

Aim:
The investigator is exploring registered nurses’ perceptions of factors causing stress in the intensive care environment at state hospitals.

The information will be used to:

Explore and describe the perceptions of registered nurses regarding stress causing factors in an intensive care environment.
Develop guidelines for a stress management programme to assist registered nurses in coping with the stress in an intensive care environment.

Procedure: I understand that I will be interviewed and the researcher only expects me to answer the questions on the questionnaire as honestly as possible.

Initial
2.2 Risks: There will be no risks for myself to participate in the study.

Possible benefits: As a result of my participation in this study the principal investigator aims to:

Develop a stress management programme for registered nurses to assist in coping with stress related to an intensive care environment.

Confidentiality: My identity will not be revealed in any discussion, description or scientific publication by the investigators.

Voluntary participation/refusal/discontinuation: My participation is voluntary. My decision to participate will in no way affect my work.

The information above was explained to me by ____________ (name of relevant person) in English/Afrikaans/Xhosa ____________ and I was given the opportunity to ask questions and all these were answered satisfactorily.

No pressure was exerted upon me to consent to participate and I understand that I may withdraw at any stage without penalisation.

Participation in the study will not result in any additional cost to myself.

A. I hereby consent voluntarily to participate in the above-mentioned project.

Signed at _________________________ on _____________ (Place) (Date)

__________________________________    ______________
Signature of participant                Witness
ANNEXURE B

Request for permission from health authorities
APPLICATION TO CONDUCT RESEARCH

I am a Master’s degree student in Advanced General Nursing Science: Critical Care Nursing at the Nelson Mandela Metropolitan University. One of the requirements for the degree is to conduct a research study. It is for this reason that I request your permission to undertake the following study:

- Factors causing stress in the intensive care environment in state hospitals.

Ethical principles of research will be adhered to at all times. Anonymity and confidentiality will be ensured. All respondents will sign informed consent forms. The research will be conducted under the supervision of Dr S. Carlson of the Department of Nursing Science at the Nelson Mandela Metropolitan University.

For any further queries, please do not hesitate to contact me at the above address or at the following contact numbers:

041 – 3715258 (Home) or
041 – 4052443 (Work)
0824755238 (Cell)

Thank you for your attention and for considering my request.

Yours faithfully

____________________
(MS) S.P. BEAU
REGISTERED NURSE
APPLICATION TO CONDUCT RESEARCH

I am a Master’s degree student in Advanced General Nursing Science: Critical Care Nursing at the Nelson Mandela Metropolitan University. One of the requirements for the degree is to conduct a research study. It is for this reason that I request your permission to undertake the following study:

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041 – 4052443 (Work)
0824755238 (Cell)

Thank you for your attention and considering my request.

Yours faithfully

_____________________
(MS) S.P. BEAU
REGISTERED NURSE
Dear Madam

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Yours faithfully

_____________________
(MS) S.P. BEAU
REGISTERED NURSE
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For any further queries, please do not hesitate to contact me at the above address or at the following contact numbers:

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041 – 4052443 (Work)
0824755238 (Cell)

Thank you for your attention and for considering my request.

Yours faithfully

_____________________
(MS) S.P. BEAU
REGISTERED NURSE
ANNEXURE C

Questionaire
QUESTIONNAIRE

QUESTIONNAIRE ON FACTORS CAUSING STRESS IN THE INTENSIVE CARE ENVIRONMENT.

Please complete the following questionnaire on factors causing stress in the intensive care environment. Indicate by using the following criteria to show to what extent you agree with the listed items 1 – 5, for example:

1 = Strongly agree  
2 = Agree  
3 = Not sure  
4 = Not agree  
5 = Strongly disagree

If a question needs the YES or NO response, answer by placing a (tick) √ in the appropriate block. Please motivate your response with a statement if needed.

If a question needs the satisfying/dissatisfying response please answer by placing a √ in the appropriate block.

Please complete all other responses by means of a √.

Thank you for your time and cooperation.

S.P. Beau  
MCur Student  
Department of Nursing Science  
Nelson Mandela Metropolitan University  
Contact details:  
Cell: 0824755238  
Home: 041 - 3715258  

A reference code will be allocated to this questionnaire, therefore your name will not appear on this questionnaire.
**SECTION A: BIOGRAPHICAL DATA**

(Tick where applicable)

1. Gender
   - Male
   - Female

2. Age
   - 20 – 30
   - 31 – 40
   - 41 and above

3. Years practising as a registered nurse

4. Additional qualifications
   - 1.
   - 2.
   - 3.

5. How long have you been working in the intensive care unit?
   - Less than 2 years
   - More than 2 years
   - 3 Years
   - 4 Years
   - More than 4 years

6. Employee position (EP)
   - EP

   Managerial position (MP)
   - MP
SECTION B

Factors causing stress in the intensive care environment.

Using the criteria below, indicate to what extent you agree with the following statements.

1 = Strongly agree
2 = Agree
3 = Not sure
4 = Not agree
5 = Strongly disagree

1. My work provides me with opportunities to be creative.

   1 2 3 4 5

2. My work permits me to decide how to go about doing my work.

   1 2 3 4 5

3. My work provides me opportunities to utilise a variety of skills.

   1 2 3 4 5

4. I always get feedback on my work performance.

   1 2 3 4 5

5. I feel emotionally drained from my work.

   1 2 3 4 5

6. Refresher courses relating to the field of specialisation (ICU) are available.

   1 2 3 4 5
7. My work is monotonous.

8. I often feel overloaded/overworked.

9. There is a co-operative interdisciplinary relationship in the intensive care environment.

10. An in-service training program exists to provide continuity of quality care.

11. Good opportunities for continuing education at a university are available.

12. My years of experience are acknowledged through my monthly remuneration.

13. Nursing Service Managers write personal notes such as “Thank you” to personnel when it is due.

14. There is access to senior management at all times.
15. My work is always interesting.

16. My work demands a lot of concentration.

17. A shift schedule is unfavourable for physical health, family life and social life.

18. Unit Managers keep a distance from personnel.

19. Everybody is involved in decision making regarding organisation, unit policies and in all aspects affecting personnel.

20. Nurses are always portrayed by media as being negligent and inhumane.

21. Does the negative publicity affect your performance?

From the list below indicate your response with YES/NO and please support your statement where applicable.

22. Do you have any plan of leaving your institution and find work somewhere else in a year period from now? YES NO
If yes, please elaborate ______________________________________

__________________________________________________________

23. Do you discuss work problems with your colleagues?  YES NO

If no, please indicate why not __________________________________

__________________________________________________________

24. Do you have any clear policy to deal with stress in your unit?  YES NO

25. Do you feel stressed sometimes at work?  YES NO

If yes, what really stresses you? _______________________________

__________________________________________________________

26. Is your work physically taxing?  YES NO

If yes, in what way? _________________________________________

__________________________________________________________

27. If you find difficulty at work, do you feel yourself thinking about it at home?  YES NO

28. Is there somebody you can talk to at work or at home?  YES NO
If yes, who? E.g. Unit Manager, spouse/brother/ sister.

__________________________________________________________

29. Are there any patients you find difficulty in caring for?  YES NO

If yes, how? ______________________________________________

__________________________________________________________
30. When at home do you always worry about work left unfinished at work?  

________________________________________________________________________
________________________________________________________________________

31. In your unit is there any equipment used, you feel unsure about? If yes, give an example of type of equipment.  

________________________________________________________________________
________________________________________________________________________

32. Are there times you feel obliged to do non-nursing duties?  

________________________________________________________________________

33. Is your work motivating you?  
If not, please elaborate.  

________________________________________________________________________
WHICH OF THE FOLLOWING DO YOU FIND SATISFYING OR DISSATISFYING ABOUT YOUR WORK? USE LETTERS S = SATISFYING OR D = DISSATISFYING. TICK YOUR RESPONSE.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>34. Excessive workload.</td>
<td>D S</td>
</tr>
<tr>
<td>35. Insufficient equipment.</td>
<td>D S</td>
</tr>
<tr>
<td>36. Lack of management support.</td>
<td>D S</td>
</tr>
<tr>
<td>37. Flexi-work schedules.</td>
<td>D S</td>
</tr>
<tr>
<td>38. Working night shift.</td>
<td>D S</td>
</tr>
<tr>
<td>39. ICU allowance is offered.</td>
<td>D S</td>
</tr>
<tr>
<td>40. Inadequate resources.</td>
<td>D S</td>
</tr>
<tr>
<td>41. Communication between nurses and doctors is satisfactory.</td>
<td>D S</td>
</tr>
<tr>
<td>42. Good remuneration.</td>
<td>D S</td>
</tr>
<tr>
<td>43. Shortage of personnel.</td>
<td>D S</td>
</tr>
</tbody>
</table>
44. The sight of dying patients or patients with poor progress.  

45. Lectures and seminars are always arranged for continuing education.  

46. Lack of recognition for good work.  

47. Opportunities for career advancement available.  

48. 12 Hour shifts.  

49. Routine, unchallenging work environment.  

CIRCLE THE NUMBER THAT BEST DESCRIBE YOUR ANSWER.
1 = BEARABLE; 2 = CANNOT COPE.

50. Groaning and moaning patients.  

51. Lack of rewards and promotion.  

52. Heavy workload.  

53. Shift patterns.

54. Constant interaction with critically ill patients.

55. Beeping and buzzing sounds of machines.

56. Little knowledge on use of equipment.

57. Damaged and problematic monitors.

58. Inadequate supervisory support.

59. Switching off life support machines by doctors.

60. Autocratic management style.

61. Good management support during busy times.
62. Demanding physicians yelling at staff members in front of visitors.

   1  2

63. Delivering bereavement news to families/significant others.

   1  2

64. Finding scapegoat for disconnected machinery, nonworking plugs and dislodging endotracheal tubes.

   1  2

65. Fellow workers not doing their work properly.

   1  2

66. Constant ringing telephones during busy hours.

   1  2

67. Having to do the work of other health members when not on duty e.g. messenger work, general assistants – cleaning floors and dusting or dishing up food for patients.

   1  2

68. ON A SCALE OF 0 – 4 WITH 0 = NEVER; 1 = SELDOM; 2 = OFTEN; 3 = SOMETIMES; 4 = ALWAYS. RELATE THE ITEMS BELOW TO YOUR WORK ENVIRONMENT.

69. How often do you get headaches at your work?

   1  2  3  4
70. How often have you had to stay home from work because of colds, flu, backache or skelemuscular pains?

1 2 3 4

71. How often do you become irritated or angry with visitors, patients or fellow workers?

1 2 3 4

72. Does worrying about your work cause you to lose sleep or concentration?

1 2 3 4

73. How often do you become frustrated about stupid mistakes made by yourself or other staff members?

1 2 3 4

74. How often do you feel unhappy with your choice of work?

1 2 3 4

75. I feel fatigued when I get up in the morning and have to face another day at work.

1 2 3 4

THANK YOU FOR YOUR TIME!
ANNEXURE D

Approval letter from Advanced Degrees Committee
NAME: SINGISWA PORTIA BEAU

STUDENT NUMBER: 204010969 DEGREE: MCUR.

TITLE: Registered nurses' perceptions of factors causing stress in the intensive care environment in state hospitals.

DECLARATION: I declare that the abovementioned dissertation/thesis is my own work and has not been submitted for a degree at another University.

SIGNATURE: S. Beau

DATE: 30/01/2006
Ref: 204010969

Contact person: Ms G Ebelle

Date: 31 August 2005

Address:

Ms SP Beau
7 Conway Street
Bridgemead
PORT. ELIZABETH
6025

Dear Ms Beau

FINAL RESEARCH PROPOSAL

Please be advised that your final research proposal was approved by Faculty Management subject to the following amendments/suggestions/recommendations being made to the satisfaction of your Supervisor:

(i) That the candidate's name be indicated in full on the title page;
(ii) that developing a stress management programme was not the main aim of the study and was also not achievable given the design of the study. It was suggested that the secondary aim be amended as follows: 'To develop guidelines for a stress management programme to assist the registered nurse in coping with stress in the intensive care environment' (See page 6);
(iii) that the aims and objectives of the study are incorrectly reflected in the abstract. (See page (i));
(iv) that the limitations of using purposive sampling be added to section 5.1 (see page 8);
(v) that in the Abstract no reference was made to the statistical techniques to be used in the study. Reference was made to inferential statistics that would be used but it was not clear why this was required;
(vi) that no reference to studies declaring that the questionnaire had been used in other studies was made;
(vii) that care should be taken when compiling guidelines for the stress management of intensive care nurses as this study's results could only be generalised to intensive care nurses in state hospitals in the NMM. This limitation must be acknowledged;
(viii) that the sampling procedures be revisited;
(ix) that the literature survey must be completed prior to the finalisation of the questionnaire;
(x) that the table of contents be revisited;
(xi) that the references had many inconsistencies and needed revision.

Yours sincerely

[Signature]

OFFICE OF THE DEAN
FACULTY OF HEALTH SCIENCES

SIG/h.h.chaal/letterfinalresearchproposijune
PROVINCE OF THE EASTERN CAPE, DEPARTMENT OF HEALTH
PORT ELIZABETH HOSPITAL COMPLEX

Enquiries :  DR. F.L RANK
Imibuzo :
Reference :  F/37
Irefensi :
Telephone :  041 – 391 8002
Facsimile :  041 – 391 8007
Date      :  27 SEPTEMBER 2005

To:     Dr. S. Carlson
         Nelson Mandela Metropolitan University
                   Fax: 041 – 504 2616

RE: STUDY MS. S. BEAU – STRESS IN ICU

Your letter is dated 13/09/05.

Authorization is hereby granted to Ms Beau to do the research on condition that:

1) Confidentiality is maintained and

2) The department of Health is given a copy of the report.

DR. F.L RANK
HEAD: CLINICAL GOVERNANCE MANAGER
FLR/ma
The Examinations Officer

30/01/06

Dear Ms Gaumbe

I hereby give permission to submit my research dissertation/thesis entitled

"METHODOLOGICAL FACTORS AFFECTING NURSES' ATTITUDE TOWARDS THE INPATIENT CONFINEMENT IN STATE HOSPITALS"

for examination.

S. Bean

Supervisor/Promoter

[Signature]

Co-Supervisor/Co-Promoter

[Signature]