

**THE IMPACT OF OVERCROWDING ON REGISTERED NURSES IN THE
PAEDIATRIC EMERGENCY DEPARTMENT AT A TERTIARY HOSPITAL**

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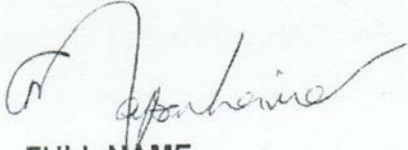
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DECLARATION

I declare that **THE IMPACT OF OVERCROWDING ON REGISTERED NURSES IN THE PAEDIATRIC EMERGENCY DEPARTMENT IN A TERTIARY HOSPITAL** is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references and that the work has been not submitted before for any other degree at any other institution.



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Dedication

This dissertation is dedicated to my mother, Elna Fourie, for her unconditional love, unwavering support and assistance.

THE IMPACT OF OVERCROWDING IN THE PAEDIATRIC EMERGENCY DEPARTMENT ON REGISTERED NURSES AT A TERTIARY HOSPITAL

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ABSTRACT

The purpose of this qualitative study was to explore and describe the extent to which registered nurses' practice was affected by emergency department overcrowding. Participants were recruited from a tertiary hospital by using the purpose sampling method. Data collection was done using a semi-structured interview guide. Individual interviews were conducted with eight registered nurses working in the paediatric emergency department. Data analysis was conducted using thematic content analysis and Yin's (2003:178) five-phase cycle. The study findings revealed that the lack of professional nurse leadership and the difficult existing relationship with the physicians were obstacles that had to be obviated if the paediatric ED were to function optimally and best practice were to be achieved. It was revealed that a problematic issue in the setting was that the most critical decisions on allocating where patients should be treated were made by physicians who have more authority than nurses. It was recommended that the ED need to be clearly defined in the policies as an outpatient, emergency care or as an episodic patient care area as "Admission" can mean admission to the ED or admission as an inpatient/boarded patient.

KEY CONCEPTS

Emergency department overcrowding; impact; job satisfaction; paediatrics; registered nurse.

CHAPTER 1**ORIENTATION TO THE STUDY**

1.1	INTRODUCTION.....	1
1.2	BACKGROUND INFORMATION ABOUT THE RESEARCH PROBLEM.....	2
1.2.1	The source of the research problem.....	2
1.2.2	Background to the research problem.....	3
1.3	RESEARCH PROBLEM.....	6
1.4	AIM OF THE STUDY.....	8
1.4.1	Research purpose and the research questions	8
1.4.2	Research objectives	8
1.5	SIGNIFICANCE OF THE STUDY.....	9
1.6	DEFINITIONS OF CONCEPTS.....	9
1.7	FOUNDATIONS OF THE STUDY	11
1.7.1	Meta-theoretical assumptions.....	12
1.8	RESEARCH DESIGN.....	13
1.8.1	Research design	14
1.8.2	Research methods.....	15
1.9	STRUCTURE OF THE STUDY	16
1.10	CONCLUSION	17

CHAPTER 2**LITERATURE REVIEW**

2.1	INTRODUCTION.....	18
2.2	WHAT IS EMERGENCY DEPARTMENT OVERCROWDING?	19
2.3	EMERGENCY DEPARTMENT OVERCROWDING – CONTRIBUTING FACTORS	20
2.3.1	Input factors	21
2.3.2	Throughput factors	22
2.3.3	Output factors	23
2.3.3.1	Access blocks	24
2.3.3.2	Queuing	25
2.4	IMPACT OF EMERGENCY DEPARTMENT OVERCROWDING ON RNs PROFESSIONAL PRACTICE	27
2.5	IMPACT OF ENVIRONMENT ON THE PRACTICE OF REGISTERED NURSES.....	29
2.6	IMPACT OF WORKLOAD ON RNs DUE TO OVERCROWDING IN EDs	29
2.6.1	Unit level workload.....	30
2.6.2	Job level workload.....	31
2.6.3	Patient level workload	31
2.6.4	Situation level workload.....	32
2.7	A HEALTHY WORKPLACE IN THE ED	34

2.8	JOB SATISFACTION	36
2.9	CONCLUSION	39

Table of Contents		Page
CHAPTER 3		
RESEARCH DESIGN AND METHOD		
3.1	INTRODUCTION	40
3.2	RESEARCH METHODOLOGY	40
3.2.1	Research setting	41
3.3	RESEARCH DESIGN	42
3.3.1	Qualitative paradigm	43
3.3.2	Explorative design.....	48
3.3.3	Descriptive design.....	49
3.3.4	Contextual.....	49
3.3.5	Inductive reasoning.....	50
3.4	RESEARCH METHOD	51
3.4.1	Population and sample selection	51
3.4.2	Sample and sampling techniques	52
3.4.3	Data collection	53
3.4.3.1	Data collection process.....	55
3.4.3.2	Data management	57
3.4.3.3	Data analysis	58
3.5	MEASURES TO ENSURE TRUSTWORTHINESS.....	60
3.6	ETHICAL CONSIDERATIONS.....	66

3.6.1	Protection of the rights of the research institution	66
3.6.2	Protection of the rights of human participants.....	67
3.6.3	Protection of the rights of the academic discipline	68
3.7	CONCLUSION	69

CHAPTER 4**PRESENTATION AND DESCRIPTION OF THE RESEARCH FINDINGS**

4.1	INTRODUCTION.....	70
4.2	PARTICIPANT DEMOGRAPHICS	70
4.2.1	Analysis of participant demographic data.....	71
4.3	RESEARCH RESULTS.....	73
4.3.1	Overview of the themes, categories and subcategories derived from the interview data	73
	THEME 1: INPUT FACTORS RELATED TO PERCEPTIONS OF NURSES ABOUT EMERGENCY DEPARTMENT OVERCROWDING	74
	Category 1.1: Nurses' understanding of ED overcrowding.....	75
	Subcategory 1.1.1: Contributory factors to ED overcrowding.....	77
	Conclusions related to perceptions of nurses about ED overcrowding	84
	THEME 2: THROUGHPUT FACTORS RELATED TO PARTICIPANTS' EXPERIENCE OF WORK DURING ED OVERCROWDING.....	84
	Category 2.1: Views of nurses about the work environment	84
	Subcategory 2.1.1: Experience of work in the overcrowded ED environment	88
	Subcategory 2.1.2: Workplace attitude and behaviour.....	89
	Conclusions related to throughput factors related to participants' experience of work during ED overcrowding	91
	THEME 3: OUTPUT FACTORS RELATED TO IMPACT OF ED OVERCROWDING ON NURSES	92

	Category 3.1: Impact of ED overcrowding on the emotional status of nurses .	93
	Category 3.2: Nursing staff turnover at the ED.....	94
	Category 3.2.1: Identified factors to retain nurses.....	95
	Conclusions related to ED to impact of ED overcrowding and nurses emotional states and turnover	98
	THEME 4: FEEDBACK ON STRATEGIES TO HANDLE OVERCROWDING IN THE ED	99
	Category 4.1: Work environment issues.....	99
	Category 4.2: Management and leadership issues	102
	Subcategory 4.2.1: Socially driven medical management.....	102
	Subcategory 4.2.2: Develop unit nursing leadership	104
	Conclusions related to feedback factors.....	106
4.4	OVERVIEW OF RESEARCH FINDINGS	106
4.5	CONCLUSION	106

CHAPTER 5**DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS**

5.1	INTRODUCTION	108
5.2	PURPOSE AND OBJECTIVES OF THE STUDY	108
5.3	DISCUSSIONS AND CONCLUSIONS ON THE MAJOR FINDINGS	109
5.3.1	Input factors related to the perceptions of nurses about ED overcrowding	110
5.3.2	Throughput factors related to participants' experience of work during ED overcrowding.....	111
5.3.3	Output factors related to ED overcrowding on nurses	112
5.3.4	Feedback on strategies to handle overcrowding in the ED	113
5.4	RECOMMENDATIONS.....	115
5.5	IMPLICATIONS.....	116
5.5.1	Nursing practice	116
5.5.2	Nursing education	117
5.5.3	Nursing research.....	118
5.6	CONTRIBUTION OF THE STUDY.....	119
5.7	LIMITATIONS OF THE STUDY.....	120
5.8	CONCLUSION OF THE STUDY	121
	LIST OF SOURCES	123

LIST OF TABLES**Page**

Table 1.1	Structure of current study.....	17
Table 2.1	Seasonal variance Paediatric Emergency Department – 2012.....	21
Table 3.1	Nationality distribution and categories of the registered nurses in the Paediatric Emergency Department – 2013	42
Table 3.2	Rigour from the quantitative and qualitative perspectives.....	61
Table 4.1	Analytical framework used to reflect the identified themes.....	74

LIST OF FIGURES**Page**

Figure 5.1	Input, throughput and output systems model	109

LIST OF ABBREVIATIONS

???

LIST OF ANNEXURES

- Annexure A Approval from the university
- Annexure B Letter seeking consent from National Guard Health Affairs, King Abdulaziz Medical City: Riyadh
- Annexure C Letter of approval: National Guard Health Affairs, King Abdulaziz Medical City: Riyadh
- Annexure D Permission obtained from the Institutional Review Board
- Annexure E Letter to the Participant and Consent Form
- Annexure F Interview Guide
- Annexure G Letter from the Editor
- Annexure H An example of a transcript

CHAPTER 1

ORIENTATION TO THE STUDY

1.1 INTRODUCTION

The emergency department (ED) is a vital component in the service delivery of a hospital and should be accessible and available 24 hours a day, seven days a week for all who require care. Overcrowding in the emergency department of hospitals is becoming a widespread and debilitating situation all over the world. This phenomenon, commonly referred to as ED overcrowding, is a problem for the health care system in any country.

Emergency department overcrowding does not only threaten public health in that the patient's care and safety may be at stake, but it also has a dire impact on the mission of the staff who have to render care under such conditions. Under normal circumstances, the situation in the emergency department may in any case be unpredictable and yet controllable, but when ED overcrowding is experienced it becomes difficult to control. Working conditions become more grueling and staff resources are stretched to the limit to meet patients' minimal health needs.

Smith and Feied (2002:3) state that the perceived reality of the ED is that of an open, complex system that operates "at the edge of chaos". The complexity of the ED lies in the interdependent and interconnectedness of its parts that are subjected to fluctuations and stresses that could lead to dynamic instability (Cilliers 1998:93-95). Emergency department overcrowding is the outcome of various factors demonstrating that EDs do continue to function, but at a cost (Anfara & Mertz 2006:90, 92).

Staff satisfaction or the lack thereof impacts on the quality of care that clients or patients could expect to receive. During periods of ED overcrowding, working conditions are more challenging as the workload changes at unit, job, patient and situational level. According to Carayon and Gurses (2008:5-6), various studies have shown a correlation between the heavy workload of registered nurses (RNs) and lack of motivation, stress,

burnout, errors in decision-making and violation of rules of procedures. Since a positive practice environment enhances staff satisfaction and contributes to quality patient care, it stands to reason that if a practice environment is not optimal, staff satisfaction will be adversely affected which will impact on the quality of care rendered. Bearing in mind that caring is the hallmark of the professional role of a registered nurse (Parker & Smith 2010:vii), the question to be considered is whether the caring aspect of nursing is diminished by working in overcrowded conditions or not.

The purpose of this study was to determine whether ED overcrowding affected the nursing staff's work behaviours. In the context of this study 'nurses' and 'nursing staff' will refer to RNs or respondents interchangeably. It is important to note here that 'ED overcrowding' does not refer to the normal busy ED setting such as peak activity periods or disaster situations, but to the presence of inpatients boarding in the ED setting for routine care delivery due to a shortage of inpatient beds whilst normal ED operations are being carried out. This situation seemed to potentially hinder the ED nurses from rendering optimal and effective emergency care in an efficient manner.

1.2 BACKGROUND INFORMATION ABOUT THE RESEARCH PROBLEM

Emergency department overcrowding is a global, multifactorial phenomenon that remains unresolved (Sinclair 2007:491). The impact of ED overcrowding on patient care has been extensively researched and documented, but little information or research material is available on the impact ED overcrowding has on the functioning of the nursing staff working in the ED.

1.2.1 The source of the research problem

The impact of ED overcrowding on patient care is both tangible and intangible (Bernstein, Aronsky, Duseja, Epstein, Handel, Hwang, McCarthy, McConnell, Pines, Rathlev, Schafermeyer, Zwemer, Schull, Asplin & Society for Academic Emergency Medicine, Emergency Department Crowding Taskforce 2008:1, 2; Moskop, Sklar, Geiderman, Schears & Bookman 2009a:605). Some of the outcomes reported are inadequate patient care with or without medical errors and prolonged delays to obtain treatment due to long waiting times. Added to this, services are overextended and overstretched, patients leave without being seen and ambulance diversions become

common. Physicians' and nurses' satisfaction decrease as they are faced with the inability to provide care or service to the standards they believe in. This situation appears to have a negative effect on teaching and research as staff have less time and opportunity to engage in scholarly activities (Canadian Association of Emergency Physicians & National Emergency Nurses Affiliation 2001:82).

The less tangible consequences of ED overcrowding are those experiences that are degrading to patients, their loved ones and the staff. The Joint Commission International Accreditation (JCIA) credits advocacy for patients' privacy as an important standard of patient care (Joint Commission International 2013:51-52). Breaching of both audio and visual privacy is oftentimes observed during ED overcrowding when patients are questioned and/or even treated in the presence of other people in hallways or doubled up cubicles.

A high-grade workplace that enhances quality patient care requires that the practice environments be positive and satisfying to both patients and staff. The researcher was of the opinion that ED overcrowding contributed negatively to the working life of nursing staff. As a result it had a detrimental effect on their caring and professional practice behaviours and the rendering of quality care expected from them which needed to be empirically investigated.

1.2.2 Background to the research problem

Emergency department overcrowding is a complex, systemic, multifactorial public health issue which is not specific to any single country but occurs worldwide (Devkaran, Parsons, Van Dyke, Drennan & Rajah 2009:1). It was noted as a reason for concern that the quality of patient care may be affected as ED overcrowding can interfere with the timely and effective delivery of emergency medical and nursing care (Foster, Stiell, Wells, Lee & Van Walraven 2003:127).

Heavy workload in the ED was observed to be a major problem for the American health care system (Carayon & Gurses 2008:1). Nurses experience higher workloads in the ED during periods of ED overcrowding than during normal operational times. A heavy workload decreases the time a RN assigns to various tasks. Patient safety is potentially compromised as the nurses' decisions are influenced regarding how they would carry

out various procedures and nurse-to-nurse/patient/physician communication when time constraints are experienced (Carayon & Gurses 2008:5).

The job satisfaction of nursing staff and the conditions that prevail during ED overcrowding is directly related to the retention of nurses (Swearingen 2004:130). Job dissatisfaction may result in the overall deterioration of motivation which can result in low morale, absenteeism, turnover and poor job performance which, at some level, affect both the quality of patient care, patient satisfaction and organisational effectiveness (Carayon & Gurses 2008:6). This view is supported by Gifford, Zammuto and Goodman (2002:16) who found in a study they conducted that the retention of nurses was significantly associated with improving the poor quality of work life, especially with regard to the nursing workload they experience.

Baumann (2007:1) contend that there is an ongoing global shortage of nurses due to many varied and complex reasons. One important reason mentioned is that unhealthy work environments inhibit nursing performance; it alienates nurses to the extent that it drives them away from specific work settings and even from the nursing profession itself. Carayon and Gurses (2008:1) add that the higher workload experienced by available RNs is mostly due to reduced staffing, the increase in patients' length of stay in the hospital and an inadequate supply of RNs.

Professional nurses require a practice environment that recognises the social and health mandate of their discipline and the scope of practice as defined by country/regulatory legislation (Rowell 2003:1). When people, resources and/or structures are lacking a conflict develops between nurses' professional responsibility and the provision of adequate, quality patient care. Intense workloads that only leave nurses time for tasks related to the physical needs of patients may lead to the latter's psychosocial and spiritual needs not being completely met; hence, holistic care is not attained (Bauman 2007:5-6).

According to Bauman (2007:6), it is vital that the following requirements are met if the optimal social and psychological well-being of the employee is to be secured.

- Demands that fit the resources of the person such as the absence of excessive work pressure.

- A high level of predictability in job security and workplace safety.
- Good social support from colleagues and managers as well as access to education and professional development opportunities as exemplified by team work and favourable study leave policies.
- Meaningful work life that fosters professional and personal identity.
- A high level of influence in terms of autonomy, control over scheduling, leadership skill and ability.
- A balance between effort and reward with reference to remuneration, recognition and rewards.

In the International Council for Human Resources in Nursing, Kingma (2007:1) states although the reasons for the global shortage of nursing staff are varied and complex, a key issue amongst these are unhealthy work environments. Such an environment has a negative impact on the recruitment and retention of health professionals, their productivity, performance and, ultimately, patient outcomes.

In this study context most of the nursing workforce consisted of expatriates. However, at the time this study was conducted the national nurses were beginning to increase in numbers through educational strategies to wean off the dependence on the foreign workforce. But, as Little and Buchan (2007:15) note, it is recognised that the process for adequate training and education of national nurses to be available can take time due to constraints such as educational capacity issues, limited clinical placement opportunities and a projected lack of national faculty, namely nursing teachers.

The working conditions that currently prevail are those which the national nurses can expect to work in. The recruitment and subsequent retention of nursing staff are closely linked to positive and healthy work environments which promote optimal job satisfaction. Investing in nursing staff whose intent it is to stay may lead to both monetary and non-monetary gains for nurses and organisations alike (Little & Buchan 2007:11). According to Aiken, Clarke, Sloane, Sochalski and Silber (2002:273-282), a high staff turnover can negatively impact on the quality of patient care provided as well as contribute to increased patient care costs and decreased hospital financial gains. Also, inadequate staffing can lead to nurse dissatisfaction and burnout.

Exploring the issues relating to nurses choosing to no longer work in the nursing profession, Little and Buchan (2007:14) discovered that up to 40% of the respondents indicated their decision to leave were influenced by factors such as understaffing, long and unlikeable working hours, management problems and poor access to resources in their working environments. Therefore, a move to recognise negative work environments, especially in the ED context, and consideration in turning these around can contribute towards bringing inactive professional nurses back as well as retaining current competent professional nurses.

In its standards for establishing and sustaining health work environments, the American Association of Critical Care Nurses (AACN) (2005:28) refers to Bates, Cullen and Laird's (1995) findings that one of the consequences of being overworked and overstressed – as is the case when ED overcrowding occurs – may exponentially lead to increased drug administration errors. Under normal circumstances, 86% of all medication errors made by other professionals are often intercepted by nurses.

It was envisaged that conducting this study on the impact of ED overcrowding on emergency RN satisfaction would give professional nurses at operational level a voice and recognition. Emergency department overcrowding could lead to employees, in this case the professional nursing staff, feeling unsupported which in turn could result in dissatisfaction, reduced productivity and suboptimal care outcomes.

In the AACN standards for establishing and sustaining health work environments (2005:32), various authors infer that a lack of recognition of negative work environments which is linked to increased nurse job dissatisfaction is the most frequently cited reason for employees to leave health services, organisations and ultimately the nursing profession.

1.3 RESEARCH PROBLEM

A research problem is “a situation or condition that is enigmatic, perplexing or troubling that can be investigated through disciplined enquiry” (Polit & Beck 2006:509; Polit & Beck 2010:146). Many studies have been conducted on the study phenomenon, mostly in quantitative modes of enquiry. The current study aimed to conduct qualitative

interviews to investigate the meaning of ED overcrowding and the impact it had on the quality of the environment and the satisfaction of professional nurses in the workplace.

Nurses often do not have a voice or some form of recognition to express themselves fully on how they feel and what their experiences of particularly overcrowded conditions at work are like; yet they are the ones that have first-hand experience with patients under overcrowded conditions.

Nurse managers are mostly concerned with the care patients receive and fail to take note of the extent of professional practice compromises made as a result of the impact overcrowding has on the well-being and overall functioning of RNs. Registered nurses who are content at work are likely to demonstrate caring behaviours to both patients and colleagues especially when triggers for burnout and compassion fatigue are recognised and addressed (Hooper, Craig, Janvrin, Wetsel & Reimels 2010:420).

Burnout and compassion fatigue are closely related, but can be distinguished from one another in that burnout is gradual in onset. It is exhaustion that affects the emotional and physical domains of individuals and can progressively worsen in response to ongoing emotionally demanding situations (Hooper et al., 2010:422) and take longer to resolve. Valant, cited in Yoder (2010:191), describes burnout as a failed assertive-goal achievement response wherein individuals experience “frustration, sense of loss of control, increased wilful effort and diminishing morale”.

Compassion fatigue in contrast has a swifter onset; it is a natural consequence involving behaviours and emotions resulting from wishing to relieve suffering of people (Hooper et al 2010:422). Figley, cited in Yoder (2010:191), refers to compassion fatigue as the cost of caring. Joinson and Valant, also cited in Yoder (2010:191) indicate it to be a rescue-caretaking stress response where nurses have “either turned off their own feelings” or feels anger, helplessness, guilt and distress.

Emergency department overcrowding seems to impact on the professional practice of RNs with regard to job satisfaction, morale and attitude towards the work in a negative manner. As motivation and a commitment to high levels of performance decrease due to the ongoing high workloads, frustration set in (Carayon & Gurses 2008:5). This in turn affects RNs’ intent to stay on in the organisation and, more specifically, in the ED setting

or the nursing profession. Paying attention to the quality of environment and conditions under which RNs practice the profession has a reciprocal effect on the quality and care provided, the recruitment and retention of nurses, patient satisfaction and the attainment of various organisational goals (Hooper et al 2010:420).

Palpable synecdoche, a term used and defined by Smith and Feied (2002:11), refers to any interaction an individual may have with an organisation which then defines the organisation for that person. This rings true for the customers of health care, whether they are patients, visitors or the employees of the given organisation.

1.4 AIM OF THE STUDY

This study aimed to examine the impact of ED overcrowding on RNs' professional practice environment in an exploratory, descriptive and contextual investigation.

1.4.1 Research purpose and the research questions

The purpose of this study was to explore and describe the extent to which ED overcrowding impacts on the RNs' professional practice by seeking answers to the questions of:

- How does ED Overcrowding impact on the RN's professional practice environment?
- What factors contribute to paediatric ED overcrowding in a tertiary hospital?

1.4.2 Research objectives

The research objectives of this study were to

- explore and describe how overcrowding in the ED impacts on the professional practice of RNs
- identify input, throughput, output and feedback factors that are related to the impact that ED overcrowding has on the professional practice of RNs

1.5 SIGNIFICANCE OF THE STUDY

A greater understanding of the impact of ED overcrowding on nursing staff satisfaction can lead to supportive and proactive human resource practices that can aid the retention of nurses. It may also enhance the quality work life environment in which nurses can continue to demonstrate professional caring behaviours to patients, clients and colleagues.

A systems approach inclusive of variables such as input, output, throughput and feedback was used. The ED was viewed as an open, dynamic system within the greater whole of the tertiary hospital it was located in.

It was envisaged that the findings of this study could lead to the development of unit specific nursing guidelines and modifications of the Nursing Administrative Policies and Procedures (NAPPs) by providing trigger points to step up the addressing of pending overcrowding across all nursing divisions. It is further believed that the findings of this study will empower ED RNs since the phenomenon would be proactively addressed and managed.

In addition, the hospital Administrative Policies and Procedures (APPs) could then be modified when the time for review is due to reflect and be concurrent with the NAPPs. Patient flow is a dynamic process that involves multiple members of the multidisciplinary team. Administrative Policies and Procedures allow for practices to be aligned across the board demonstrating that change in one system will affect other systems; as such change in the approach of ED overcrowding would require other systems and services to undergo change. Therefore, recommendations ensuing from the findings of this study would benefit the organisation as a whole.

1.6 DEFINITIONS OF CONCEPTS

Concepts were conceptually and operationally defined to reflect the researcher's point of departure as supported by discipline, academic and scientific sources to ensure that a common understanding of terms exist throughout this work.

Emergency department (ED) overcrowding is defined as “a situation in which demand for service exceeds the ability to provide care within a reasonable time, causing physicians and nurses to be unable to provide quality care” (Canadian Association of Emergency Physicians & National Emergency Nurses Affiliation 2001:82). Overcrowding is also defined by Case, Fite, Davis, Hoxhaj, Jaquis, Seay & Yeh (2004:1) as “a situation in which the identified need for emergency services outstrips available resources in the ED which is a situation that occurs in hospital EDs when there are more patients than staffed ED treatment beds and wait times exceed a reasonable period.”

In the context of this study ‘ED overcrowding’ referred to the situation of having too many patients in the ED where the rendering of urgent and lifesaving care was hampered by patient flow from the ED setting to the patient areas being sub-optimal. Typical characteristics of overcrowding being experienced were when patients were monitored in non-treatment areas, for example, hallways while waiting for treatment beds in the ED or inpatient beds.

Impact is understood to be the powerful effect a situation or event has on something else (*Oxford Advanced Learner’s Dictionary* 2010:751).

In this study ‘impact’ was understood from the nurses’ point of view as an outcome or result of ED overcrowding on the satisfaction and practice of RNs.

Job satisfaction is described as an emotional response that employees get from doing paid work which one enjoys and develops by evaluating the job and the job environment. It pertains to salary, promotion opportunities, convenience of work conditions, the job itself, one’s relationships with patients and colleagues as well as the individual’s expectations about the job (Celik & Hisar 2012:180; *Oxford Advanced Learner’s Dictionary* 2010:806).

In this study ‘job satisfaction’ related to how nurses felt about their work life and work environment.

Paediatrics refers to the “branch of medicine concerned with children and their diseases” (*Oxford Advanced Learner’s Dictionary* 2010:1056).

In this study, patients aged newborn up to fourteen years of age are considered to be children as designated by the hospital.

A registered nurse (RN) means an individual who has an official qualification in nursing (*Oxford Advanced Learner's Dictionary* 2010:1238) by having graduated from a formal programme of nursing education diploma school, associated degree, or baccalaureate programme to practice nursing (*Presbyterian Glossary* 2012:7).

A registered nurse is part of the professional nursing community that is characterised by their shared knowledge base that encompasses scientific principles, accountability, autonomy, inquiry, collegiality, collaboration and innovation (Registered Nurses' Association of Ontario 2006).

The South African Nursing Act (2005:6) defines a 'registered nurse' as a health care professional who has graduated from a nursing programme and has passed a national licensing examination. This person is qualified and competent to independently practice comprehensive nursing in the manner and to the level prescribed and is capable of assuming responsibility and accountability for such practice.

In this study the 'registered nurse (RN)' was a qualified and licensed professional nurse who was part of the multinational nursing work force working in the paediatric ED at the time of the study. The use of the concept 'nurse' hereafter will refer to a 'registered nurse' or RN' with 'staff nurse' being the term used in the organisation where the study was conducted.

1.7 FOUNDATIONS OF THE STUDY

Qualitative studies are not necessarily based on a particular theoretical framework; rather it contributes to the development of the empirically-based conceptualisation of phenomena. Qualitative researchers use the inductive process to utilise research findings to provide an explanation of events as it occurs in reality. The aim of this study was not to develop theory, but to examine what impact ED overcrowding holds with reference to the practice of nurses to make a noteworthy and mutually beneficial contribution to the nursing profession (Polit & Beck 2010:19, 64). However, it seemed

appropriate to identify meta-theoretical assumptions to provide logic and guidance for the current study.

1.7.1 Meta-theoretical assumptions

Meta-theoretical assumptions refer to the philosophical orientation or basic principles that one holds based on logic and reason. The assumptions are philosophic in nature and cannot be tested. They are influenced by the researcher's worldview regarding a person as a human being, society, the discipline of nursing and its purpose (Botma, Greeff, Malaudzi & Wright 2010:187; Mouton & Marais 1994:11). The assumptions focussed on in this study included ontological, epistemological and methodological approaches.

Ontological assumptions deal with the nature of reality, of what is considered as real, what researchers think exist and their ideas about the nature and characteristics of what is being studied (Botma et al 2010:40). The ontological assumptions underlying reality and the nature of people in this study were that

- reality is constructed and interpreted based on the lived experience in a complex and dynamic world through interaction of individuals with one another as well as the environment and wider social system
- reality is subjective and is experienced differently by individuals
- human beings are social entities who ascribe meaning and sense to their worlds from an emic perspective
- human beings possess an internally experienced sense of reality

Epistemology is the study of knowledge and its justified belief with the generation and dissemination of knowledge by exploring issues in particular areas of inquiry. Through epistemological questioning, principles or rules that determine how the phenomena can be known are identified and what type of explanation is considered as satisfying the inquiry (Botma et al 2010:40). For this study, the epistemological assumptions were posited as the following:

- the impact of ED overcrowding was studied not only as an observable phenomenon, but considering the subjective views and values as reasons for dissatisfaction experienced by registered nurses
- knowledge was constructed from multiple realities as it existed for individuals

The epistemological rules according to which information or knowledge were to be generated were aligned to that of qualitative research. The human experience of the nurses working in the emergency room (ER) setting was captured against the backdrop of ED overcrowding through qualitative interviews. The researcher employed inductive reasoning to make inferences from specific observations to more general conceptualisations about the phenomenon (Polit & Beck 2010:13).

The **methodology** of research are the rules, procedures and techniques that are agreed on by researchers are ideal for science and followed in order to ensure acceptable research practices. It allows researchers to defend their findings based on rigorous processes that have been followed during the research process. The methodological assumptions applied in this study are set out next:

- Qualitative research supports naturalistic inquiry to collect narrative data on reality, which is constructed by people.
- In-depth individual interviews are ideal in conducting a qualitative inquiry into a phenomenon.

In this research project an interpretive methodological approach using a qualitative process of inquiry was appropriate since the subjective reality of the research participants, who were the ER nurses, was explored from an emic perspective.

1.8 RESEARCH DESIGN

A research design in qualitative studies is often described as an emergent design in that a design needs not be predetermined (as is the case with quantitative research) but may emerge in the field as data are collected (Polit & Beck 2010:553).

1.8.1 Research design

The **research design** is defined as “the specific structure within which the study is conducted” (Burns & Grove 2008:696). The research paradigm for this study was qualitative because it best allowed for the subjective views of the participants to be expressed, captured and reflected on. The research design chosen for this study was exploratory, descriptive and contextual.

A specific qualitative tradition was not followed. Qualitative research uses an emergent design, meaning that a design will emerge as the researcher makes use of what has already been learnt to guide ongoing decisions about the study to reflect the realities and viewpoints of those informing on the topic being studied (Polit & Beck 2010:259). The research design for this study was a qualitative explorative, descriptive and contextual design.

Exploratory research looks at specific fields or topics that have been partly researched or have not been adequately addressed empirically. It considers the “what” of a matter and although it seldom gives final conclusions, it does signify whether further research pertaining to a problematic issue or about specific topics is indicated (Polit & Beck 2010:22).

Descriptive research is aimed at providing specific details of a situation and frequently follows exploratory research in that, before describing a situation, the researcher has to be clear about what the main aspects are. In descriptive research the “how” and “who” involved in a situation is being clarified (De Vos, Strydom, Fouche & Delpont 2005:122).

Contextual research is aimed at explaining systematic relationships among phenomena. Through explanatory research one seeks insight into a situation, or phenomenon. It frequently flows from exploratory and/or descriptive research and is aimed at “why” specific events occur (Babbie 2014:97).

Rather than considering the ED from a simplistic, open system view one should consider it from a complexity theory point of view in order to grasp the intricacies of the problem. In the context of the current study the ED where it was conducted reflected Cilliers (1998:3-5) ten characteristics of complex systems.

1. The large number of elements in the system.
2. The dynamic interaction among the elements.
3. The rich interaction among the elements.
4. Interaction between the elements is non-linear.
5. The interactions have a short range.
6. The interactions involve a feedback loop.
7. The systems are open.
8. The systems operate under conditions that are far from equilibrium.
9. The systems have histories.
10. The individual elements of the system are ignorant of the behaviour of the system as a whole in that it only responds to information that is made available to it at a given time.

Applying a systems approach flowed logically as it allowed for the establishment and exploration of the relationship between perceptions and conception and the contextual environment these were shaped in (Laszlo & Krippner 1998:2).

1.8.2 Research methods

Research methods are steps, procedures and strategies employed to gather and analyse data in a research investigation (Polit & Beck 2010:16) and must be rigorously maintained throughout the research process. The research problem, question, objectives, purpose and the research methods should be complimentary (Loiselle, Profetto-McGrath, Polit & Beck 2011:353). The research methods employed in this study were discussed with specific reference to population, sample selection and sampling techniques, data collection and data analysis.

Population is defined as the entire set of individuals, objects or other biological entities who share common, defining characteristics (Fitzpatrick & Wallace 2006:472). In this study the accessible population referred to all the registered nurses working in the paediatric ED at the time the study was conducted. The population was homogenous as they were all RNs working in the paediatric ED with clusters of variability based on country of origin and age groups taken into account. The inclusion and exclusion

criteria which define the accessible population characteristics were determined (Polit & Beck 2010:330).

Purposeful sampling, also referred to as purposive or judgemental sampling, was the method of choice to sample the participants. Selection was based on personal judgement to include those who would best contribute with rich information (Polit & Beck 2010:320). A questionnaire (Section A) (see Annexure F) was used to collect biographical data from the participants. In-depth individual interviews were conducted. An interview guide was used. The participants were encouraged to freely talk about the main question asked; some probing questions were included already in the interview guide (Polit & Beck 2010:341). Bracketing was applied to avoid bias or contaminating the presented responses with own opinions, knowledge or experiences. Content analysis was the data analysis method of choice.

Trustworthiness in qualitative research is what validity and reliability is in quantitative research. The epistemological standards that were applied to ensure trustworthiness were truth value, applicability, consistency and neutrality (Botma et al 2010:232). Authenticity is considered by Guba and Lincoln (cited in Botma et al 2010:32) as a fifth measure.

In this study, basic ethical principles such as obtaining informed consent, confidentiality, privacy, dignity and fairness were adhered to in order to protect the rights of the human participants, the organisation where the study was conducted, as well as scientific integrity (Polit & Beck 2010:75).

All the research methods and strategies that were employed to ensure trustworthiness and ethical consideration are discussed in detail in Chapter 3. The scope and limitations of the study are presented in Chapter 5.

1.9 STRUCTURE OF THE STUDY

The structure of this study is presented in Table 1.2 below.

TABLE 1.1: STRUCTURE OF CURRENT STUDY

CHAPTER	TITLE	CONTENTS DESCRIPTION
1	Orientation to the study	Overview of the research problem and purpose, significance of the study, research design and methodology, methods of ensuring trustworthiness and ethical considerations
2	Literature review	An in-depth review of the literature related to the topic under investigation. This gave the researcher an understanding of what current literature was published regarding the phenomenon and enhanced her knowledge base about the topic under review.
3	Research design and methodology	The overall plan and research procedures such as population and sample techniques, sample size, methods for data collection and data analysis, ensuring trustworthiness and the ethical considerations when addressing the research question and objectives.
4	Data presentation, analysis and interpretation	Presentation, analysis and interpretation of the study findings.
5	Discussions, conclusions and recommendations	Discussions, contributions, limitations and conclusions based on the study findings.

1.10 CONCLUSION

This chapter presented a brief outline of the research steps that were taken to conduct the study. An introduction of the background to the research problem, namely the occurrence and potential impact of emergency department (ED) overcrowding on registered nurses (RNs) working in the paediatric ED, was presented. The research purpose and objectives, definition of key concepts and the impact on staffs' job satisfaction/professional work behaviour were put forward. The theoretical foundation of the study and the assumptions were laid out. The research design, methodology, trustworthiness, ethical considerations as well as the scope of the study was introduced.

In Chapter 2 a discussion on the literature review is presented.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

Research is undertaken within an existing knowledge base with the aim to contribute to science with regard to the particular discipline. A literature review demonstrates that one has done extensive exploration and has taken note of the current relevant and available literature pertaining to a specific topic. A broad understanding of the subject matter is developed that puts the research problem in context and may result in a summary of accessible evidence (Botma et al 2010:63-64; Polit & Beck 2010:558).

Babbie (2014:122) states that a review of existing literature is important to

- ensure that previous studies are not duplicated
- discover the most recent and authoritative theory on the subject
- find out the most widely accepted empirical findings in the field of study
- identify available instrumentation that has proven validity and reliability

In this chapter the literature review conducted to assess the availability of current knowledge and information that could lead to a better understanding of the impact of overcrowding on registered nurses (RNs) working in a paediatric emergency department (ED) at a tertiary hospital is presented.

It was the researcher's intent to determine whether there is a direct link between ED overcrowding and the perception of RNs working in the paediatric ED that it this has a negative or positive impact on them. For this purpose the researcher reviewed mostly international journal publications and sources from a number of data bases such as Google Scholar, eBooks and other relevant clinical online data bases. However, it was found that to date the focus in most of the scientific articles on the topic of ED overcrowding was on the patient. Limited reference was found in literature concerning the experiences of the nursing staff that provide care during these periods of

overcrowding; more specifically, with regard to overcrowding in the paediatric ED information pertaining to the phenomena was scarce. Use of the concept ED throughout the text refers to specifically the paediatric ED.

Therefore, ED overcrowding is explored as the context that shapes and influences the RNs experience of the impact of their work environment with specific reference to how they perform their professional practice.

2.2 WHAT IS EMERGENCY DEPARTMENT OVERCROWDING?

According to Moskop et al (2009a:605), to date the ED overcrowding phenomenon has not concisely been defined. Pines, Hilton, Weber, Alkemade, Al Shabanah, Anderson, Bernhard, Bertini, Gries, Ferrandiz, Kumar, Harjola, Hogan, Madsen, Mason, Ohlen, Rainer, Rathlev, Revue, Richardson, Sattarian and Schull (2011:1358) and Trzeciak and Rivers (2003:403) agree that a ED overcrowding can be described as a situation of periodic mismatch between ED and hospital demand-and-supply-resources that result in extended waiting times and delayed critical time. It further influences sensitive treatments and threatens the ED's ability and preparedness to respond to disaster situations.

The American College of Emergency Physicians (Moskop et al 2009a:605) state ED overcrowding occurs when the identified need for emergency services, whether in the ED and/or the hospital, exceed the available resources for patient care. According to Fatovich, Nagree and Sprivulis (2005:351), ED overcrowding is when a situation arises where the physical and staffing capacity of the ED is exceeded by the number of patients waiting to be seen, undergoing assessment and treatment or waiting to depart to the endpoint of their treatment. These authors found in their study that under these conditions successful ED functioning was hindered.

Emergency department overcrowding happens in hospital EDs when there are more patients than available staff, ED treatment beds and patients' waiting times which exceed a reasonable period. Such a situation typically involves patients being placed and monitored in non-treatment, semi-open areas such as hallways or shared spaces while waiting for a suitable treatment space or inpatient bed to become available (Moskop et al 2009a:608).

Jagim and Ray (2005:50) cite the Emergency Nurses Association Benchmark Guide and state ED overcrowding as a significant problem at least one third of the time throughout the year with “fewer seasonal troughs in clinical workload buffering the peaks in service demand”.

The Emergency Nurses Association (ENA) National Emergency Department Benchmark Guide is a document that provides baseline information for various ED's to benchmark against and use as guideline against which to develop strategies to improve important, ongoing issues in the ED such as overcrowding (ENA 2006:vi).

The ED is known to be a medical treatment facility that specialises in providing care to patients presenting with complaints on a continuum of 'non-urgent' to 'acute' with no prior appointment. It provides these patients, most importantly the acutely ill ones, quick access to emergency care (Fatovich et al 2005:351). Patients arrive by various means which include their own transport or by ambulance.

2.3 EMERGENCY DEPARTMENT OVERCROWDING – CONTRIBUTING FACTORS

Many factors contribute to ED overcrowding. Seay and Fite (2006:1) posit that ED overcrowding is influenced by the inability of the health care system to effectively deal with increased patient volumes, staff shortages, an inadequate number of beds and poor patient flow systems that result in the congestion of patient numbers in the ED. Factors causing ED overcrowding are classified under the conceptual model as input, throughput and output (Asplin, Magid, Rhodes, Solberg, Lurie & Camargo 2003:173). It must be noted here that in the current study this classification will be considered as it applied to the paediatric ED setting and not to the whole hospital units per se.

Indicators often used to reflect ED overcrowding are the need to divert ambulances, intervals of waiting times such as that of patients waiting to see a physician and total length of stay in the ED. Also indicated are the number of visits where patients leave before seeing a physician or then medical evaluation and the boarding of patients - the patients remaining in the ED once a decision has been made to admit or transfer them to the ED due to a lack of suitable inpatient beds. These indicators roughly correspond

to the input, throughput and output components while taking into account that the causes of these indicators could be related to other components (Government Accountability Office 2009:17).

Asplin et al (2003:173) presented a conceptual model of ED overcrowding that considers ED overcrowding against the backdrop of delivering unscheduled care within an acute care system. This model of input-throughput-output demonstrates the interdependency of these components and allows the causes for ED overcrowding to be better examined with the aim to seek possible solutions through system and process improvements (Asplin et al 2003:173)

2.3.1 Input factors

Input factors are factors that create a demand for ED services. It relates to the demographics of the population whether aging or young, overall health status of the community, insurance status, availability of alternative services and perceptions of patients about quality of care rendered (Wilson & Nguyen 2004:5). Also included in demographics are the hours of operation and capacity of primary health clinics (Government Accountability Office 2009:12).

A seasonal increase in the admitted patient burden is noted and can be anticipated as people suffer the effects of influenza (flu) and flu-related ailments such as various respiratory conditions. Fatovich et al (2005:353) state walk-in patients do not cause ED overcrowding, but they do suffer as a result of it as waiting times are prolonged. In Table 2.1 the seasonal variance of paediatric patients’ admission to the ED is rendered.

TABLE 2.1: SEASONAL VARIANCE PAEDIATRIC EMERGENCY DEPARTMENT – 2012

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Admitted	487	502	505	494	392	331	347	332	414	415	511	547
Discharged	1567	1485	1603	1378	1400	1112	1171	1210	1254	1529	1530	1677
Total	2054	1987	2108	1872	1792	1443	1518	1542	1668	1944	2041	2224

Moskop et al (2009a:607) point out that non-emergency visits and patients with minor illnesses and injuries have a negligible effect on ED overcrowding and that input factors are not the root of the problem of ED overcrowding. According to these authors, ED

overcrowding occurs mainly when sick patients, who are at the end of their ED management phase, require admission but have no place to go and by default remain in the ED. Moskop et al (2009a:607) further state ED overcrowding is not the result of inappropriate ED use “but a symptom of an overcrowded hospital”.

Fatovich et al (2005:353) counter the postulation that it is low acuity patients who contribute most to ED overcrowding by observing that a single admitted or the then boarded patient in the ED for 8 hours impairs the assessment of up to 24 low acuity patients if the assessment time is 20 minutes. Thus, Fatovich et al (2005:353) argue that by removing the boarded patients from the ED the patient flow within the ED will be improved.

Growing populations require a corresponding increase in services, especially at primary health level. The insufficient availability of these services, particularly after hours, contribute to patients presenting to emergency departments in growing numbers with a greater complexity in their ailments resulting in a greater demand for admission (Richardson & Mountain 2009:369).

2.3.2 Throughput factors

Throughput factors are related to the ED processes of evaluation and treatment (Hwang, McCarthy, Aronsky, Asplin, Crane, Craven, Epstein, Fee, Handel, Pines, Rathlev, Schafermeyer, Zwemer & Bernstein 2011:528). Throughput is determined and affected by various processes that determine the speed of a patient’s progress through the ED visit until a disposition is achieved – whether it is that the patient is admitted to the inpatient unit or is discharged home or to the mortuary. These processes include triage, the registration process, treatment processes, staff availability, specialist availability through the consultation process, accessibility to diagnostic services as well as the various information technology systems in use (Wilson & Nguyen 2004:5).

Delays that hold up patient flow are waiting for a slot for medical imaging whether computerised tomography (CT), ultrasound, magnetic resonance imaging (MRI), waiting for diagnostic reports such as from radiology or the laboratory, waiting for referral, for consultation or for acceptance and transfer to another facility. Hoot and Aronsky

(2008:2) state the use of ancillary services have been noted to prolong the length of stay among surgical critical care patients.

A strategy to limit the amount of time patients spend in the ED before they are admitted or discharged is to set performance targets. An example of setting such a target is a policy initiative by the National Health Service (NHS) hospital in the United Kingdom (UK). The goal is to have 98% of patients discharged from the ED or admitted within 4 hours of arrival (Moskop et al 2009b:615). However, Mason (2011:1237) argues such targets may not be doable in alternative settings and evidence is lacking as to whether it is beneficial for patient care as it appears to lead to target-led care rather than needs-led care. On the other hand the absence of performance targets could exacerbate an already difficult-to-manage situation.

2.3.3 Output factors

Output is the end result of throughput, in other words, disposition to an inpatient bed (Hwang et al 2011:528). It relates to the ability to have a patient exit the ED service by either death, discharge to the community or transfer to another part of the hospital through admitting them to an inpatient service (Wilson & Nguyen 2004:5).

Robinson et al (2005:50) found the most frequent reason for not exiting the ED department was waiting for an inpatient bed. Patients who need admission but remain in the ED longer than 30 minutes after the decision was made to admit them as inpatients are referred to as 'boarders'. The 30 minutes was the best practice standard for the phase disposition to inpatient bed (Korn, Mansfield & Shore 2008:444).

The availability of inpatient beds for admissions from the ED are limited to some extent as a result of competition from other sources such as scheduled admissions which can be admissions from other hospitals and/or elective admissions such as scheduled surgical cases (Case et al 2004:2; Henry 2001:188). The transfer of patients are frequently hampered due to infection control reasons such as the unavailability of negative pressure rooms for airborne infection control and appropriate space to admit patients with contact and droplet infection related conditions. Standards that control the use of beds in the inpatient setting do not apply in the ED where curtains separating

patient cubicles are the norm and co-horting of patients are mostly done without the benefit of final laboratory results with the exception of airborne isolation.

A study conducted by O'Connell, Bassham, Bishop, Clarke, Hullick, King, Peek, Verma, Ben-Tovim and McGrath (2008:18) uncovered a predictability of the overall pattern of presentations to the ED when it was analysed against the season, day of the week or hour of the day. The pattern revealed that hospitals are most congested after a weekend on Monday afternoons. This corresponds to what was found on Sunday mornings and afternoons in the current study setting where weekends include Fridays and Saturdays, leaving Sunday the first day of the week. A reduced discharge rate over weekends results in a build-up of boarded patients in the ED which overlaps with the arrival of elective admission, ongoing ED arrivals and the delayed departure of inpatients (O'Connell et al 2008:18).

The end-result of this build-up of patients results in fewer beds for new ED patient arrivals, resulting in increased pressure on all to maintain flow and minimise the waiting times patients are facing (Green, Soares, Giglio & Green 2006:61)

The ED is a subsystem with a very specific and unique function to provide acutely ill patients rapid access to emergency care. Access Block and Overcrowding in Emergency Departments (2004:5-6) refers to the shortfall when inpatient beds needed are compared to those available for patients who require admission from the ED as the "Gap of Emergency Department Neglect". Overcrowding in the ED significantly impacts on the ED's ability to respond in an efficient manner to disasters and a hospital's surge capacity.

2.3.3.1 Access blocks

Access blocks for emergency department patients was defined by the Australasian College Emergency and the Australian Council on Health Standards as "the percentage of all patients admitted, transferred or dying in the ED where their total ED time exceeds eight hours" (Cameron & Campbell 2003:99). The UK has set the target at 4 hours after which the wait for an inpatient bed is considered as excessive (Lowthian & Cameron 2009:435). Fatovich et al (2005:351) describe access block as the situation in the ED when patients who require inpatient care are unable to gain access to suitable hospital

beds within a reasonable time. Thus, according to Fatovich et al (2005:351), access block is clearly an output problem.

Fatovich et al (2005:352) found a near linear relationship between ED access block occupancy and total ED occupancy despite little change in ED presentations. This finding is corroborated by Moskop et al (2009a:607) who state there is a strong correlation between length of stay of patients in the ED and overall patient occupancy rates.

Another significant association is that of ED access block occupancy and prolonged ED waiting times. The primary reason for ED overcrowding is the presence of inpatients in the ED, or otherwise stated as “the main cause of ED overcrowding was inadequate inpatient capacity” (Fatovich et al 2005:352). Access block results in an unintended dysfunctional relation in that patients who experience access block in the ED have longer inpatient lengths of stay which in turn continue to affect the ED (Fatovich et al 2005:353).

2.3.3.2 Queuing

Lengthy waiting times, irrespective of whether the patients falls in the input, throughput or output phase of their ED stay, is deemed to be an indicator of poor quality with potential associated compromised outcomes as well as a source of patient and caregiver dissatisfaction (Biju, Naeema & Faisal 2011:1019).

A Danish engineer, Erlang in (Access Block and Overcrowding in Emergency Departments 2004:5), developed the queuing theory in the early part of the twentieth century. It is the mathematical science of queue behaviour. The queuing theory stresses that systems are most efficient when they operate at 85% capacity. It suggests that the number of patients waiting to be seen will rise inversely with the available capacity. This is reflected in the observed tendency of the number of patients waiting to be treated initially raising slowly as demand increases, but then rises rapidly as capacity is approached (Access Block and Overcrowding in Emergency Departments 2004:5; Richardson et al 2009:477).

Hospitals are complex systems therefore the queuing theory does apply to them. The fact that acute care hospitals are operating at 90-95% capacity implies that they are in crisis mode most of the time (Access Block and Overcrowding in Emergency Departments 2004:5). Reducing hospital occupancy to 85% will allow patients to transfer to the wards which will free up cubicles in the ED making it possible for patients from the waiting room to be seen and treated. An example of the queuing theory was demonstrated in practice during an industrial action event over two weeks in South-Australian hospitals in February 2001 as reported by the Australasian College for Emergency Medicine (Access Block and Overcrowding in Emergency Departments 2004:10). In one hospital the hospital occupancy dropped from 94% to 89%. A ripple effect was observed in the ED in that the overall patient occupancy dropped by 25% and waiting times for patients in the waiting rooms dropped by 36% (Access Block and Overcrowding in Emergency Departments 2004:10). This example proposes that ED overcrowding is not an ED problem but a hospital problem. A strategy for addressing ED overcrowding might indeed lie at the disposition end of the patient's journey, namely that by addressing hospital throughput and output an inadvertent flow of patients to the appropriate settings will follow.

Whether the patient is in the input phase going through a triage or screening process, in the active emergency treatment/throughput phase or in the output phase awaiting transfer out of the ED, the RN is the one constant. The ED physician would have handed over to a service provider, but the ED registered nurse will continue care.

Various studies cite the higher rate of adverse outcomes in the ED compared to that of inpatient units. Specifically pertaining to EDs, access blocks have been linked to reduced ED function (Richardson 2003:516). Also, a direct relationship was found between overcrowding and reduced access to care, decreased quality measures and poor clinical outcomes (Bernstein et al 2008:1). Various negative outcomes related to process, quality or outcome measures were additionally observed by Richardson and Mountain (2009:372).

Patient outcomes may be affected by any number of RN-related factors, for example, organisational status and relationship and communication with clinicians. Stress can also influence nurses' job satisfaction and burnout which in turn affects retention, nurse staffing and in due course patient outcomes (Hendrich & Chow 2008:4).

2.4 IMPACT OF EMERGENCY DEPARTMENT OVERCROWDING ON RNs PROFESSIONAL PRACTICE

The impact of ED overcrowding on patient care is both direct and indirect. Documented effects are inadequate patient care with or without medical errors, prolonged delays to and in treatment due to long waiting times. Overextended services, patients leaving without being seen and ambulance diversions become common during ED overcrowding (Canadian Association of Emergency Physicians and National Emergency Nurses Affiliation 2001:82).

Moskop et al (2009a:607) refer to the moral consequences of ED overcrowding that it leads to emergency care practitioners, both medical and nursing, to frequently provide patient care despite the situation being contradictory to the ethical principles of non-maleficence, beneficence, respect for autonomy and justice.

Non-maleficence or “to do no harm” (Buns & Grove 2008:188; Aacharya, Gastmans & Denier 2011:7) can become a critical issue during ED overcrowding in that the situation, although unintended, poses the risk of causing harm to the patients in the ED. Moskop et al (2009a:607) justify this statement by referring to findings which indicate that a high percentage of sentinel events occur in the ED with ED overcrowding being viewed as a contributing factor. Other examples are a noted increase in medication error rates (Kulstad, Sikka, Sweis, Kelly & Rzechula 2010:307) and higher mortality rates (Spirvulis, Da Silva, Jacobs, Frazer & Jelinek 2006:208, 211).

Beneficence is based on the positive duty to act for the sick and the injured by preventing detrimental outcomes, lessen or eliminate existing harms and promoting positive outcomes. Delays add to the palpable synecdoche patients experience during ED overcrowding, whether as an ED patient waiting to be seen or as a boarded patient, because it prolongs suffering as patients continue to endure pain and anxiety (Moskop et al 2009:607). The boarding of patients can lead to poorer expected outcomes as evidenced by Hollander and Pines (2007:497) who conducted a study on unstable angina patients. The findings revealed that patients who spent more time in the ED were less likely to receive guideline appropriate care.

Additionally, prolonged waiting times for patients to be attended to lead to poor outcomes because their access to definitive treatment is not immediate. Patients with pneumonia, for example, are not treated soon enough with antibiotics; thrombolysis is not done immediately and analgesia is not administered. An increase in walkouts is often experienced (Bernstein et al 2008:3). All these are examples of where there was a failure to meet the standards of care for ED services diminishing the potential for positive patient outcomes.

The principle of **autonomy** grounds the patient's right to informed consent and refusal of treatment as well individuals' right to privacy and confidentiality. Freedom of choice and action entail that individuals should be able to exercise control over their physical environment and keeping their personal information private. During periods of overcrowding, patients are required to share cubicles or be treated in the semi-open spaces such as in hallways or open spaces around the nursing station (Moskop et al 2009a:608). In this study the autonomy principle seem to be undermined in that parents bring their children for necessary medical care and having to receive it under circumstances that do not meet acceptable standards.

Justice, as it pertains to the fair distribution of health resources, presents itself daily in the hospital setting where decisions frequently involve the sharing of both the "benefits and burdens" thereof (Aacharya et al 2011:8).

The first 24 hours of a patient's stay is the most resource intensive period of their hospitalisation (Moskop et al 2009a:608). During this period a patient requires significant attention as treatment is initiated and various advanced diagnostic tests are conducted. In the ED, the registered nurse becomes central in this regard. It means care that should have been rendered by RNs in the inpatient units is now expected to be provided for in the ED. Within the context of an overcrowded ED context, the caring aspects of nursing in the ED as much as in any other critical care unit, may suffer as a result of the increased demand for tasks and technology that is essential in the curative domain (George 2010:317).

Distributive justice is also at play as patients ready for discharge remain in hospital beds while numerous patients in an acute phase of treatment remain in the ED. The ED is structurally not designed for prolonged or then inpatient care. ED patients wait in waiting

areas for spaces to open up in order to receive medical care and often receive treatment and care in areas of the unit that does not make adequate provision for privacy – which is in stark contrast to the inpatient units (Henry 2001:188; Moskop et al 2009a:609).

2.5 IMPACT OF ENVIRONMENT ON THE PRACTICE OF REGISTERED NURSES

A pleasant environment may improve one's affective state, aid interpersonal dealings with others and promote overall satisfaction with life. These observations should hold true for the ED clients as well as the health care personnel working in the ED. Watson in George (2010:321) stressed that the provision of comfort, privacy and safety are essential aspects of caring. Individuals may experience a decrease in self-worth and dignity in an environment that lacks in cleanliness and aesthetics. In an overcrowded ED environment where patients and their loved ones experience little privacy and personal hygiene is difficult to maintain and patients' dignity becomes a concern (Henry 2001:188; Mah 2009:366).

When overcrowding occurs in the paediatric ED, standards of care become hard to maintain which in turn threatens the safety of the child. RN's work satisfaction decreases as they face obstacles and problems that lead to their inability to provide care and service to the standard they believe in and they are unable to live up to the vision of their chosen profession.

The ongoing exposure to ethical dilemmas that defy solutions may inhibit ED health care professionals to continue a constructive response. Moskop et al's (2009a:609) stance on the aforementioned is that it results in decreased job satisfaction, frustration, anger, depression and eventual burnout or compassion fatigue.

2.6 IMPACT OF WORKLOAD ON RNs DUE TO OVERCROWDING IN EDs

Patients who enter the ED receive attention from a multidisciplinary team with the nursing staff traditionally being the ones who spend most of the time with patients and their families. Nurses are recognised for their vital role in hospital care delivery. As a hospital's most costly and valuable resource, nurses' efficiency and effectiveness are

central to any undertaking that seeks to maximise patient safety, satisfaction and reducing costs (Hendrich & Chow 2008:1).

Nursing's carative approach complements the medical model that has curing as its focus. The patients expect the RNs to carry out the prescribed treatment regime in a humane, compassionate and caring manner.

Caring, as described by Wolf and colleagues (cited in Hooper et al 2010:420) involves demonstrating "respectful deference to others, assurance of human presence, positive connectedness, professional knowledge and skill and attentiveness to others' experience". This value of caring is the element that is compromised when the work load becomes excessive. The use of advanced technologies and its related tasks on a daily basis add an additional burden to the function of the RNs and the curing rather than the caring becomes more apparent (George 2010:325).

Patient safety and nurse job satisfaction can be affected negatively by a heavy nursing workload. Workload could be considered from various functional levels such as from a unit, job and patient care level. The situational level perspective is the one that closest represents the situation nurses find themselves in during periods of ED overcrowding (Carayon & Gurses 2008:1).

2.6.1 Unit level workload

Workload at the unit level is most commonly measured by the nurse-patient ratio which can be used to compare units and patient outcomes in relation to nursing staffing. Higher nurse patient ratios are associated with better patient outcomes and satisfaction (Carayon & Gurses 2008:4). Hendrich and Chow (2008:3) mention the link between nurse staff, the quality of the nurses' work environment and the efficiency of nursing care and patient outcomes.

During periods of ED overcrowding a relative shortage of RNs may be experienced as patient numbers increase. Nurse numbers can be adjusted but is finite and cannot keep pace with the moment to moment increase of patients, hence leading to nurse-patient ratios being adjusted continuously. This is done to continue receiving newly arriving sick or injured patients whilst still providing at least minimum nursing care to the boarders –

a situation that does not meet the requisite attention and care needs of the boarders or those ED patients still awaiting a final disposition (Korn et al 2008:442).

Viewing workload at the unit level may be inhibiting in that the contextual and organisational characteristics of a particular health care setting, for example, ED versus inpatient ward physical layout are not considered and as such the workload that boarded patients add on RNs may be underestimated (Carayon & Gurses 2008:2).

2.6.2 Job level workload

Workload at the job level compares the type of nursing job or specialty. Different types of nursing, for example, ED registered nurse workload versus intensive care unit (ICU) nurse workload are compared. From this perspective the complexity of workload as a multidimensional construct with various contextual factors that can affect the workload has not been fully reflected. Performance obstacles or performance facilitators do not satisfactorily account for workload differences similar but different units may encounter for example a nurse managing four boarded patients in the ED experiences a different workload than a nurse on an inpatient unit managing four inpatients. The same goes for managing ICU patients in the ED versus in the ICU proper (Carayon & Gurses 2008:2).

2.5.3 Patient level workload

At patient level, the patient's clinical condition is perceived to be the main determinant of nursing workload. Little consideration is given in this conceptualisation to those contextual factors that affect nursing workload such as ineffective communication or equipment and supplies issues (Carayon & Gurses 2008:2).

In the overcrowded ED, the nurse is frequently faced with having to search for equipment such as these are frequently shared between many patients. This adds to the effort of providing care, contribute to time not dedicated to direct patient care and limit the time in which care can be delivered.

2.6.4 Situation level workload

Every nursing unit is a microsystem where the context is unique despite a multitude of similarities. The situation level workload explains the workload a RN experiences by considering the number of the patients assigned, the clinical condition of the patients as well as the design of the health care microsystem. However, situation level workload does not portray the RN's overall experience in a specific microsystem as it is temporary bound. What it does explain is the impact of a particular performance obstacle or facilitator over a well-defined and rather short period of time (Carayon & Gurses 2008:3).

From this perspective, the overall effort that is required from a RN to get the work done is considered. It includes the condition of the work environment. Factors such as noisy versus quiet, hectic versus calm and multiple interruptions by family members or others add to the workload RNs experience and may significantly impact on patient outcomes (Carayon & Gurses 2008:3).

Examples of factors that lead to an increased workload are: multiple enquiries by family members as to when the patient will be seen or when inpatient beds will become available and the availability of chairs to sit down. Other factors refer to patient-related documentation, not having a single source of documentation but both paper as well as electronic documentation to be done. The relative shortage of equipment that leads to seek and find as well as a crowded and disorganised work environment which impacts on the quality of care RNs are expected to provide (Carayon & Gurses 2008:7).

Citing the relationship between nursing hours spent on direct patient care, decreased hospital-related mortality and shorter lengths of stay, Hendrich and Chow (2008:4) report that emerging evidence hints that nursing staff spends the least amount of time performing activities such as patient assessment, vital signs and surveillance. This is especially true during times of ED overcrowding. As a result of the boarding of patients the ED, which is not designed or equipped to provide longitudinal care, becomes filled beyond capacity with the highest acuity patients. These patients are labour intensive and ED staff may not be able to provide them or newly arrived sick and injured patients in the ED with the required quality care and attention (Trzeciak & Rivers 2003:403).

Carayon and Gurses (2008:5) explain that an overcrowded ED setting is a prime example of where situation level workload impacts the quality of patient care and safety. According to these authors, RNs who

- feel pressed for time and may not take the time required to double check medications
- lack motivation and commitment as a result of being dissatisfied may act out of frustration and display negative work behaviours and attitude
- experience stress and burnout may have reduced physical and cognitive resources available to perform optimally, or even satisfactorily
- experience a high cognitive workload may lead to error when making decisions or when they have to pay attention, thus leading to forgetfulness such as not carrying out routine tasks that is specific to an individual patient
- do work-around or violates procedures and guidelines may perform inadequate hand hygiene or aseptic techniques that may spread hospital acquired infection
- work in an environment that is recognised for having a heavy workload may not have the supervision and support or teamwork needed to assist in the delivery of patient care due to the systematic/organisational impact on them (Carayon & Gurses 2008:5)

Emergency department overcrowding becomes a cause for poorer patient outcomes as it directly affects the patient's experience and contributes to RNs experiencing higher workloads. It is a performance obstacle that cannot be resolved simply by adding additional nursing numbers.

Moreover, the ED registered nurse is doing the groundwork for inpatient nurses where the prolonged care of boarded patients is concerned. This involves doing initial admission and ongoing inpatient assessments, putting various referral processes in place, carrying out all initial orders and mastering inpatient processes for a whole continuum of patients cared for in ICU, cardiac, surgery, medicine, paediatric and neurology units.

A study by Hooper et al (2010:425) revealed that ED registered nurses demonstrated lower levels of compassion and satisfaction which is the capacity to receive fulfilment

from providing care than RNs working in other specialities. The authors postulate that this may have to do with nurses being able to self-select a patient service environment that is congruent with their personality styles and preferences. It needs to be brought to attention that during periods of ED overcrowding and the boarding of inpatients in the ED, the RNs in the ED are intrinsically not providing nursing care in accordance to the expected service, namely emergency nursing.

2.7 A HEALTHY WORKPLACE IN THE ED

Emergency department overcrowding affects the work environment. The regular work environment is modified by the situation of having a higher patient turnover than usual due to less available beds. More patients have to be accommodated than during normal operations. It is during these times that nursing staff are subjected to a less than optimal working environment. As with any work environment, an overcrowded work environment has the potential to impact negatively on the nurse as a person.

Parsons, Cornett and Burns (2005:198) conducted a study which identified the components of the ED as a healthy workplace from a RN perspective as excellence in patient care, excellence in patient care processes and systems, workable and safe facility environment, effective provider staffing systems, interprofessional relationships and collaboration, educational development and, lastly, teamwork and personal accountability.

Under **excellence in patient care**, RNs envisioned easy ED access, registration and diagnosis, rapid disposition and quality teaching for each patient's discharge. A concern for patient privacy as well as a concern for those patients who left the ED due to long waiting times was noted (Parsons et al 2005:201).

The theme of **excellence in patient care processes and systems** was represented by the desire for effective and efficient patient care processes and systems in order to provide timely care from presentation to discharge from the ED (Parsons et al 2005:201). The throughput components are evident here.

Workable and safe facility environment required sufficient space to provide patient care, working equipment, as state of the art as can be achieved), quiet and clean

workspace with sufficient lighting and supplies to allow the nursing staff to do their job. Support space such as break and rest rooms were considered essential. Against the backdrop of the increase of violence in society and the occurrence of violence against staff in busy EDs, the importance of the ED environment to be safe and secure could not be emphasised enough (Parsons et al 2005:201).

Effective provider staffing systems referred to recruitment and retention strategies for RNs and evidence-based staffing ratios which included a “out of ratio” charge nurse who would not be a direct care provider. Reference was made to RNs floated into the ED in that the expectation was that these nurses would possess basic knowledge and demonstrate basic skills related to ED patient care (Parsons et al 2005:201-202).

Interprofessional relationships and collaboration referred to the professional working standards with physicians and other health professionals and departments in the delivery of patient care. It included such aspects as appropriate, effective communication and respectful behaviours and attitudes that contribute to positive environment creation (Parsons et al 2005:202).

Educational development encompassed RN induction and orientation, continuous development to increase knowledge and skill levels in, for example, staying abreast of new and current trends in emergency care and preparedness as well as being prepared for threats such as natural disasters or the fallout of terrorism (Parsons et al 2005:202).

Teamwork behavioural norms were an important contributor to staff satisfaction. It consisted of specific individual behaviours such as demonstrating a positive attitude, supporting one another and offering assistance, without being asked) about how the department multidisciplinary staff work and how to communicate with one another (Parsons et al 2005:202).

Personal accountability rated the necessity for a healthy workplace and required that individuals were held accountable for their behaviour and work performance such as the extent to which they fulfil their duties and role assignments. Positive, direct and constructive feedback in communication as well as resolving conflicts by working together demonstrate vital teamwork norms. Bonding strategies that were considered

relevant to teambuilding was fun/social activities outside the department during non-work time (Parsons et al 2005:202-203).

However, in reality the practising RNs are working in a health care environment characterised by increased patient acuity and a scarcity of nurses to meet the increased demands of patient care (Ning, Zhong, Libo & Qiuji 2009:2643). The shortage of nurses can be viewed against the backdrop of increased pressure to see more patients through fewer beds in overcrowded EDs.

Workplace health is a term to express the effects of work on the health of an individual and society with a concern for the effect of physical and mental health on the individual's ability to work. An organisational approach is necessary to address the effects of unhealthy work practices by creating a work environment that promotes positive health and well-being. The goal of an improved work environment is to provide a supportive environment to allow all staff to function to their best ability and develop to their fullest potential (Joe, Kennedy & Bensberg 2002:153, 155). This in return can lead to enjoyment of work, job satisfaction and contribute to the retention of nurses.

2.8 JOB SATISFACTION

Job satisfaction is defined as the good feeling one gets from doing paid work that one enjoys (*Oxford Advanced Learner's Dictionary* 2010:806). In this study it related to "how nurses feel about their work life" (Bauman 2007:9).

According to Swearingen (2004:130), job satisfaction of nursing staff is directly related to the retention of nurses. This view is corroborated by Gifford et al (2002:16) who found that the retention of nurses was associated with improving their quality of work life experience and thereby their job satisfaction.

Khowaja, Merchant and Hirani (2005:33) refer to a study conducted in 2001 by the Health Care Advisory Board in the United States of America (USA) on RNs' perception of work satisfaction which involved 1 638 RNs. Twenty-one per cent of the participants indicated they were 'very satisfied', 51% were 'somewhat satisfied' and 28% expressed they were 'very dissatisfied'. Once satisfaction levels dropped from 'very satisfied' to 'somewhat satisfied' the chances of RNs leaving their jobs nearly doubled. The turnover

rate as reported by the Health Care Advisory Board (Khowaja et al 2005:33) was 33% for the 'very satisfied' group, 63% in the 'somewhat satisfied' group, 89% in the 'somewhat dissatisfied' group and 94% in the 'very dissatisfied' group of RNs.

The findings from Khowaja et al's (2005:33) study further indicated that despite the characteristics of the hospitals involved, almost the same percentages expressed utter job dissatisfaction. This finding revealed an almost across the board inability to fulfil the needs and desires of professional nurses. The major reasons for dissatisfaction were communicated as the high workload, stress, biased perception of nursing management, lack of appreciation and lack of trust. Of note is that there was a positive correlation between job satisfaction and organisational commitment, communication with supervisors and peers, autonomy, recognition, fairness, age, years of experience and professionalism. Conversely, a negative correlation was found between job satisfaction, stress, routinisation, personal locus of control and education (Khowaja et al 2005:38).

Registered nurses' job satisfaction is considered as a major contributing factor to nursing turnover. Considering that globally nursing shortages are currently experienced, it is vital to recognise that nursing turnover is a major challenge faced by hospitals worldwide. The lack of motivated RNs has the potential to impact negatively on the quality of care patients experience as well as the quality of the working environment (Aiken, Clarke, Sloane, Sochalski, Busse, Clarke, Giovannetti, Hunt, Rafferty & Shamian 2001:45). It is especially critical in the light of the manifestation of "virtual defection" where the RN is physically present, but emotionally elsewhere (Khowaja et al 2005:33). In fact, Bates, Cullen and Laird cited in the American Association of Critical Care Nurses' Standards for Establishing and Sustaining Health Work Environments (2005:28) use drug errors as an example to illustrate the 'virtual defection' of overworked, overstressed and overstretched RNs. These authors posit that an increase in drug errors can occur since under normal circumstances, 86% of all medication errors made by other professionals are intercepted by RNs.

In view of the challenge of RN shortages and increased turnover, it is essential to consider the extent to which attractive work environments can contribute to the recruitment and retention of RNs as an increased market demand enables RNs to leave jobs (Khowaja et al 2005:33) in which they are not satisfied. In addition to areas mentioned by Parsons et al (2005:201) that can contribute to staff satisfaction, Factors

that caused the most dissatisfaction were workload and compensation, professional promotion, amount of work responsibility, work environments and organisational policies. These findings were found to correlate with other studies.

IMPACT OF NEED FOR EMPOWERMENT OF RNs IN AN OVERCROWDED ED

Ning et al (2009:2646) state their study showed there was a positive relationship between an empowered work environment and increased job satisfaction. Strategies to enhance work empowerment may indeed increase job satisfaction (Ning et al 2009:2647). It was further noted that RNs who were more satisfied with their jobs would engage in their work with greater enthusiasm and provide high quality care. Empowerment of RNs should be considered as it is an effective method to enhance the work environment and thereby job satisfaction. Ning et al (2009:2644) found that structural empowerment was strongly related to perceived control over nursing practice and subsequently to job satisfaction (Ning et al 2009:2643).

Due to their position to influence change, nurse managers were encouraged to advocate for the implementation of strategies that increase accessibility to structural empowerment for RNs. Ning et al (2009:2643) describe organisational empowerment structures as related to information which gives employees a sense of purpose and meaning. It enhances their ability to make judgements and influences decisions that positively contribute to achieving organisational goals. Recommended steps for managers to take to enhance job satisfaction included positive communication with RNs, encouraging innovation and empowering RNs to do their jobs effectively (Ning et al 2009:2647).

Other aspects perceived as effective to enhance RNs job satisfaction, according to (Ning et al 2009:2643), include support such as feedback and guidance with specific reference to emotional support, helpful advice or hands-on assistance. Access to resources such as time, supplies, equipment, funds and materials that are needed to accomplish organisational goals. Lastly, encouraging and making available professional development opportunities for RNs to increase their knowledge and skills which can be provided by participation on committees, task forces and interdepartmental work groups is imperative (Ning et al 2009:2643).

2.9 CONCLUSION

In this chapter literature related to ED overcrowding, the impact it has on the RNs and the factors that contribute most to a favourable ED work environment were reviewed.

The next chapter deals with the research design and methodology used in conducting the study to determine how the RNs in the specific ED setting experienced the impact of ED overcrowding.

CHAPTER 3

RESEARCH DESIGN AND METHOD

3.1 INTRODUCTION

The implementation of a good research study requires a clear research question, a fitting method to answer the query and the availability of people and data sources after which data collection will take place (Streubert & Carpenter 2011:33).

In this chapter, the “when”, “where” and “how” of data collection and data analysis (Parahoo 2006:183) are discussed. Specific reference is given to the study research setting, design, research method, ensuring trustworthiness as well as the ethical considerations.

3.2 RESEARCH METHODOLOGY

The research methodology is the study of the theoretical, philosophical and epistemological assumptions as well as the social processes through which research is conducted (Powers & Knapp 2006:112-113; Rapport 2004:166). It has philosophical meaning and typically refers to the approach or the paradigm that forms the basis of the research (Blaxter, Hughes & Tight 2010:59) which is most commonly based on the quantitative or qualitative approach.

Rapport (2004:166) defines research methodology as referring to “the general principles of investigation that guide a study, based on its underlying theoretical and philosophical assumptions”. These principles will dictate the appropriateness of some and inappropriateness of other designs and methods of doing research. In this study the research methodology included discussions on the research setting, study design and research method employed to answer the research question in order to achieve the objectives.

3.2.1 Research setting

The research setting is the specific place where the research study is conducted whereas the site is the overall location of the research context (Polit & Beck 2010:62).

The research setting for this study was the ED which catered for the needs of paediatric patients defined by the organisation as “children from newborns to 14 years of age” and was attached to a tertiary hospital. The relevance of this information was that the availability of specialist services made this ED attractive to patients who for the most part bypassed the primary healthcare centres in their immediate location preferring to go to the particular ED. It also contributed to the use of the ED as a ‘one-stop’ for services that would have otherwise taken weeks to be available if the patient had to follow the procedure of booking for an appointment.

The paediatric ED was a 28-bed paediatric emergency care area. Staffing in the ED at the time of the study is depicted on Table 3.1 was 79 RNs in Paediatric Care. This number was made up by various categories such as nurse manager (NM), clinical resource nurses (CRNs), emergency nurse coordinators (ENCs), staff nurse 1 and 2’s (SN1 & SN2).

The services in this ED were available 24 hours a day, 7 days a week. It was fully staffed by a variety of staff members – RNs, physicians including ED consultants, a multiplicity of support staff and diagnostic services as needed. There was ongoing access from outside to consult various tertiary services and have patients admitted to the inpatient setting under the care of these consultants and specialists.

The RN numbers per shift varied according to trends of patient presentations such as nights being better staffed than day shifts due to the increase in patient numbers at night. Also, during the winter months the overall staff numbers were increased because of the increase in the number of patients due to the onset of various respiratory related ailments such as flu, bronchiolitis and asthma exacerbated by flu.

The RNs working in this ED were all registered nurses from various other countries (see Table 3.1) who were required to maintain their practicing licences from their home countries. Registered nurses from the Philippines were Bachelor of Science Nursing

(BSN) prepared, made up most of the staff numbers and were referred to as staff nurse 2 (SN2s). The staff nurse 1 (SN1) group was comprised of South African, Malaysian and a smaller number of Australian nurses. Most of the RNs from these three countries were diploma trained. National nurses, BSN prepared, constituted a small but growing number of the existing staff.

TABLE 3.1: NATIONALITY DISTRIBUTION AND CATEGORIES OF THE REGISTERED NURSES IN THE PAEDIATRIC EMERGENCY DEPARTMENT – 2013

NATIONALITY	NM	CRN	ENC	SN1	SN2	TOTAL
Australian				1		1
Irish				1		1
Jordanian				2		2
Malaysian			1	4		5
Philippian		1	2	10	50	73
Portuguese				1		1
Saudi Arabian				3		3
South African	1			2		3
TOTAL	1	1	3	24	50	79

Few of the RNs had specialty certificates in emergency nursing, but all the expatriate RNs had experience of having worked in the ED setting for more than two years as this was one of the criteria for being hired into the ED setting. The group further comprised of nurses who came from mixed EDs (EDs that cater to both adult and paediatric patients) and those who had worked in paediatric only EDs where the paediatric patients' age range was defined by the organisation they had worked for.

The paediatric ED in which this study was conducted showed characteristics similar to those noted in literature, namely a large variation in ED occupancy with a noticeable seasonal pattern to presentations; excessive in the winter and reasonable in the summer (Richardson, Kelly & Kerr 2009:477).

3.3 RESEARCH DESIGN

According to Brink, Van der Walt and Van Rensburg (2006:92), a research design is defined as “the set of logical steps taken by the researcher to answer the research question and objectives. De Vos et al (2005:267-268) explains the term ‘research design’ as the option available to qualitative researchers to study certain phenomena using one or more strategies suitable for their specific research goal and the norm of

science. It includes all the decisions the researcher undertakes whilst planning the study. The research design for this study was that of a qualitative, explorative and descriptive type.

3.3.1 Qualitative paradigm

Thomas Kuhn (Botma et al 2010:39), American physicist and philosopher of science, gave popularity to the term 'paradigm'. Kuhn established that a paradigm refers to a general set of beliefs that is shared by researchers working in a specific field or tradition regarding the nature of the world and how one makes sense of it (Botma et al 2010:39)

Babbie (2014:32) refer to a paradigm as being a model or logical framework that underlies social theories and inquiries that shape what one observes as well as how one understands it. Babbie (2011:32) further state that a paradigm in itself does not explain anything whereas theories do, but that paradigms provide the framework within which theories are created.

This study was qualitative in nature and did not follow a specific qualitative tradition. Qualitative research uses an emergent design. This is a design that emerges as the researcher makes use of what has already been learnt to guide ongoing decisions about the study in order to reflect the realities and viewpoints of those informing on the topic being studied (Polit & Beck 2010:259).

With qualitative research, one can develop an understanding of phenomenon that is not amenable to measurement. It allows for an in-depth understanding of concepts such as experience, beliefs, motivation and intention. This desire to understand people better and "get below the surface" leads to flexible strategies – which differs from quantitative research – in that it allows the researcher to listen to, observe and interact with people (Parahoo 2006:62-63).

Understanding of social phenomena is developed through the exploration "of human experience, perceptions, motivations, intentions and behaviour" with the belief that interpretation is an essential aspect of the process (Parahoo 2006:63). In this study the researcher intended to undertake basic qualitative research to gain knowledge about

the phenomenon under study as a sounding board for future directives and further development of substantive theories and hypotheses.

What sets basic qualitative research apart from traditional categorised qualitative approaches is that it extends beyond description and always includes the exploration of meanings and explanations that could potentially be applied to the nursing clinical setting. Disciplinary thought is guided and informed through informed questioning using techniques of reflective and critical examination (Thorne, Kirkham & O'Flynn-Magee 2004:3).

Basic qualitative research has become common. One reason for this could be that students at master's or doctoral level with heavy workloads rarely find time to develop an in-depth understanding of the qualitative methodological approaches. Another reason may be that, where a deep theoretical and methodologically sophisticated study is unfeasible, it is possible that some good clinical questions can be examined through qualitative enquiry. A third reason is that on many occasions a qualitative study is not aligned with any particular approach or methodology and forcing it could lead to 'posturing' a study. This means a study is not following the approach or methodology as indicated, but merely contains overtones of the methodology it is supposed to follow (Caelli, Ray & Mill 2003:1-2; Sandelowski 2000:334-335).

Caelli et al (2003:2) describe basic qualitative research as demonstrating some or all the typical qualities of the qualitative approach by combining several approaches; thus, it does not follow a purist qualitative approach and claims no single methodology. Basic qualitative research is appropriate for research done in the field of nursing. It allows for the generation of credible and meaningful disciplinary knowledge with interpretive or explanatory flavour. The manner of multifaceted experiential enquiry that may come up in the course of the research will determine the methodological approaches (Thorne et al 2004:2).

Characteristics of qualitative research

The qualitative research approach is flexible and can be adjusted to relay what was discovered during the course of data collection. It often involves the integration of a number of data collection strategies and is inclined to be holistic (Polit & Beck

2010:259). Qualitative research strives to reflect an understanding of the whole; therefore, it requires researchers to become involved. It also requires an ongoing analysis of the data to formulate subsequent strategies and determines the field work to be done (Polit & Beck 2010:259).

The term “bricoleur” refers to the adeptness to perform “a large number of diverse tasks ranging from interviewing to intense reflection and introspection” (Polit & Beck 2010:259). The term has been applied by qualitative researchers such as Denzin and Lincoln as cited in Polit and Beck (2010:259) to reflect the tendency of qualitative researchers to “put together an array of data, derived from a variety of sources and using a variety of methods” (Polit & Beck 2010:159). The characteristics of the qualitative paradigm used in this study included aspects such as interaction, a reflexive process, holistic quality and flexible methods.

- Interaction

Interaction between the participants and the researcher in qualitative studies is a means for the researcher to get closer to the topic and the perceptions, experiences and behaviour that is being studied (Ulin, Robinson & Tolley 2005:viii; Parahoo 2006:65). The researcher becomes not only intimately involved in the data collection, but an instrument itself of data collection and analysis, using communication and observation as research instruments. Unlike as in quantitative studies, the researcher may rely on intuition to veer away from the intended tool during interviews by using the self to facilitate responses and read into situations.

In this study the researcher had entered the field of work and interacted with the participants. Due to familiarity with the work domain, the researcher was able to relate to the aspects under discussion and clear up inconsistencies at the time.

- Reflexive process

Patterns in communication are a message in itself and may be revealing what participants are reluctant to put into words. Trust was required between the individual participants and the researcher in order to get to the bottom of what was or was not directly said. Parahoo (2006:65) puts it as follows: “Qualitative research involves being

reflexive, which means examining not only what people say or do, but why they might be saying those words and how the interview setting, the questions, the themes and the relationship between interviewer and interviewee might influence how each person reacts, as together they construct and re-construct their conversation.”

In this study, rapport was established at the onset of every individual interview. Trust existed based on the existing familiarity and a shared understanding of the RNs’ experiences and background. The reflexive process was evident in the thick description of what occurred in every interview session including the data obtained from the participant as well the internal responses of the researcher to what the participant relayed.

- Holistic quality

The *Oxford Advanced Learner’s Dictionary* (2010:717) explains that the holistic view takes into consideration the” whole thing or being to be more than a collection of parts”. In qualitative research the participant and/or the researcher may put responses into context. The participants are not limited in their responses and are free to discuss the totality of their experience in their own terms. Parahoo (2006:65) is of the opinion that these experiences can be historically, culturally and/or socially constructed. In qualitative research an utmost attempt is made to understand the phenomenon of interest in its entirety (Botma et al 2010:82).

In this study the holistic quality of the research approach allowed the participants to express themselves freely. The phenomenon was seen through the various perspectives of the individual participants and the participants’ responses were not viewed one dimensionally but understood within the greater context of a dynamic environment.

- Flexible methods

Researchers in the qualitative paradigm are free to select methods that allow them into the personal, intimate and private world of the participants. Data collection strategies may include interviews, observations, group discussions, and the analysis of video or digital audio tape recordings, letters, diaries and other documents. Researchers have

an option to be flexible, imaginative, creative and use a variety of strategies in order to facilitate the process with words which forms the basic element of the data analysis (Botma et al 2010:83; Parahoo 2006:65-66).

In this study the researcher used the semi-structured interview guide to collect data. The single person interview had the advantage of eliminating group thinking.

Advantages and disadvantages of the qualitative paradigm

The use of the qualitative mode of enquiry has both advantages and disadvantages as explained in the ensuing discussion.

Advantages

Based on the characteristics stated earlier (Blaxter et al 2010:66, Botma et al 2010:83; Parahoo 2006:65-66; Polit & Beck 2010:259) one can deduce that as a research approach, the qualitative paradigm offers various benefits.

- It provides researchers with the mode to explore and capture human emotional responses and experiences in that it is subjective in nature. Nursing as profession is both art and science with caring for others at the forefront (Tayray 2009:415). Since nursing is not a purely scientific enterprise a subjective approach was suitable.
- Its holistic nature allows for a comprehensive reflection of the participants' experiences and is in line with the nursing profession's orientation to the wholeness of a human being as including body, mind and spirit (Monareng 2013:4).
- The researcher accepted that one's perception of the phenomenon was incomplete. By conducting this study the dynamic reality that is apparent for the ones living the experience could be discovered and as such could shed greater light and understanding on the phenomenon of ED overcrowding.
- The researcher was immersed in the data and therefore in a good position to represent the participants' truth of the phenomenon and their meanings attached to it.

- It is not a rigid approach and allowed developing themes and categories to redirect the findings.
- A concern for understanding behaviour from the actors' own frame of reference would allow for greater flexibility in applying the concept of just culture whilst assigning accountability.
- The current study was conducted in the natural setting which minimised individuals having to leave their area of work. It also allowed for greater inclusiveness as well as for themes and categories, which might have lain undiscovered at the outset, to emerge.

Disadvantages

The disadvantages of the qualitative approach in this study pertained to the huge volume of information that was uncovered and which had to be analysed and be presented in a manner that reflected the reality of the impact overcrowding in ED has on RNs lived experiences. Most researchers regard this approach as subjective and seem to violate the rule of objectivity.

3.3.2 Explorative design

Polit and Beck (2010:22) describe **explorative research** as the full nature of and the manner in which phenomena are manifested as well as other aspects associated with it. Burns and Grove (2008:350) point out that exploratory studies are not intended for generalisation to large populations. They are designed to increase the body of knowledge of the field of study.

In explorative studies the specific population used could be accidental (Burns & Grove 2009:350). Exploration is further explained as “the examination of something in order to find out more about it” (*Oxford Advanced Learner’s Dictionary* 2010:516). In the qualitative approach exploration is used to understand the perceptions and actions of participants as individuals or as part of a group through an inductive, interactive, holistic approach and is carried out by flexible and reflexive methods of data collection and analysis (Parahoo 2006:63).

In qualitative research, through exploration, concepts, conceptual frameworks and themes from observations, interviews and interpretation of discourses are developed. The researcher is open to ideas which can emerge from observing, listening, examining and re-examining her or his own perspectives on the subject during as well as after data collection (Parahoo 2006:64).

An explorative design was appropriate for this study because the results were not intended for generalisation; hence, a purposive sampling technique was used in order to contextualise the findings.

3.3.3 Descriptive design

Qualitative **description** as a design is presented as a basic, fundamental, interpretive or generic qualitative description to differentiate it from other qualitative studies such as phenomenology, grounded theory and ethnography which are also descriptive (Caelli et al 2003:1; Sandelowski 2000:335).

Sandelowski (2000:334) is of the opinion that many researchers have sought “epistemological credibility” by presenting their studies as something it was not; merely posturing to be phenomenology, grounded theory or ethnography. There is no comprehensive description of a qualitative study as a distinctive method on par with other qualitative methods which potentially also leads to fewer researchers claiming it as method of empirical enquiry.

3.3.4 Contextual

Contextual research is aimed at explaining systematic relationships among phenomena. It covers the social, institutional and environmental conditions within which the participants act (Yin 2011:8). It sets out to understand the full nature of the phenomenon under study by identifying what exists in the social world and how it manifests (Polit & Beck 2010:23; Ritchie & Lewis 2003:27).

Through the contextual approach one seeks insight into a situation or the phenomenon as well as an understanding the underlying causes (Polit & Beck 2010:23). It frequently flows from exploratory and/or descriptive research and is aimed at “why” specific events

occur in particular situations. Understanding the work environment would enhance the understanding of the participants' experience of the phenomenon, namely to explore and describe the extent to which ED overcrowding impacts on the RNs' professional practice. Therefore, to do a work-related qualitative study, as was done in the current study, the context of work needed to be noted in that it contributed to the behaviour and response of the participants.

3.3.5 Inductive reasoning

Inductive reasoning was employed to make conclusions. Inductive as an adjective is the use of facts and examples to form general rules and principles (*Oxford Advanced Learner's Dictionary* 2010:766). Polit and Beck (2010:13) describe **inductive reasoning** as the logical process of reasoning that leads to the "development of generalisations from specific observations".

Powers and Knapp (2006:82) explain that inductive reasoning is a way of thinking that begins with the observation of patterns or repetitive occurrences which are systematically formulated into conclusions about what is probably or possibly going on; in other words, what the observations may signify. Reaching conclusions by this manner of reasoning is to move from lower to higher levels of abstraction.

The quantitative approach uses the logical reasoning process of deduction which is to test theories and to generalise research results to larger settings (Babbie 2014:58; Polit & Beck 2010:63). In contrast, the focus in qualitative approach is to grasp the phenomenon in multiple realities, integrating information and generating theory to reflect the phenomenon as it exists and not as it is pre-conceived (Botma et al 2010:82; Polit & Beck 2010:18,64).

The inductive approach is evident in the data analysis phase. It is constructionist as an inductive process is applied to create meaningful conceptual patterns by grouping segments of information together to make meaningful conclusions and recommendations (Polit & Beck 2010:469).

3.4 RESEARCH METHOD

Research methods are the steps, techniques, procedures and strategies for gathering and analysing data in a research investigation (Polit & Beck 2010:16) and is closely linked to the paradigm within which the research is conducted (Bickman & Rog 2008:224).

It includes identifying the population, sample and sampling technique, data collection, data management and data analysis (Botma et al 2010:199; Powers & Knapp 2006:11) with particular attention paid to maintain rigour throughout.

3.4.1 Population and sample selection

Population indicates an entire set of or group of individuals who share certain qualities. It is sometimes called the '*universal* population'. In this study the universal population pertained to all the RNs in Saudi Arabia. The *Oxford Advanced Learner's Dictionary* (2010:1137) defines population as "all the people who live in a particular area, city or country" or as "a particular group of people or animals living in a particular area". Botma et al (2010:274) state, with reference to research, population means all possible individuals, objects or artefacts making up a group from which a sample is drawn. These authors also refer to the target population as the "study" population by explaining that it is not only the group from which the sample will be collected, but is also the group to which the results will be generalised (Botma et al 2010:274).

The *target* population is the entire group of people the researcher is interested in and would like to generalise the findings to (Polit & Beck 2010:767). For the purpose of this study the target population was all the nurses (as mentioned in Chapter 1, Section 1.6) working in paediatric ED where overcrowding was experienced and met the inclusion criteria.

The *accessible* population are those subjects who are available to the researcher from the target population at the time of research (Polit & Beck 2010:307). In the current study the accessible population was the nurses working in the paediatric ED in a tertiary hospital who were available at the time when the study was conducted. In general this population could be considered as heterogeneous because they were RNs working in

the paediatric ED with clusters of variability based on country of origin, age groups and gender.

Nurses who were included for participation had to satisfy a set of eligibility criteria, whilst exclusion criteria specified those conditions that would have excluded specific nurses from the study (Polit & Beck 2010:306).

The inclusion criteria for participation in this study were:

- participants had to be male or female
- RNs either from different nationality backgrounds
- they should have two years' experience of working permanently in the paediatric ED

The exclusion criteria included:

- RNs who had worked for less than 24 months in the paediatric ED
- RNs who did not work permanently in the paediatric ED but whose home units were inpatient wards; they were thus floated to work in the paediatric ED

3.4.2 Sample and sampling techniques

A **sample** is a subset of the population which is selected to participate in the study (Polit & Beck 2010:307). In this study a non-probability approach as opposed to probability sampling was used. Using non-probability sampling, the researcher has no way of knowing whether each element of the population will be included or then represented in the sample and some members may have little to no chance of being included in the sample (Leedy & Ormrod 2005:206).

Purposive sampling was a method of choice to recruit participants for this study. It involved seeking out participants who would best contribute to the information requirements of the study (Polit & Beck 2010:565). This occurred by selecting those RNs who would yield the richest information about the topic that was investigated and who fitted the inclusion criteria. A sample that would be representative of the population

was not sought since generalisation was considered irrelevant in the qualitative setting because of the small sample size.

In qualitative research, the **sample size** need not be predetermined as would be the case in quantitative research. Data collection continues until data saturation has occurred. Saturation is the point at which no new concepts, themes, information or categories are generated and repetition of aforementioned information occurs (Streubert & Carpenter 2011:90). In this study participants were included in the sample for individual interviews until no new information emerged in further interviews.

The sample in this study were eight nurses who volunteered to participate in the study and were eligible according to the inclusion criteria in section 3.4.1.

3.4.3 Data collection

Data collection is the gathering of information in order to answer a research question (Polit & Beck 2006:498). Data were generated through the activities of interviewing, observing, collecting and examining the material (Yin 2003:129).

Individual interviews were the main method for collecting data in the current study triangulated with the use of observation. Interviews can be conducted on an individual basis or in a group. Green and Thorogood (2004:80) distinguish between individual unstructured interviews and structured (non-qualitative) at opposite ends of a continuum with semi-structured interviews in-between. Polit and Beck (2010:341) also classify individual qualitative interviews to be unstructured and semi-structured with additional reference to the focus group interviews.

An unstructured interview is where the researcher “has no preconceived view of the content or flow of information to be gathered” (Polit & Beck 2010:341). The aim in this type of interview is to encourage the participants to express their views without the researcher imposing her or his own perceptions on them. The interview structure was comprised of a grand tour question with subsequent probing questions based on the participant’s initial response (Polit & Beck 2010:341). Streubert and Carpenter (2011:340) refer to it as a “conversation with purpose”.

The semi-structured (or focused) interview method is flexible in that, despite the use of guide questions, it still allows for storytelling. The researcher has a list of broad questions that must be addressed during the interview. This written list of open-ended questions is referred to as the interview or topic guide. The researcher has to encourage the participants to openly and freely discuss all the questions on the interview guide (Polit & Beck 2010:341).

A focus group interview is conducting interviews with a small group of participants, anywhere from three to ten, whose opinions and experiences are sought simultaneously. The researcher uses an interview guide to steer the discussion and keep it focused (Polit & Beck 2010:341).

In this study in-depth, individual semi-structured interviews were conducted utilising a interview guide (see Annexure F). Eight interviews were conducted as this was when data saturation was achieved. Through the interviews the participants' perspectives as it related to how they were affected by ED overcrowding were explored, described and explained.

The first section, section A, of the interview guide consisted of pre-determined items to collect biographical data. Section B was used for the individual interviews. It consisted of seven open-ended questions that allowed for flexibility to explore issues brought up by the participants. Control and direction of the interview remained with the researcher (Gerrish & Lacey 2006:341).

The interview as method for data collection in qualitative research has both advantages and disadvantages. Holloway (2005:52) mentions that the advantages are as follows:

- the participants discuss the topic using their own words
- the interview focuses on aspects that are important to the participants
- clarification from the participant can be sought by the researcher
- there are opportunities to probe and explore in depth
- non-verbal behaviours can be captured
- the format is flexible
- little specialist equipment is needed, the basics being an audio digital recorder

- existing skills of conversation and communication are utilised

The disadvantages of interviews mentioned by Holloway (2005:52) are:

- it is time consuming; even more so during the verbatim transcription and analysis of the data
- the interview format can vary between and among participants
- reflexive, open interviewing requires practice which can be a complex skill to master for novice researchers
- reconstructed events are captured and therefore the actual behaviour and primary responses of the participants may be lost
- the researcher's gender, class and standing may influence the interview and become a bias basis during reflection

3.4.3.1 Data collection process

A comfortable, quiet venue within the workplace that afforded privacy and prevented interruption was selected. Seating arrangements was such that the researcher and participant faced one another with no barriers such as a desk or table between them. A table was placed to the side of the researcher. Both the researcher and the participant could make use of it. The documentation, for example the informed consent forms, were placed on the table. The table was also used for the audio digital recorder which was placed at a suitable distance between the researcher and participant for the voice recordings to be optimal.

Pre-testing of the instrument was done prior with volunteer nurses who met the inclusion criteria whose information was not included in the main study. Pre-testing was done to test the feasibility of the instrument, uncover any complexities such as language impediments in the understanding and interpretation of the questions posed by the researcher. The findings of the pre-test were incorporated in the revision of the interview question to simplify it for better understanding should it be required (Ulin et al 2005:123). Peat, Mellis, Williams and Xuan (2002:123) explain the additional advantages of doing pre-testing of an instrument include to become familiar with the use

of the digital audio recorder and also to assess the data analysis technique to potentially uncover challenges in advance.

The audio digital recorder was pretested in advance for the researcher to become familiar with its use before the interviews were conducted. This ensured that the researcher was familiar with the equipment and neither she nor the participant was detracted from the intent of the interview. This also ensured that data was indeed captured and not lost by accidental mishandling. Pre-testing the audio recorder beforehand further ensured that the voices of the researcher and the participants would come across clearly during the interviews. The audio-recorder was positioned optimally without being a distraction. The researcher further made sure that spare batteries were on hand in case of power failure.

An informed consent was signed by the participants for the pre-testing phase as well as during the actual data collection phase of the main study.

As the interviewer, the researcher established rapport with every individual participant to set them at ease. A positive impression was created by projecting confidence and a true interest in what the participant had to say. The researcher was attentive throughout each interview and thanked every individual afterwards for sharing their experiences (Streubert & Carpenter 2011:35).

Participants were made to understand that their responses were neither right nor wrong, that no judgement would be forthwith and that they could stop or withdraw at any time should they feel uncomfortable. They were also informed that more clarification might be required from them pertaining to ideas, thoughts or experiences they shared if deemed necessary. Every individual participant was asked for permission to use the audio digital recorder. None declined its usage.

Field notes were made reflecting cues in tone or physical demeanour (Streubert & Carpenter 2011:43). The non verbal messages, experiences or thoughts that were expressed by the participants were observed and clearly understood by, for example, clarifying meanings, requesting more information on a theme or idea shared by the participant or probing to capture the true intent of what the participant wished to convey.

The audio recording was transcribed verbatim by an experienced typist who was bound by professional confidentiality and worked on a password protected computer. The soft-copies of the transcripts were also password protected and no hard copies were generated other than by the researcher.

The researcher used the typed transcriptions to systematically review the data obtained and went back to the voice recorded interviews to verify that the transcribed data were an accurate reflection of what had been shared by the participants. During this process, the hard copies were kept in the researcher's home office and locked away when not in use.

Rigour was maintained in the data organisation phase by ensuring trustworthiness principles. The accuracy of deductions were checked and rechecked in order to ensure the thoroughness and completeness of the data collection process (Yin 2003:176). Unwanted biases imposed by the researcher's values were acknowledged on an ongoing basis and dealt with through reflexivity as described under section 3.6.

3.4.3.2 Data management

Data management is the processes that are followed to effectively and systematically collect, store, retrieve and reflect data with the aim to make complex, large masses of data easier to work with and understand (Powers & Knapp 2006:38). According to Dey (1993:77), good management of data supports the analysis of the data.

The consents and interview schedules were kept separate with no names being indicated on the interview schedule response sheets. The interview response sheets were identified by using a code where numbers replaced the initials of the interviewed participant, for example, the first participant Anne Basson (fictitious name) would be reflected as P1:1/2. Pseudonyms were used for the purpose of protecting the participant's identity on the audio recording. Interview information such as the interview schedule response sheets and the audio material were kept safe either at the researcher's home or on the researcher's person in an attaché bag. The participants' identities were not revealed in the report and will not be disclosed in future publication(s) of the research study. Apart from the persons involved in the study the gathered data were, and will not, be revealed to or discussed with anybody else. The

audio digital recordings and the verbatim transcribed information will be destroyed five years after completion of the study and all journal publication(s) had been effected.

3.4.3.3 Data analysis

Data analysis means to “organise, provide structure to, and elicit meaning from the data” (Polit & Beck 2010:463) or drawing conclusions using mental processes” (Streubert & Carpenter 2011:44). Qualitative data analysis is usually constructionist in that it is an inductive process that involves putting together units of information into conceptual meaningful patterns that represent the participants’ subjective experiences within the phenomenon under study (Green & Thorogood 2004:175; Polit & Beck 2010:469). Units used referred to the direct quotes of participants.

Qualitative data analysis focuses on how the collected data come together contextually and meaningfully to reflect a composite whole (Dey 1993:245). In this study an in-depth, inductive process using sequential, interrelated steps of immersion was employed (Ulin et al 2005:144). The analysis consisted of reading the verbatim transcribed and typed scripts and re-reading the notes, going back to the recorded interviews, coding, displaying, reducing and interpreting the data (Ulin et al 2005:144). Thematic content analysis is a general analytic process where the content of narrative data is analysed to identify themes and establish patterns among the themes, categories and subcategories (Polit & Beck 2010:469).

Qualitative analysis occurred simultaneously during data collection in the current study. The researcher processed the data as it was received by analysing, synthesising and making judgements relating to aspects of the phenomenon to follow up on whilst in discussion with the participants. A systematic analysis of the data occurred after it had all been collected and saturation was achieved (Parahoo 2006:391).

Data analysis was conducted using Yin’s (2003:178) five-phase cycle – that comprised of compiling, disassembling, reassembling and arraying.

Compiling in this study required sorting through the data sources and organising the data it contained in some order or consistent form which was then considered the data base. It required repeated re-reading of and re-listening to the information by the

researcher. The researcher paid special attention to potential inconsistent usages of different terms or words. This was an active, interactive process through which a deeper understanding and meaning of the data was sought (Polit & Beck 2010:464; Yin 2003:178).

The disassembling phase constituted of breaking down the data into smaller fragments, pieces or units. This is also called the “fracturing of the information” and supports that data management is, in essence, reductionist in nature (Polit & Beck 2010:465; Yin 2003:178).

Category schemes were developed. Careful, deliberate scrutiny of the data led to the identification of underlying concepts and clusters of concepts. The related concepts were grouped together which would aid the coding process (Polit & Beck 2010:465).

The reassembling phase was the use of codes or then substantive themes to reorganise the disassembled fragments, pieces or units of information into yet more groupings and sequences that could be different from the original notes. The data were read in its entirety and corresponding categories were coded. The purpose of this was to move the data to a higher conceptual level, a process that had already commenced with the development of the category schemes (Polit & Beck 2010:466; Yin 2003:187).

Thematic content analysis was done manually by following the process noted below (Loiselle et al 2011:324; Polit & Beck 2010:469,470; Ulin et al 2005:152).

- i. The researcher was firstly immersed in the data for familiarisation with the content.
- ii. The narrative data from the verbatim transcribed texts were carefully read and examined to identify main themes.
- iii. Themes which revealed commonalities or natural variations among the participants were identified.
- iv. The patterns in which the themes presented were also examined.
- v. The data were broken down into smaller units.
- vi. The units were then coded and named according to the content they represented.
- vii. Coding was done manually by using highlighting and cut and paste techniques.

- viii. Labels were assigned to the themes and emerging categories and sub-categories according to which the data were sorted.
- ix. Various direct quotes were sorted into conceptual data files under a specific label that represented a cluster of information.

The organisation of data could have been done manually or with the aid of computer programmes. In this study, the researcher did it manually, although aided by the use of a computer; but specific computer programmes to analyse qualitative data per se were not used. This was the more cumbersome of the two processes, but knowledge of and access to relevant programmes as well as time limits was deciding factors.

The researcher became familiar with the data in its entirety. Making use of cut and paste, similar and dissimilar information were arranged according to themes or concepts which would be further considered and codes assigned. Throughout the process the researcher remained cognisant of detail and endeavoured to capture the original data detail even in its reworked format.

Yin's (2003:179) five-phase approach to data analysis terminated with the interpretation and conclusion of the data. Interpretation consisted of presenting the reassembled data in a new narrative manner. Conclusions were drawn from the entire data analysis process and relating it closely to earlier interpretations drawn as discusses in Chapter 4.

The ethical standards adhered to throughout the entire study process are described next.

3.5 MEASURES TO ENSURE TRUSTWORTHINESS

Ensuring trustworthiness in qualitative research is what rigour is in quantitative research with particular reference to ensuring validity and reliability. In quantitative research rigour is a term expressing excellence; it involves discipline, attention to detail and precision with each step carefully examined to reduce error and weakness thereby ensuring that the outcome of the study reflects reality (Botma et al 2010:80).

Qualitative research, due to its grounding in the naturalistic paradigm and being different in nature from the quantitative approach which follows the positivist beliefs,

cannot be held to the same stipulations as those for quantitative research studies (Krefting 1991:214). This, however, should not detract from the merit of qualitative research studies since rigour can be attained through alternative strategies that are fitting to the qualitative approach (Polit & Beck 2010:490).

Various models have been developed by different authors to satisfy the requirements for rigour from a qualitative perspective (Tuckett 2005:31). In Table 3.3 rigour from the quantitative and qualitative perspectives is illustrated.

TABLE 3.2: RIGOUR FROM THE QUANTITATIVE AND QUALITATIVE PERSPECTIVES

QUANTITATIVE	QUALITATIVE	
RIGOUR	TRUSTWORTHINESS	
Internal validity	Truth value	Credibility
External validity	Applicability	Transferability
Reliability	Consistency	Dependability
Objectivity	Neutrality	Confirmability

(Tuckett 2005:31)

The epistemological standards that apply to ensure trustworthiness as suggested by Lincoln and Guba, cited in Botma et al (2010:232) include truth value, applicability, consistency and neutrality and authenticity can be considered as a fifth measure

- The **truth value** encompasses that the researcher can confidently indicate that the findings reflect the views of the participants and the context it was voiced in. The strategy to demonstrate the truth value is **credibility** and the applied criteria in the study were of prolonged engagement, persistent observation, reflectivity and clarifying the bias of the researcher, member checking, peer review and triangulation (Botma et al 2010:233). Credibility was therefore enhanced in this study by applying the following strategies:
- *Prolonged engagement* was done by investing sufficient time in data collection activities to obtain an in-depth understanding of the culture, language and/or views of the individual participants. It allowed for the detection of misinformation

and distortions and contributed to the building of trust and rapport that increased the likelihood of accurate, useful and rich information (Loiselle et al 2011:267, Polit & Beck 2010:496-497).

The researcher in this study was herself a RN with 15 years' experience in the ED setting at this organisation. As a nurse manager that had worked up the ranks and had first-hand experience of not only having to deal with overcrowding, but having to manage nursing staff throughout the seasonal shifts, the researcher was well-entrenched in the phenomenon under study.

The researcher spent much time in both data collection and analysis in order to reflect the true experiences of the RNs in the paediatric ED as it pertained to work in overcrowded conditions and the meaning attached to it. In addition, the researcher was familiar with the staff and vice versa. Hence, rapport was quick to be established and in the light of pre-existing knowledge, truthful expression was adhered to.

The registered nursing staff had, for the most part, English as a second language. The organisational requirement was English or Arabic in the workplace and with staff having had to pass the English test and attain a score of 65% or above, all nursing staff was considered well versed in English despite it being a second language.

- *Persistent observation* pertains to the salience of the collected data and refers to the researcher's focus on the characteristics or aspects of the situation or conversation that were relevant to the phenomenon under study. Lincoln and Guba cited in Loiselle et al (2011:267) state if "prolonged engagement provides scope, persistent observation provides depth". The researcher in this study kept field notes in which all other non verbal cues and behaviours of the participants were observed and noted.
- *Reflexivity/Clarifying bias*. Reflexivity relates to the degree of influence the researcher intentionally or unintentionally exerts on the findings (Jootun, McGhee & Marland 2009:42). It refers to the continuous reflection of the researcher on one's values, preconceptions, behaviour and presence and those of the

participants which could affect the interpretation of responses (Parahoo 2006:326-327).

The researcher was well aware of own ongoing role within the area of study especially because of the vast experience in the same context; and took note of potential prejudices whilst welcoming the possibility of having own views informed and potentially altered. Reflexivity was therefore used to avoid bias during both data collection and analysis stages of the study.

- *Member checking* involves the researcher sharing emerging interpretations with the participants either during the data collection process or more formally once the data have been analysed to assess whether the researcher's conclusions reflect the realities and lived experiences of the participants (Polit & Beck 2010:499).

In this study the researcher opted to have member checking occur once the data analysis had been completed by gathering together, on one or more occasions, participants who had been interviewed to receive feedback individually as to whether their views and experiences were truthfully captured and reflected.

- *Peer review/examination/debriefing* is the process of obtaining feedback from objective colleagues regarding data quality and interpretations. It exposes the researcher to the searching questions of peers who are experienced in qualitative research, the phenomenon under study or both (Loiselle et al 2011:268,275).

Peer review was ongoing with the researcher gaining feedback (without compromising the confidentiality of the participants) from fellow nurse managers working in this ED setting. In this study setting these colleagues were from different units and stood objective to the information. Colleagues, familiar with the qualitative research procedure, were readily accessible for ongoing discussions relating to data collection methods and analysis. All the study chapters and related documents were submitted to the study supervisor from beginning to the end for correction, guidance and feedback to ensure progress in a credible way.

- *Triangulation* is the use of multiple referents to draw meaningful conclusions in order to “overcome the intrinsic bias that comes from single-method, single observer, and single study results” (Loiselle et al 2011:267). Method triangulation, which is the use of dissimilar techniques for data collection about the same phenomenon (Tuckett 2005:37), was done by using both single person interviews as well as observations. Triangulation further occurred as the researcher identified complimentary data sources and investigators for convergence of the truth and truthful information (Loiselle et al 2011:267-268). The literature review conducted by the researcher provided additional insights into the phenomenon under study and developed deeper insight on the topic and how other scholars empirically came up with.

Applicability is the extent to which the findings can be applied to different groups in different contexts with the possibility to contextualise the findings to other similar settings. The strategy the researcher employed to do this was **transferability** by using the criteria of selection for the research site and population, sources/sampling, comparing the findings to the demographic data, achieving data saturation and the researcher providing a rich and thick description of the process followed (Botma et al 2010:233).

- *Selection of the research site and population* were provided by the researcher in this study as detailed information. The setting was explained with regard to size, capacity, services offered, and categories of staff with specific information about the registered nurses (categories, nationality breakdown and number). The process followed in conducting the study in context was noted in detail.
- *Sources/sampling information* was provided in this study by following a non-probability, purposeful sampling approach which involved seeking out informants who could best contribute to the data collection as a result of their employment in the paediatric ED setting. A small sample of participants who met the inclusion criteria was selected with the aim to gain an in-depth understand of the phenomenon being studied.
- *Rich or thick description* is a frequently used term and refers to a thorough and rich description of the research setting and observed processes that helps to

assess to which extent the utility of the evidence of the study can be used for nursing practice (Loiselle et al 2011:37).

Consistency requires consideration as to whether, if the study/research should be repeated with the same participants in a similar context, the findings will be consistent (De Vos et al 2005:248, 293). Consistency in this study was achieved by applying the criterion of **dependability**. Dependability was achieved through careful documentation and decision trail throughout the enquiry. Triangulation and member checking during the data generation process and inquiry audit as well as triangulation during the data analysis phase were done (Polit & Beck 2010:496). Careful documentation and decision trail was achieved by appropriate referencing, a comprehensive literature search, safe keeping of the digital audio recordings, having the transcripts at hand and following a sound research process as guided by the research supervisor. This allowed for data to be traced and the researcher's thought processes in drawing conclusions to be followed and traced to the source (Holloway 2005:289).

Neutrality espouses freedom from bias during the research process as well as with the description of the results. It further pertains to what degree the findings can be attributed to the participants and the conditions of the research. The findings are also free from the influence of motives, views or biases of the researcher. **Confirmability** was achieved by applying the criteria of confirmability audit and reflectivity (Botma et al 2010:233).

- In this study the *confirmability audit* ensured that the research findings were based on the research process and the data collected from the voluntary participants and were not constructs of the researcher's assumptions, views and preconceived ideas or perceptions.
- *Reflexivity* is once again relevant in that the data, with the researcher having accounted for potential bias and aimed to exclude it as much as possible. The findings could be considered as neutral or then an objective reflection of the results of the study free from researcher bias.

Authenticity is defined by the *Oxford Advanced Learner's Dictionary* (2010:83) as "the quality of being genuine or true". In this study the researcher, through thick description, member checking following concerted inductive data analysis, reflected data that truly

represented the participants' lived experiences, thereby creating an awareness of this experience by those who review it. The extent to which the researcher accurately demonstrated the full range of realities as reported by the participants, communicated a feeling tone of the lived experiences of the participants and allowed readers to develop a greater awareness and sensitivity to the issues that were portrayed, augmented and reported according to the standards of the study institution (Botma et al 2010:234).

3.6 ETHICAL CONSIDERATIONS

Ethics refer to "a system of moral principles or rules of behaviour (Oxford Advanced Learner's Dictionary 2010:500). Adherence to ethical principles can prevent or reduce harm to research participants (Orb, Eisenhauer & Wynaden 2001:91). By behaving in a morally, ethically and socially correct manner and making the right choices (Holloway 2005:17) humans, directly or indirectly, are protected from wrongdoing.

In research, basic ethical principles must be adhered to in order to protect the rights of the organisation where the research is to be conducted, the researcher, human participants, as well as that of the academic discipline of research.

3.6.1 Protection of the rights of the research institution

The researcher obtained permission to conduct the study from the Research Ethics Committee of the Department of Health Studies of the University of South Africa (see Annexure A). The rights of the research institution where the sample was drawn from were protected by requesting permission to conduct the study (see Annexure B).

The researcher gained entry into the setting by permission which was granted by the organisation's Institutional Review Board (IRB) who reviewed research proposal. Permission was also obtained from the management of the paediatric ED. Recommendations by these bodies were attended to by the researcher and written feedback was obtained with permission to conduct the study. This information was freely shared with the participants to allay their concern or fears that participation would not result in censure from the organisation or jeopardise their positions or jobs.

3.6.2 Protection of the rights of human participants

The basic ethical principles that were applied to protect the rights of participants were that of informed consent, privacy and confidentiality, the right to withdraw, justice, beneficence and non-maleficence based on the exposition of Polit and Beck (2010:127-130).

Informed consent: autonomy is the acknowledgement of independent decision making of autonomous individuals and includes the right of self-determination and giving informed consent. Securing informed consent and voluntary participation requires that participants receive adequate information about the study; it is vital that they understand this information in order to agree or decline participation through free choice (Polit & Beck 2010:127).

In this study all the participants received a written information letter (see Annexure E) which informed them of the purpose of the study, how much interaction time they could expect, the voluntary nature of the undertaking and the assurance that their confidentiality and privacy would be protected. The participants were free to request clarification or request additional information before signing the supplied informed consent form which was also signed and dated by the researcher.

Confidentiality and anonymity: Confidentiality is closely linked to anonymity and pertains to the participant being free of attention, identification or intrusion that is unwanted (Loiselle et al 2011:75).

Participants in the current study were known to one another and as such privacy was a difficult undertaking. It was therefore difficult to attain anonymity. Confidentiality implies information such as the identity of the participants not to be linked to aspects of the data, to be held secret and not be shared or disclosed. Anonymity and confidentiality had relevance to the information disclosed.

Privacy and dignity: Pseudonyms were used to identify the participants. All information was kept safe and locked up.

Right to withdraw from the study: Participants were not coerced to participate. No remuneration was promised or received. The participants were reassured that they had the right to withdraw at any stage without stating a reason and that no information they had provided up to that stage would be used. They were reassured that they would not suffer any victimisation.

Justice was adhered to in that all participants received the same time exposure, attention and feedback with recognition of their participation in making the research study possible. The participants' needs received preference above the objectives of the study with equal opportunity being given to be selected as a participant.

Beneficence, the duty "to minimize harm and to maximise benefits" (Polit & Beck 2010:121), was satisfied in that the participants were informed that the only immediate benefit for participation was that they were afforded the opportunity to voice their ideas and feelings and grow through the experience. The participants were assured that the future benefits of their participation would lead to a greater understanding of the work environment and the RN's responses to challenging situations.

The principle of **non-maleficence** or then "primum non nocere" that means "above all, do no harm" (Moskop et al 2009a:607) requires that no participant should suffer physical, psychological or professional harm during or as a result of having participated in a research study. In this study it was foreseen that no such risks or harm would be encountered by any of the participants.

3.6.3 Protection of the rights of the academic discipline

Scientific integrity refers to the sound and ethical practice of science (Polit & Beck 2010:141). The researcher avoided **scientific misconduct** by avoiding fabrication, falsification, plagiarism, or other practices that materially deviate from those that are commonly accepted within the scientific community (Polit & Beck 2010:141). All references utilised were correctly cited. The rule of science was observed for proposing, conducting and reporting the research study as per policy (Meyer 2001:1).

The following rules of integrity for researchers as proposed by Holloway (2005:22) were adhered to in the current study.

- **Veracity:** this was maintained by the researcher through telling the truth and using terminologies that were understood by the participants.
- **Fidelity:** this refers to professional loyalty which in the case of this study scholarly truthfulness was upheld.

The implication of being a good researcher who keeps to ethical standards is to avoid harm being done as much as possible and to attempt doing good (Holloway 2005:19). By applying these ethical rules the standing of the study will be strong and the findings will be credible.

3.7 CONCLUSION

In this chapter the ongoing study was discussed with specific reference to the research methodology which comprised of the research setting, design and the research method that included aspects such as the population, sample and sampling technique, data collection and data analysis. Measures to ensure trustworthiness as well as the ethical considerations were also discussed.

In Chapter 4 the study findings together with an in-depth analysis and description thereof are presented.

CHAPTER 4

PRESENTATION AND DESCRIPTION OF THE RESEARCH FINDINGS

4.1 INTRODUCTION

Data analysis is the systematic examination of data to discover conceptual patterns and in some cases, cause-and-effect associations within the broader social context in which the research question and objectives are directed (Ulin et al 2005:139).

The purpose of this study was to explore and describe the impact of paediatric emergency department (ED) overcrowding on registered nurses (RNs) working in the paediatric ED tertiary hospital setting. This was done by considering analysed information from the questionnaire items whether ED overcrowding affected their job satisfaction and professional practice or whether the quality of nursing care was affected as a result of ED overcrowding. It needed to be empirically investigated.

4.2 PARTICIPANT DEMOGRAPHICS

Eight individuals were interviewed at saturation of data. Demographic information was collected at the beginning of each interview using a questionnaire with predetermined fields based on the variables that would contribute to the analysis of the study phenomenon. The use of the concept 'nurse' as referring to the registered nurses who were the population for this study was used interchangeably.

A semi-structured interview schedule was administered to collect data. During the one-to-one individual interviews every RN was required to respond to predetermined and probing questions about their feelings towards work during the periods of ED overcrowding. They were also encouraged to reflect on any incidences where their professional behaviour was affected as a result of the overcrowding in the ED environment. The RNs were asked about any intent to leave the organisation, reasons for staying in the department and also to make suggestions as to what nursing leadership could do to provide support during periods of ED overcrowding.

The semi-structured or focused interview method was suggested by Polit & Beck (2010:341) and Streubert & Carpenter (2011:340) was followed wherein a list of broad, open-ended questions required the RN to respond to questions as set out on the interview or topic guide (see Annexure F) as opposed to use of only one grandtour question. The interview remained flexible and allowed for the participants to engage in storytelling as they were encouraged to openly and freely respond all the questions listed below.

- 1 Tell me in your own words what you understand emergency overcrowding is?
- 2 In your mind, do you think there are specific reasons for overcrowding in this department?
- 3 How do you feel about work when there is overcrowding?
- 4 Have you ever come across a situation during overcrowding that affected your actions or behaviour towards the patient or relatives? For example, if you were not in this situation you would have behaved differently? Please give an example.
- 5 Do you ever consider transfer out of the area, resigning or not renewing your contract during times of overcrowding? (Prompt – what would you state as your main reason for considering this?)
- 6 Consider at least three reasons for staying on and list them in order of importance to you.
- 7 What would you suggest to nursing leadership do to support you during these periods of overcrowding?

4.2.1 Analysis of participant demographic data

Gender

Seven of the participants were female and one participant was male. The male participant was confident and, despite limited experience as a nurse and particularly in this setting, was eloquent in sharing views and observations on the situation of ED overcrowding. However, there was limited reference as to how caring behaviour towards patients were affected. This appears to be in line with Chodorow's observation noted by Ekstrom (1999:1393) regarding the socially constructed differences between men and women pertaining to thinking, perception and self-concept.

Age

The participants' ages ranged from 37–52 with an average age of 33 years. Age was apparently not a deciding factor in the information that was put forward. What was worthy to note was that the individual with the most life experience was also the participant who appeared to have been most affected on a personal level and who was forthcoming about the experience of ED overcrowding.

Nationality

The participants comprised of two Saudi nationals and six nurses from the Philippines. No findings specific to nationality was noted.

Level of education

All eight participants held a Bachelor of Science degree.

Three of the participants were SN1 nurses (either from South Africa, Malaysia, Australia or national nurses) and five were SN2 nurses (from the Philippines which constituted the majority of RNs as mentioned in Chapter 3, Section 3.2.1). The SN1s would have been expected to take on the role of charge nurse along the way and this may have influenced their level of involvement within the paediatric ED.

Work experience

Among them the eight participants shared 86 years of combined working experience in the ED setting; it ranged from 4 years to 31 years, averaging 10 years 9 months at the time of the interviews.

Working in this specific paediatric ED was a total of 39 years ranging from 3 years to 11 years, averaging at 4 years 9 months at the time of the interviews.

The participants were all considered to be experienced ED nurses with each contributing valuable and rich data based on their personal experiences and individualised views on ED overcrowding.

4.3 RESEARCH RESULTS

Information in the data files which represented a single theme was scrutinised to identify categories and subcategories, each requiring the researcher to go back to the data and considering the supporting evidence from the direct quotes (Ulin et al 2005:157).

4.3.1 Overview of the themes, categories and subcategories derived from the interview data

The verbatim transcripts from the eight individual interviews comprised of 31 pages total. Four themes, six categories and six subcategories were identified. A discussion of the findings supported by relevant literature is presented next. Once again, it must be understood by the reader that using the concept 'nurse' refers to the registered nurse (RN) and the abbreviation ED in this context refers to the paediatric emergency department unless stated differently.

The information gathered from the participants was arranged into four themes. It demonstrates the progression of a situation that started with ED overcrowding, reflected the cognitive and affective involvement of nurses that affected their wellbeing and their ability to demonstrate caring behaviours. This experience resulted in voluntary turnover of much needed personnel. It revealed the nurses' personal analysis of the situation and that they were however constructively engaged in the workplace.

In Chapter 2 the conceptual model of input, throughput and output was used to explain the phenomenon of ED overcrowding in a local and institutional, or then as Asaro, Lewis and Boxerman (2007:1) note, at macro level. Input related to the patients' demand for ED care which may be affected by limited access to community-based health care resources; triage was considered to be an input factor. Throughput correlated with the patients' stay in the ED with diagnostic procedures and treatment being determinants in their length of stay (LOS). Output was the disposition of the patient following ED

treatment. It related to either discharge or admission to the inpatient units or transfer to an alternative facility (Government Accountability Office 2009:17).

In this analysis phase of the study this systems approach was employed to organise and present the findings. The participants’ responses were conceptualised as referring and amenable to a pattern of input, throughput, output and feedback model (Cilliers 1998:3-5).

The various themes were broken down into factors and discussed appropriately under each component as illustrated in Table 4.1.

TABLE 4.1: ANALYTICAL FRAMEWORK USED TO REFLECT THE IDENTIFIED THEMES

	IMPACT ON NURSING
Input	Nurses’ perceptions on ED overcrowding
Throughput	Nurses’ views on the work environment
Output	Impact of ED overcrowding on nurses (attitudes, behaviours, activities)
Feedback	Strategies to better deal with ED overcrowding – nurses’ suggestions

THEME 1: INPUT FACTORS RELATED TO PERCEPTIONS OF NURSES ABOUT EMERGENCY DEPARTMENT OVERCROWDING

Emergency department overcrowding is defined as a complex phenomenon in which the rendering of quality care by both physicians and nurses is hampered due to the demand for emergency services outstripping the available physical resources in the ED and the ability to provide the required standard of care in a reasonable timeframe (Joint Position Statement 2001:82). Emergency department overcrowding in this study context meant having too many patients in the paediatric ED where the rendering of urgent and quality life-saving care was hampered due to decreased patient disposition, most noteworthy that of not moving patients to the designated inpatient units.

A study conducted in the ICU setting posited on factors that contributed to the experience of a high workload. Examples given were that of nurses finding a place to sit down and do documentation, the condition of equipment as well as crowded and disorganised work environments (Carayon & Gurses 2008:7).

In this theme, the nursing staffs' views and perceptions on ED overcrowding were explored as part of input factors. Perceptions were considered to be those meaningful patterns that emerged as sensory information and were systematically arranged (Lazlo & Krippner 1998:24). The *Oxford Advanced Learner's Dictionary* (2010:1087) indicates 'perception' to be the manner in which "one notice[s] things, especially with the senses", understanding the "true nature of something" and/or the belief, the "image one has as a result of experiencing or understanding a situation". The theme and categories are discussed in the ensuing discussions.

Category 1.1: Nurses' understanding of ED overcrowding

Following a semi-structured interview format, the participants in this study were asked probing questions to gauge what they considered or understood about ED overcrowding. Responses were then collated under the input component of the model.

Asplin in Case et al (2004:2) delineates the input component to be "any condition, event, or system characteristic that contributes to the demand for ED services". For the purpose of this study, the triage component was included under input rather than throughput.

The particular tertiary hospital served members of the National Guard, their dependents, employees as well as those patients granted eligibility through the Business Centre, a letter of exception or eligibility based on threat to life, limb, sight and that of the unborn child. One participant responded that:

"National Guard ... hospital geographic area in big community ... [and] other sectors ... [are] forced to accept patient ... more during winter ... [and also] in case of emergency – patients come anytime ... overuse [of the ED service] other than who it was meant for." (P1)

Participants identified, under input, that the hospital and ED served the National Guard employees who were sponsored to receive their health care from National Guard facilities. Although various primary health care centres also served this community, this hospital was the only tertiary centre for the National Guard in the central region. It therefore served a considerable geographic area.

The seasonal impact was noted by the participants because in the winter months, especially November to March, portrayed a significant increase in patient presentations to the ED. Increase in patient admissions to the inpatient setting compared to the rest of the year was experienced. Respiratory ailments such as bronchiolitis, asthma and globally experienced influenza related diseases such as H1N1 made up the bulk of the presentations to the ED. A participant commented on this factor as follows:

“We have two seasons, we have the summer and the winter, and I can say that during the winter it [admissions] is more, we are accepting more patient than in summer especially paediatrics.” (P1).

The private sector, through the Business Centre and private health insurance, utilised this JCIA accredited facility for various consultations and admissions; it was most noticeable in the cardiac and liver centres. The reason for the latter being that the separation of up to 21 sets of conjoined twins from a variety of countries by the now Minister of Health, , at the time this study was conducted and provided much publicity to the study context. It subsequently resulted in its services being utilised by not only the National Guard employees and their eligible dependents but also by paying or then business centre customers.

Participants identified that emergency patients would present to the ED irrespective of their eligibility. It was observed by the participants that not all ED patients were emergent or in many cases even urgent, but were accepted and signed in at triage for various reasons as evidenced in two participants' statements:

“Overuse of the facility other than who it was meant for [other than eligible patients] and not all patients in ED are emergency patients. Simple gastroenteritis ... Very important patients [VIPs] even if mildly sick, can go to Urgi Care Center Fast Track [UCCFT], can go there, come here – must treat them in ED... .” (P2)

Another participant confirmed the finding by stating that:

“Patients who were not supposed to be here, like the patient that can go to the outpatient department but they do not want to wait in the waiting area or the queue – they just do not want to wait, they just want to come to the ER and to be seen immediately even if they do not need to be seen immediately.” (P4)

Decision making in triage by nurses and the physicians as well as the triage guidelines that stipulate where particular patient presentations should go, contributed to high numbers of children being signed in to the ED when suitable alternatives were available.

Participants also indicated that the assessment of patients and history taking was not always optimal in that the patients’ severity was sometimes exaggerated. This statement is evidenced by a verbatim quote of one participant:

“Mistriaging ... triage is the front desk of the hospital ... [they] must really know how to assess the patient ... level 4 patients are put as level 3 – sometimes they rush without knowing the history.” (P3)

The Canadian Triage Acuity Scale (CTAS) paediatric guidelines were adapted for this setting. Using this scale, patients categorised according to a specific level should be seen within a given timeframe (Warren, Jarvis, LeBlanc, Gravel & the CTAS National Working Group 2008:224).

Subcategory 1.1.1: Contributory factors to ED overcrowding

Participants were asked what they perceived to be contributory factors to ED overcrowding. The various identified elements cited are described in terms of the increased number of patient presentations and admissions, space and equipment as well as access blocks for emergency patients.

- **Increased number of patient presentations and admissions**

Emergency department overcrowding involved large numbers of patients. According to the participants' comments, it included both incoming emergency patients as well as the presence of inpatients boarding in the ED due to a lack of inpatient beds. One participant indicated it to be:

"Influx of patients, overflow of patient ... overflow of people ... too many people other than the patient in emergency ... [they are] accumulative – allied health, visitors, patients and staff. Overflow of patients in ED." (P1)

The participants clearly viewed ED overcrowding in a context that was more than just the presence of large volumes of patients. They noted the relatives and other bystanders with the inclusion of employees to be contributing to this situation.

Increased patient numbers required additional nursing staff by means of increasing overtime in order to maintain as safe as possible patient-nurse ratios. This added to the volume of people already present in the ED.

In the paediatric setting, patients were expected to have a caregiver present to provide comfort, support and basic care. Every patient therefore was not counted as one individual body, but by implication two individuals or more. One participant's statement reflected this:

"A patient needs a parent, sitter [caregiver]. They need a place to be comfortable to take care of their child. At least to rest for a while especially if the child needs attention then they have to rest also because [during] almost all this [these] hours they have been awake and standing and getting up." (P1)

As waiting times for patients to be seen in the ED became longer, family members who presented around the patient not only increased in numbers, but their questioning of nurses as to when they would be seen and requests to be prioritised increased. This disrupted the ED routine and added to a crowded and disorganised work environment (Carayon & Gurses 2008:7). Participants related to this as follows:

“You want to concentrate on what you are doing, unfortunately here is one relative when they touch you asking where their papers are. You will say you don’t know then they will start talking, argue also.” (P2)

Another participant confirmed this finding by stating that:

“Some of them still not convinced, they will keep asking, asking, check, check come and do [this or that] and they will start shouting.” (P7).

Patients remaining in the ED setting would receive visitors. The culture in the setting where this study was conducted prescribes that visiting the sick is not only an expression of caring, but is a social obligation and a religious duty (Al-Hashimi 2005:286). Visiting times were posted for visitors, but due to the ED experiencing constant people movement it was difficult to enforce visiting hours. Also, visitors who presented at any time of the day in varying numbers were, as a rule, welcomed by the sitter (parent or caregiver) of the patient.

At times when the numbers of patients who required ED care or admission were high and no inpatient beds were available, two patients were accommodated in a cubicle which was not ideal as commented on by two participants as follows:

“Even doubling the patient up is not enough... .” (P4)

“Not observing infection control when doubling up... .” (P3)

Having additional people other than the patient and sitter present created a crowded environment that was not conducive to rendering quality nursing care. The nurses were hampered in getting to their patients and even the possibility of a meaningful routine was disrupted as supported by a participant’s comment:

“Instead of ah pursuing your work in a certain period of time, you have to rush and accommodate the next patient”. (P6)

It is the opinion of Carayon and Gurses (2008:2, 4, 7) that a crowded and disorganised or disrupted work environment leads to increased workload which is affected by more than just staffing levels. In fact, it has the potential of negatively affecting patient outcomes and the quality of care rendered.

- **Space and equipment**

Emergency department overcrowding challenges included the lack of space and adequate equipment to accommodate the incoming volume of patients due to patients already present in the ED. One participant related to this situation as the *“inability of ED in terms of space and equipment to accommodate [the] number of incoming patients”*.

Another stated:

“Equipment [is] overstretched and bed availability limited in the face of the influx and overflow of patients.” (P1).

The ED has no choice other than to consider options to increase capacity which has given rise to the expression of EDs having “rubber walls” (Richardson 2003:516). It acutely expresses the reality that EDs have to stretch its resources to absorb the additional burden of boarded patients whilst carrying on with the delivery of emergency care to presenting patients.

In order to accommodate the ever increasing number of patients, a first line strategy in the current ED was to ‘double-up’ patients. Two patients and their sitters would be accommodated in a cubicle meant for a single patient and a sitter. As patient numbers increased, not only did the stable patients get doubled up, but the more acute patients too. As the unit systematically filled up even the fast track beds, where most of the turnover occurred and initial investigations were ordered, became affected and the turning over of patients grinded to a halt. To maintain patient flow and keep at least one of the two resuscitation cubicles free, the last resort was to fast track decongestion by placing patients and their sitters in the space around the nurse’s station, referred to as the ‘hallway’. One participant reflected:

“[The] problem is the shortage of beds and equipment ... more patients than bed capacity ... not enough beds for all the patients in ED ... treatment in the hallway ... critically ill patient, no bed available ... not only to do with incoming – it is existing now, is present.” (P2)

Equipment, furniture and space which would have been adequate during most of the year, became insufficient in the light of increased patient occupancy that exceeded the 28-bed patient capacity. A relative shortage was experienced as demand outstripped supply. This finding was confirmed by three of the participants who related to the problem as follows:

“Overstretching of equipment, capabilities of the staff, everything.” (P1).

The second participant responded that:

“... the equipmen t... when you need something for the child some of them are not there so you end up going to the whole four areas of the paediatric care looking for the specific ... um ... monitor which you needed for your patient because of the overcrowding the supply also is limited ... with the monitor because not like the supply that you ask every day ... if they could give us more if not hundred per cent, if not another ten then at least five out of ten so that it would minimise us going to other areas to look for something [qualify such as what] that is needed for the patient.” (P4)

Nurses tended to spend significant amounts of time searching for available equipment in order to meet the conditions of the admission orders for monitoring care. This contributed to the frustration the RNs experienced and added to their workload in the work place (Carayon & Gurses 2008:7).

- **Access block for emergency patients**

Access block for emergency patients has been defined by the Australasian College for Emergency Medicine and the Australian Council on Healthcare Standards as “the percentage of all patients admitted, transferred or dying in the ED where their total ED

time exceeds more than eight hours” (Cameron & Campbell 2003:99). Richardson (2003:516) refers to access block as the inability of ED patients to access inpatient hospital beds. The author found that few patients benefitted from staying in the ED for more than 4 hours and that no ED in return benefitted from continuing care beyond this time.

In this study the participants viewed the presence of boarded patients in the ED as significant contributors to ED overcrowding as reflected in the following statements:

“What made ED busy are the inpatients. Maintaining admitted patients in the ED ... supposedly for transfer to the wards ... [in ED we] do not have space for those inpatients. Sometimes we do have more inpatients than ER patients. If we have an area or wards where we can move this inpatient instead of staying in our unit, it will be easier to accommodate more ER patient[s].” (P4).

There was no appropriate exit for the patients. Early discharge was not possible and any transfer to other facilities was unlikely. In the case of non-eligible patients and inpatients there was inadequate access to other units. One participant further emphasised the dilemma by stating:

“We cannot send [a patient] to admission, home, transfer” (P8) thus there was no “appropriate exit for them”. (P8).

Access block in the ED contributed significantly to the heavy workload experienced by the nurses. Patients who remained in the ED past the period of initial ED management did not benefit whilst patients seeking emergency care were affected by longer waiting periods.

- **Professional care delivery skills**

American Association of Critical Care Nurses (2012) describes emergency nursing as a specialty in rapid assessment and treatment especially during the initial phase of acute illness and trauma. The nurses working in the ED must display general as well as specific knowledge about health care. They must be ready to treat and assist a wide

range of illnesses or injury situations and are required to work with efficiency and effectiveness to make every second count whilst displaying a caring attitude and behaviour throughout.

The participants in the current study voiced confidence in their abilities to work as emergency nursing staff in a busy ED. They reiterated the wish to provide the best quality work but admitted they found it difficult to maintain in the current paediatric ED environment. More importantly, they all recognised the importance of privacy (Parsons et al 2005:201) but stated that ensuring patient privacy was not possible when patients were doubled-up in cubicles. One participant made the following statement regarding this finding:

“As nurses, as health workers we want to give the best quality of work ... [we] want to give best quality work ... [we are] trained to take care of the patient ... several examples [why] I cannot take care.” (P1)

The same participant (P1) went on to mention the lack of privacy and the need for comfortable surroundings as areas of concern that the participant felt unable to provide.

Another participant indicated having the abilities to do what was expected but that time was a constraint:

“Ability of work, I can say I can do it, but the time is less [too short/limited] ... twelve hours is not enough.” (P2).

In this ED the workload on the nursing staff was significant in the sense that many of the interventions ordered on inpatients commenced in the ED (Viccellio 2001:186). Various inpatient services such as laboratory services for routine and statim (stat) tests (‘statim’ meaning “at once; used as a direction in prescriptions” or prescribed tests [Oxford Dictionary of Nursing 2004:455]), once-off dietary orders, routine access to the clinical pharmacy and nursing patient educators were not extended to the ED setting.

Professional delivery care skills were essential to manage all these processes whilst having to at all times endeavour to answer to the call of best practice and patient centeredness.

Conclusions related to perceptions of nurses about ED overcrowding

Numerous and varied aspects were identified in as factors that contributed to the accumulation of people in the ED. The concomitant rise in ED utilisation effected an overload on the ED's capacity to effectively manage its business, namely to render optimal and competent emergency patient care. Emergency department overcrowding was perceived and described in terms of volume of people, space and equipment as well as access blocks for emergency patients. The impression left is one of an overwhelming presence of people in the ED with space and equipment being in short supply relative to the number of patients admitted. Patient flow was hampered resulting in inpatients boarding in the ED instead of being moved on to appropriate disposition locations which resulted in access block in the ED.

THEME 2: THROUGHPUT FACTORS RELATED TO PARTICIPANTS' EXPERIENCE OF WORK DURING ED OVERCROWDING

According to the system's theory, throughput refers to care processes, workload and resource use (Emergency Nurses Association 2005:2). In this part of the analysis, throughput was contextualised in terms of analysing the participants' perceptions and experiences about work whilst practicing the profession of emergency nursing. Theme 2 focused on their experiences when ED overcrowding occurred and the participants were subjected to excessive nursing workloads.

Category 2.1: Views of nurses about the work environment

The participants' responses, based on the throughput component, were concerned with delays in patient management and the patient's LOS in the ED (Case et al 2004:3) and delays in patient management.

The participants specifically referred to diagnostic imaging and testing, the treatment prescribed and administered, room placement and initial provider evaluation. Decision

making, in particular the sheer number of procedures ordered, affected the flow of patients negatively as noted by one participant:

“Too many procedures ... failures in the system e.g. laboratory, radiology ... delay of management through physician orders and decision making affect flow ... [the] disposition on patients is not carried out, not followed ... a habit of delaying things, laying low, relaxing.” (P8)

This statement by the participant revealed that in many instances the delayed management of patients were ascribed to professionals having to wait, for example, for laboratory results before they could decide on and prescribe treatment. Turnaround times (TATs) on laboratory and radiology/medical imaging tests were mentioned as system failures impacting on patient flow. This participant went on to state:

“Quick response by physician to findings, according to findings, timely fashion - decrease the amount of time patients stay in ER, will affect flow of patients. From a nursing point of view, [I] believe the accumulations affects nursing.” (P8)

The findings further revealed that the participants experienced many patients being ordered for admission when they could have been better served if they were discharged with or without treatment. An example of this would be a child admitted for drainage of an abscess and admission of intravenous antibiotics who could potentially have been discharged with a request to return back to the ED for further treatment. Also, patients who were granted out on pass privileges once they gained admission to an inpatient bed, added to this viewpoint. One participant indicated as follows:

“Some patients need not be admitted - we cannot say no, do not admit – it is [a] consultant decision, but they [the admitting team] must assess the patient properly before they decide for admission.” (P3)

From the participants' point of view, delays were noted where the nursing staff appeared slow in carrying out the final disposition such as discharge or admission to the ward when a bed became available. Two participants agreed with the statement of the first

participant who mentioned some staff's inclinations to not act immediately but to 'relax' or 'delay' acting upon orders by observing:

"There appears to be a habit by nurses of delaying things, laying low, relaxing - even though [it is an] emergency. Nurses themselves cause delay and overcrowding - delay in carrying out orders ... [make] mistakes in medications" (P8)

The consequence was that the work progress became affected. Carayon and Gurses (2008:6) state negative working conditions such as higher workloads experienced during overcrowded periods affect the quality of job performance and organisational effectiveness. These authors add that the occurrence of mistakes potentially requires re-work or additional observation of the patient which impacts on the patient outcomes. A heavy workload would be a contributing factor in that it adds to the occurrence of conditions for errors, whether as a result of slips and lapses or mistakes or knowledge deficits.

In this study, the high workload increased the time pressure on nurses. It also reduced their ability to pay attention to safety when performing critical tasks and safe patient care was therefore compromised (Carayon & Gurses 2008:6). However, this does not rectify the fact that some colleagues were "*relaxing*", "*a habit by nurses of delaying things*" or "*disposition on patients is not carried out, not followed*" as participants mentioned.

Communication was noted as another factor to be considered in the work environment. A participant commented on some nurses' "*inability to communicate well with patients and doctor*". Ineffective communication among multidisciplinary team members is not only a contributing factor to the heavy workload experienced by nurses, but is also the result of an increased workload as it reduces the time nurses and physicians spend communicating and collaborating as well as interacting with patients (Carayon & Gurses 2008:3, 5).

The Emergency Nurses Association as cited in Robinson et al (2005:47) state staffing, productivity and the staffing ratio which is based nurse-to-patient ratio or hours per visit is limited in scope in that variables which affect the utilisation of nursing resources are

rarely incorporated. In the ED key variables to consider are the ED length of stay (LOS), acuity and the nursing workload (Robinson et al 2005:47, 48).

In this study, all the participants were older than 25 and had a minimum of two years' post-graduate experience. After they had been successfully recruited to work in the paediatric ED, they went through a probationary period of three months during which they underwent induction to the organisation, the unit and the competencies required to work in the unit.

Previous emergency nursing experience and an organisational orientation allowed nurses to master the various competencies of their designated specialty and unit. Mastery of the competencies empowered them with knowledge, skill and confidence to be assigned to the more acute beds where the nurse-to-patient ratio was either 1:1, 1:2 or 1:3. The participants were assigned to the geographical area of the paediatric ED where the nurse-to-patient ratios as a rule were 1:3. Exceeding the nurse-to-patient ratio's for the type of patient nurses have to deal with seemed challenging to nurses in terms of their ability to cope. Participants responded that:

"Instead of um ... having a patient one is to two ratio, you will have one is to four or one is to five that will put you in a stress situation, so that will um ... um ... change your behaviour at some point like you will be irritable." (P6)

and

"You feel that you would have acted differently if you have like let us say [patient] nurse ratio three to one ... I can explain and I can manage everything very nicely." (P8)

At the unit level the contextual and organisational characteristics of the paediatric ED seemed to significantly affect the workload nurses experienced.

Subcategory 2.1.1: Experience of work in the overcrowded ED environment

A 'work' is the job that a person does to earn money (*Oxford Advanced Learner's Dictionary* 2010:1714) within a formal context. Work that requires special training or skill is referred to as a 'profession' and involves remuneration over a long period of time (*Oxford Advanced Learner's Dictionary* 2010:1715).

Irrespective of the location in the hospital, overcrowding has been associated with increased hospital acquired infections and patient mortality. Overcrowding has been directly associated with higher workloads, reduced quality of care and increased risks to patient safety (ENA 2006:1; Virtanen Pentiti, Vahtera, Stansfield, Helenius, Elovainio, Honkonen, Terho, Oksanen & Kivimaki 2008:1482). One of the participants in this study commented on the effects of overcrowding in the paediatric ED as follows:

"Staffs are unable to cope ... [overcrowding] affects quality of work. Not safe ... have to do quantitative – lots of patients, ratio of patient-nurse, care is not quality because of overcrowding ... not observing infection control because we are doubling up." (P8)

Violations that were deliberate deviations from practices believed to be obligatory to maintain safe or secure operations must be considered from the social as well as organisational context wherein the work system was a contributing factor (Carayon & Gurses 2008:6-7).

Participants observed that the work system was a contributing factor to violations, in other words, the deliberate deviations from practices believed to be obligatory to maintain safe or secure operations. It was noted that violations occurred more frequently when nurses were pressurised for time or when there was a high workload. Protocols for safe care such as practicing hand hygiene, medication administration and patient identification tended to be neglected (Carayon & Gurses 2008:6-7).

Participants mentioned that during a disaster nurses were expected to work hard for a specific period of time. During ED overcrowding, however, work was ongoing with nurses having to work additional mandatory scheduled shifts to maintain safe staffing levels. This finding is evidenced by the following quotes:

“A disaster phase let’s say it’s actual, let’s imagine it’s [a] disaster the nurses are suppose[d] to act first few hours not the whole time.” (P8)

Virtanen et al (2008:1482) cite the Emergency Nurses Association pointing out that the excessive workload during overcrowding in the ED exacerbates the physical and emotional strain for nurses who already work in a stressful environment. Cumulative, unattended stress can result in burnout, absenteeism, health problems and emotional difficulties which affects job satisfaction, ability to work and performance at work. Any of these or combinations of thereof can lead to unsafe patient care practice as reported in the following comment:

“It is very unsafe ... you [nurse] start making mistakes ... you really have to work extra hours it becomes a mandatory thing, because the management has no choice but to give you extra hours to work.” (P8)

Richardson (2003:516) mentions that at the entrance of ED, queuing for care is managed by triage which stratifies patients by urgency. At the exit of ED queuing for beds is managed by bed allocation in which patients are stratified by their nursing load with the patients with the lesser care requirements having the shortest queue. A participant:

“The patient needs nothing but to review his blood work, the patient goes to the ward and goes out on pass.” (P8)

The participants reported that they observed that patients were in many cases not receiving inpatient beds due to units becoming specialised or inpatient physician admission orders making patients unsuitable for a specific unit.

Subcategory 2.1.2: Workplace attitude and behaviour

Stress caused by work overload has a profound impact not only on a nurse’s personal level but can manifest in workplace behaviours and attitudes that are not conducive to patient care and teamwork (Hooper et al 2010:426). One participant stated:

“... not able to cope ... we [nurses] cannot help anymore; this is overstressing our capability to hold our anger and our patience ... If you are busy sometimes your voice is high pitch, the voice is affected already because you are busy.” (P1)

The non-conductive behaviours mentioned by the participants included unhelpfulness, anger, antagonism, impatience, high-pitched verbal responses, irritability, and poor team effort. All these were symptoms and consequences of the stress the participants and other nursing staff experienced.

Another participant reflected on own behaviour and stated that:

“Your behaviour becomes irritable, you are irritable ... [you] will become a little bit difficult ... [you] may not respond to your colleagues appropriately ... staff will be fatigued and tired and they will not tolerate teamwork.” (P8)

At some level participants were aware of these behaviours but they seemed to be unable to control it. It led to feelings of regret and guilt as summed up in the following statement a participant made:

“Sometimes your temper and your behaviour and your attitude – sometimes I admit that I was wrong. I feel guilty because we’re handling life and they are child; I raised my voice because I am shouting at them, I raised my voice because I needed to be heard, I needed my decision to be firm.” (P3)

A high nursing workload can adversely influence the organisation as nurses and other health care providers in the nurses’ work system can be negatively affected by it. Time constrains reduces the time available to help colleagues (Carayon & Gurses 2008:7).

Kalisch, Lee and Rochman (2010:939) suggest that since ED overcrowding is a phenomenon that appears to be ongoing, it is vital to consider means of enhancing the nurses’ coping skills to minimise stress responses when periods of higher psychological distress is present. In the current study responses from the participants showed that

interaction with the patient and their families were affected by the added pressure of excess workload. One participant acknowledged that *“I misbehave with the mother – I reprimand them”*. Another indicated that, when interrupted while working, her immediate reaction was to be unintentionally rude:

“You want to concentrate on what you are doing, unfortunately there is one staff or relative when they touch you asking ‘where is my papers’ you will say to them at a high pitch ‘no, you don’t know, I don’t know’.”
(P2)

Furthermore, the nurses’ work overload marred the patient-nurse relationships as families were not getting empathetic attention from the nurses. The participants shared that their verbal responses and behaviours were often unprofessional and in an unrestrained manner which was not conducive to customer satisfaction or the health care provider-customer relationship. A participant admitted:

“I cannot accommodate them properly because I have to finish another patient then they cannot understand me because also of the language, even if I try to tell them ... later on when I realise[d] I did something wrong I tried to explain my side ... I said sorry to them because I didn’t come on time to ... to give what they want the temper also and the mood.” (P3)

A high workload is considered to be a key work stressor in a variety of care settings including the ED. It leads to distress observed as cynicism, anger and emotional exhaustion as well as burnout. The resulting consequence is sub-optimal performance by nurses who experience increased stress, frustration and burnout which in turn reduces their cognitive and affective abilities to care for the vulnerable (Emergency Nurses Position Statement 2005:2; Carayon & Gurses 2008:6).

Conclusions related to throughput factors related to participants’ experience of work during ED overcrowding

Participants shared their experiences of work during ED overcrowding and how it affected them when they delivered care to patients. They admitted they were personally

affected and their feelings of being overextended and exhausted manifested in an emotionally negative attitude and behaviour towards their work and the patients. The overcrowding in the ED led to unacceptable workplace attitudes which in turn had a negative influence on the team as well as on their behaviour towards the patient and family members who accompanied the patient to the health facility.

The views of the participants on factors associated with ED overcrowding under the theme throughput factors related to participants' experience of work during ED overcrowding, are summarised below.

- Increased patient turnover because less beds were available as more ED beds were occupied mainly by inpatients boarded in the ED awaiting a ward or ICU bed.
- Increased patient-to-nurse ratio as the number of nurses available to work remained relatively static although patient volumes increased.
- Sustained pressure to maintain a high standard of care for all patients whilst knowing that
- incoming patients still needed to be accommodated irrespective of acuity or source of referral.
- Patient satisfaction was compromised by the 'unkind' behaviours and responses between the patient's family and the nurses that were linked to impatience and worry on the side of the parents.

THEME 3: OUTPUT FACTORS RELATED TO IMPACT OF ED OVERCROWDING ON NURSES

The areas most affected by the global shortage of nurses (Bauman 2007:1) are concentrated in specialty care units such as the ED and ICUs that require nurses trained to have specific skill sets and knowledge. Vacancy rates are partly attributed to factors such as the demand and supply of nurses, job dissatisfaction and staffing ratios in the ED (Robinson et al 2005:46-47).

Virtanen et al (2008:1482) report that higher workloads experienced during ED overcrowding when physical and staff capacity have been reached or exceeded are

related to adverse patient and staff outcomes, increased negative self-reports of staff, burnout, job dissatisfaction and an increased risk of depression.

In this study, outcomes related to the output component of the analysis as inductively inferred from the findings pertaining to nursing staff's emotional status and turnover are presented in the ensuing discussions.

Category 3.1: Impact of ED overcrowding on the emotional status of nurses

The participants reported experiencing increased levels of stress that affected them adversely. Tiredness to the extent of exhaustion was reported. There was a realisation that patient care was not optimal when the staff experienced excess workload. Following are statements confirming this finding:

“Very stressful ... affects physical, emotional, psychologically, mentally ... I cannot do my work very well ... I cannot say to myself that I did it well ... I feel bad after a day's work ... [I] feel sad, feel bad, feel really bad”. (P1)

“[I] feel bad for my patient ... [my] quality of care is less ... [I] am tired”. (P2)

“I feel guilty ... really it is stressful ... we do not feel comfortable ... you start becoming nervous ... you think a lot, you do not sleep well, when you go home [you are] very exhausted you do not have time for your family, life ... it affects your life even outside [your work environment] ... [the high workload/stress affects] your rest time, affects your quality time, you become depressed a bit ... [it is] exhausting, [you feel] devastated.” (P8).

Some of the nurses' activities involved the disposition of ED patients to the inpatient units through the process of admission. Participants identified that the crux of ED overcrowding was the number of boarded (delayed) admissions held in the ED due to the lack of available inpatient beds. One participant suggested overcrowding was the result of *“retaining the admitted patient”*.

The negativity experienced by the nurses during periods of ED overcrowding was inadvertently linked to the ongoing inability of achieving a timely disposition for boarded patients in the ED.

Category 3.2: Nursing staff turnover at the ED

Unhealthy work environments are important determinants of voluntary turnover in that they inhibit nursing performance, contribute to burnout, alienate nurses to the extent of driving them away from specific work settings and even from the nursing profession itself (Bauman 2007:1).

- **Preference to be transferred to another setting**

In response to one of the probing questions, one participant indicated an intention to leave the ED and be transferred to another setting or organisation:

“I will transfer to a place where I think I can work more safely and I can practice my calling ... I will be happy there and have job satisfaction ... I do not want myself to be stretch [ed] like this anymore.” (P1)

Patient safety, self-preservation and personal well-being were reasons cited by this particular participant (The participant had since put in a request for a transfer out of the paediatric ED setting).

Swearingen (2004:130) holds that the retention of nurses is directly related to job satisfaction. Gifford et al (2002:16) found that the retention of nurses was associated with improving their quality of work life thereby enhancing their job satisfaction. Burnout and subsequent voluntary turnover can largely be blamed on organisational stressors in the work environment (Vahey et al 2004:2).

Two of the participants admitted that leaving the ED setting was frequently in their thoughts; it fluctuated between requesting a transfer to another unit or clinic or to leave the organisation altogether.

“Sometimes I want to transfer to the clinic ... if you feel tired you want to transfer anywhere and you want to resign, I want to go back to the ... [named country of origin].” (P2)

“I think of it every day, sometimes I think of it all day ... I thought of resigning, I thought of transferring, I have applied to other hospitals and had offers.” (P8).

Job satisfaction is reported to be the lowest for nurses working in the hospital setting. Leading causes for job satisfaction and burnout are related to inadequate staffing, heavy workloads, increased overtime, inadequate wages and non-conducive, stressful working conditions. It was also established that higher educated nurses have higher expectations of the environment they find themselves working in. They often require greater autonomy and demand more respect than that which exists (Robinson et al 2005:47; Vahey, Aiken, Sloane, Clarke & Vargas 2004:1).

Category 3.2.1: Identified factors to retain nurses

It was worthwhile to consider some of the participant’s reasons for staying when others voiced their dissatisfaction and intent to leave the organisation. Exploring these reasons provided the researcher with an opportunity to examine the factors that contributed to retention of nursing staff as it could positively reflect on the organisation, organisational culture and the social bonds the nurses formed.

- **Comfort zone and belonging**

The participants indicated that they identified with the patient population and took pride in the profession of nursing with participants going as far as using the word “love” to express their feelings:

“I love being [a] nurse, I love being in ED because I feel this is my area ... I am comfortable here because my friends are here ... here in ED I love paediatrics.” (P1)

Closeness and unit identity was reflected in words such as being “*comfortable*” because of friends in the unit. Despite earlier reference to incidences of irritability, impatience and even a “*feud*”, participants still appeared to experience a closeness with one another which added value to their work life and could potentially deter many from leaving. This was expressed as follows by participant (P2):

“I have my second family here – my colleagues as [are] my family. It feels like home sometimes ... there is a lot support of [in] nursing ... the management level is good, good level.” (P2).

Teamwork has been linked to higher levels of staff satisfaction (Kalisch et al 2010:939). Although the researcher in this study did not set out to measure staff satisfaction, it is mentioned earlier that during times of ED overcrowding when an excess in workload was experienced, teamwork suffered as staff experienced dissatisfaction with work life. What is noteworthy is that despite this, participants experienced that there was cohesion in the group and a strong sense of belonging which was an important retention factor among the participants. Support from management in this regard would be an important factor to retain nurses.

- **Remuneration**

Participants indicated that their salaries were satisfactory and was one of the main reasons for staying on. Contractually salaries in the specialty areas such as the ICUs and the ED are as a rule higher than in the general areas. This might have contributed to the majority of the participants remaining in the ED despite the challenges they experienced.

Three of the participants noted the money they earned as the reason for remaining in the ED and with the organisation. Remuneration was mentioned once as the main reason and in two other instances it was placed as the second-most important reason. All the participants’ reference to their view of the financial situation was positive:

“Financially, I am paid off”, “... for the money ...” and *“The pay is good ... I am happy about the pay.”* (P1)

If they were to transfer to another specialty area or setting other than a specialised one, they would automatically face a cut in salary.

- **Growth and development**

The experience the nurses gained under the difficult expressed conditions was in step with the opportunities for continued growth and development. Registered nurses were required to attain and maintain unit specific competencies that were relevant to the paediatric ED. Maintaining Basic Life Support (BLS) and Paediatric Life Support (PALS) were mandatory.

Nurses were encouraged to annually put goals forward for the following year. Traditionally and by voluntary choice these goals tended to be educational. Credit was given at the annual performance evaluation for having attended more than the minimum required educational activities. The research participants in this context, being a tertiary and training facility, were offered many internationally accredited educational opportunities. One participant stated that:

“This is my stepping stone ... same location, I want to upgrade myself to be promoted ... to be the best, to be [the] best example for other nurses ... [the] nurse manager [is] encouraging us to be the best and do our education.” (P3).

The precondition that all nurses had to be registered with the Saudi Nursing Council in addition to maintaining their nursing licences with their respective national licensing bodies. In the case of expatriate nurses, they were motivated nurses to complete their educational hours as a minimum of 30 Continuing Medical Education (CME) hours was required. One participant expressed this benefit as follows:

“I learned more compared to the ... [named another nationality] ... my professional growth, ... experience wise – here I have gained, I learned lots of things I do [did] not know before ... career wise, developmental wise it is okay here in ED.” (P2)

On the one hand patients were the recipients of care provided by nurses who had a good educational foundation, on the other the nurses themselves reaped the benefit in that they were able to cope better and could support one another in difficult working conditions. This finding is verified by the following quote:

“The experience here – there is no other place that will give you this experience and quality of work ... experience here has no match ... this is the best place to be ... The staff are good – the staff here are very good to work with, they are knowledgeable ... you can learn from them and teach them at the same time ... nursing is great here.” (P8).

Another participant indicated that a transfer or resignation from the organisation was not an option. According to this participant, remaining with the organisation was considered as an opportunity to achieve personal and/or professional goals:

“No, I did not think about that [transfer or resignation] ... it is a chance for me.” (P3).

It is an interesting finding that participants expressed being stressed and yet responded in another question that the overall work experience was satisfactory.

Conclusions related to ED to impact of ED overcrowding and nurses emotional states and turnover

Participants' responses as to whether they considered leaving this work setting varied. Some expressed they wished to be transferred to other work settings while others shared they chose to stay because of the financial benefits enjoyed.

A relationship was established between the nurses' perception of their work environment and nurse outcomes such as unsafe professional practice and preferences related to transfer or resignation versus staying on.

THEME 4: FEEDBACK ON STRATEGIES TO HANDLE OVERCROWDING IN THE ED

All complex systems rely on feedback to continue functioning and evolve in order to maintain a stable state. This may even lead the stressed system to emerge as an enhanced, more complex state where higher levels of organisational function are possible. A negative outcome for a stressed, complex system that is unable to adapt is to become chaotic and inhibited in its function (Anfara & Mertz 2006:90-91; Cilliers 1998:4, 121).

Emergency department overcrowding is a complex phenomenon with effective solutions not easy to develop or attain. Most of the issues experienced by the participants in the domain of the ED had to be resolved at management or then leadership level.

In the hospital setting it is essential that all team players be involved in analysing the causes and contributing factors that impact on patient care. Further, they should commit themselves to implement change in order to minimise the impact of overcrowding on nurses, patients and their families as well as other health care workers.

In 'Crossing the Quality Chasm' by the Institute of Medicine (Alessandrini, Varadarajan, Alpern, Gorelick, Shaw, Ruddy & Chamberlain 2011:520) advocates for health care to incorporate measures with regard to the domains of efficiency, effectiveness, timeliness, safety, equity and patient-centeredness.

Category 4.1: Work environment issues

Nurses in the paediatric ED setting where this study was conducted were thoroughly involved in managing every aspect of overcrowding as it was experienced in the ED. The nurses' pivotal role included dealing with waiting ED patients, managing the boarded patients and throughput and ensuring the availability of beds. The nurses might not have had the overall picture, but their unique perspective could point to issues that remained unaddressed.

- **Access control**

Access control was referred to as an example of an input factor that required consideration. In their responses participants questioned the efficacy and effectiveness of a system that continued to bring patients who did not fit the ED admission criteria into the unit when overcrowding was present. In most cases these patients either did not require the level of care rendered or they could have been accommodated in other less hectic units. One participant stated the ED was

“forced to accept [a] patient.” (P1)

while another observed that

“not all patients in ED [are] emergency patients.” (P2)

Social triaging occurred. This would be when a physician or a senior administrator requested patients to be signed in to the paediatric ED when their need to be seen was not urgent, emergent or life-threatening patients. The following verbatim quote verifies that social triage was perceived as a problematic issue by the participants:

“Management should be reasonable in their task of the staff ... they come demanding they want this patient in this bed ... knows [while knowing] we have a bed crisis – he still brings his whatever patient and books him for a priority bed.” (P8)

During periods of overcrowding, breaches in the call for equity as a quality measure diminishes the standing of decision makers. Equity measures address the standardisation of service provision to patients irrespective of gender, ethnicity, geographic location and socio-economic status (Alessandrini et al 2011:251). In the presence of limited resources, access to available resources must be monitored and assigned according to the greater need, not on the basis of relationships.

- **Efficiency and effectiveness**

As a throughput factor, participants indicated that processes in the ED should be better monitored. The size and business of the ED resulted in inadequacies that were oftentimes not noticed or observed. Monitoring in the specific ED was manual; thus not only time consuming but also not accurate. If monitoring was more technologically advanced, reports could be printed pertaining to various time specific indicators such as arrival to triage, triage to bed placement, bed to physician, physician to disposition, disposition to leaving, key laboratory TATs and key imagery studies TATs (Case et al 2004:4).

Alessandrini et al (2011:520) refers to 'Crossing the Quality Chasm' that endorses efficiency and effectiveness as one of six measures to be addressed in order to improve the quality of care patients receive. Efficiency refers to those measures that avoid waste, whether supplies, energy, effort, ideas or equipment. Effectiveness revolves around the provision of evidence-based services to benefit patients and refraining from providing interventions that would not be beneficial. One participant revealed that:

"Emergency patient staying more [longer] than they suppose[d] to ... we are tolerating more mismanagement, misbehaviour of some people [who] really misuse the resources ... there is no proper investigation, nobody questions ... physicians not following up, [there are] delays [in] patient care." (P8).

The paediatric ED lacked clinical pathways and as a result individual variances occurred, with the over utilisation of significant resources and keeping patients for indeterminate periods of time waiting for results. Examples would be the number of blood cultures that was performed with a less than 5% positive return rate, the high frequency of in-and-out catheterisation for the purpose of obtaining urine samples.

The ED physicians had little influence over the boarded patients. Once the decision had been made to admit a patient for inpatient care and care were transferred, the inpatient physicians attended to the patient in the ED. The ED physicians' role was limited to life saving interventions should any of the boarded inpatients suffer a rapid deterioration in their condition.

Patients remained in the ED due to a lack of inpatient beds. Consequently, it became the additional task of the nurses in the ED to do the complete inpatient admission processes – a task that ideally should have occurred in the inpatient wards. The JCI (2013:35) requires boarded patients in the ED to receive the same level of care as those in the inpatient units. Therefore, the ED nurses in this setting were required to extend their role to also include the processes that was in fact routinely included in inpatient care.

Category 4.2: Management and leadership issues

Nurses look towards leadership, specifically nursing leadership, to not only improve the factors that contribute to ED overcrowding, but they also expect immediate support. Emergency department overcrowding is clearly no longer considered as a problematic issue confined to emergency departments only (Joint Commission Perspectives 2012:3-4).

A system's perspective requires that every aspect that is identified as contributing to ED overcrowding be scrutinised for potential improvement. This requires interfacing with the multidisciplinary team as well as with various other departments. Different levels of nursing leadership are involved every step of the way, whether as the primary nurse, charge nurse, nurse manager or nurse executive (Gooch 2009:53).

Subcategory 4.2.1: Socially driven medical management

Output from the paediatric ED is affected by consulting services and admission procedures. The admission criteria were not well defined and alternatives to admission needed to be explored. One participant made the following suggestion:

“If [the] patient is not really sick we can just send them home and give them [a future] appointment.” (P2)

Moreover, although clearly stated in the general consent which was signed upon admission to the ED, in this particular ED it was not uncommon for parents to refuse for

their child to be discharged or transferred to a nearby facility for continuing care. With regard to this issue, a participant noted:

“No disciplinary action if the family wants to stay in the hospital ... why do they not listen [and] understand that as they waited, somebody else is waiting ... [there is] no appropriate [patient] education ... if you educate people from the beginning, you would have got them into compliance and they will not be in a fury to go home with the patient.”
(P8).

In this quote the participant’s words further referred to the standard of establishing an estimated length-of-admission-to-discharge planning for discharge (JCI 2013:39,69) by initiating patient and family education early on (during the admission stage) and clearly communicating the estimated discharge date to the parent or family.

Although there were processes in place for this, they were not continuously adhered to. Once a family refused discharge, an escalation process occurred. It tended to be merely a formality whereby reference was made to the patient’s and family’s right to refusal. Such socially driven medical management continued to affect the availability of beds for seriously ill patients in the paediatric ED.

Participants were asked what support they would like to receive from nursing leadership that would empower them as they experienced ED overcrowding. The majority mentioned there was a dire need for efficient management of patient flow in the ED.

- **Management of patient flow in the ED**

The participants emphasised that they saw the problem of overcrowding as mostly attributable to the presence of inpatients in the ED. They expressed that the management of the boarded patients should happen outside of the ED. According to the participants, keeping boarded patients in the ED resulted in the ED nurses not working in their chosen field of emergency nursing for a significant proportion of their time on duty. One participant verified this by stating:

“ED patients alone can be managed ... we have staff here who can manage and [but] what affect their work is the overcrowding due to the inpatients staying in the ED ... [inpatients are] supposed to be brought [taken] where they belong and the ED staff should concentrate only on their ED patients ... the higher level that [where] inpatients will [can] be allocated a place may be in the ward, they can make it [ward] big to cater to all the inpatients.” (P1)

Another participant, who agreed that other wards could be expanded, also said that the ED was not an “admitting ward”. This participant made the following statement:

“[The] ED is [an] emergency [unit], not admitting ward ... they [the organisation] are expanding – not [recommendation] the ED, much better to expand the ward or let’s add some rooms in the wards.” (P2)

The participants suggested moving the boarded patients out of the ED by means of expanding the inpatient units and by reviewing and improving the current process of admission, transfer and discharge in inpatient facilities. One participant stated:

“The nursing leadership they really need to be looking to their inpatients area ... [I am] suppose[d] to do my emergency things, [but] when the patient is confirmed transfer to inpatient I’m also doing the inpatient plus the emergency work, so I’m doing double work and it accumulates.” (P8)

There was an urgent call for nurse leadership to advocate for efficient and effective patient care processes and systems to enhance the flow of patients from presentation to disposition from ED. It was also requested for the necessary required inpatient procedures to be in step (Emergency Nurses Association Position Statement 2005:2).

Subcategory 4.2.2: Develop unit nursing leadership

The participants voiced that they required able and supportive leadership’s presence at the ED unit floor level. It could refer to the nurse manager, but the participants linked unit nursing leadership directly to the abilities of the charge nurses who were available for a 24-hour period as evidenced by the following verbatim quotes:

“You would really ask for a strong leader like the manager, the supervisors, the charge all [the] in-charge.” (P1).

“The charge nurse, our charge nurse[s] they must be approachable ... so her subordinates will not be stressful ... her [the] charge nurse [be] able to manage ... [the charge nurse] will approach you if you did something wrong or if they know you need assistance they will be able to assist you.” (P3).

Clinical supervision, as a support mechanism rather than the traditional tool for discipline and control, is a need and right of nursing staff (Meyer, Naude, Shangase & Van Niekerk 2010:10). The charge nurse should be a resource person to the nurses displaying existing and developing leadership qualities such as professionalism, being strict but fair, offering support as well as constructive feedback when needed. They need to remain composed in times of crisis such as during overcrowding in the paediatric ED. The charge nurses must be able to manage patient flow and manage and support the nursing staff.

The importance of collaboration and mutual respect between the nursing and medical services as emphasised by Parsons et al (2005:202) was also noted by a participant:

“The problem with our nursing leadership is that we have two leaderships in our hospital, doctors leadership and nursing leadership, ... even if they work together ... the nurses and small [less influential] doctors don’t cooperate because everybody says ‘I am superior, I am more knowledgeable’ ”. (P8).

At unit level such attitudes might be quite a challenge to overcome. The enabled charge nurse should therefore be in an excellent position and able to identify such escalating concerns and be capable enough to address it appropriately.

Conclusions related to feedback factors

The participants in this study indicated areas of concerns which they felt if addressed, could make the current situation in the paediatric ED setting more tolerable for the nursing staff. The main areas of focus were access control, efficiency and effectiveness, alternatives to admission, socially driven medical management and nursing leadership.

Where support for the nursing staff was a concern, they indicated that they would benefit the most if the boarded patients could be excluded from the paediatric ED and if a strong unit leadership could be developed.

4.4 OVERVIEW OF RESEARCH FINDINGS

This research study reflected the personal experiences of nurses in the context of the paediatric ED they were working in. The analysis of the data revealed that ED overcrowding is a complex, multidimensional situation that affects the functioning of EDs, the patients and staff outcomes. Some negative experiences for nurses and patients were reported, but there were also some positive feedback regarding the participants' experiences.

A number of issues were identified from the findings to serve as feedback to management for improvement of the quality of the nurses' work life and better management of activities in the paediatric ED. It was clear from the responses that the lack of professional nurse leadership and the difficult existing relationship with the physicians were obstacles that had to be obviated if the paediatric ED were to function optimally and best practice were to be achieved. It was determined that a problematic issue in the setting was that the most critical decisions are made by physicians who have more authority than nurses.

4.5 CONCLUSION

In this chapter the presentation, analysis and discussion of the study findings were considered. Themes, categories, subcategories and meaning units in the form of identified direct quotes with the discussion of each item were presented. Some

categories and subcategories were collapsed and re-aligned in order to make sense of the findings. The discussions were based on and supported with relevant literature.

Chapter 5 follows with the discussions, conclusions, scope and limitation and recommendations.

CHAPTER 5

DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

In this chapter the study on the impact of ED overcrowding on the professional practice of nurses in the paediatric ED at a tertiary hospital is discussed and concluded. The study was conducted within the premise of Von Bertalanffy's model (French & Bell 1999:82) and related to the input, throughput, output and feedback factors. The findings were therefore discussed in relation to literature and conclusions were drawn. In this chapter the limitations, recommendations and implications relating to nursing practice, education and further research are presented.

5.2 PURPOSE AND OBJECTIVES OF THE STUDY

The purpose of this study was to explore and describe the extent to which ED overcrowding impacts on the professional nurses' practice.

To realise the purpose of this study the following objectives applied:

- to explore and describe how overcrowding in the ED impacts on the professional practice of nurses
- to identify input, throughput, output and feedback factors that are related to the impact that ED overcrowding has on the professional practice of nurses.

The ED was viewed as an open, dynamic system within the greater whole of the tertiary hospital as illustrated in Figure 5.1.

Von Bertalanffy's Systems Theory

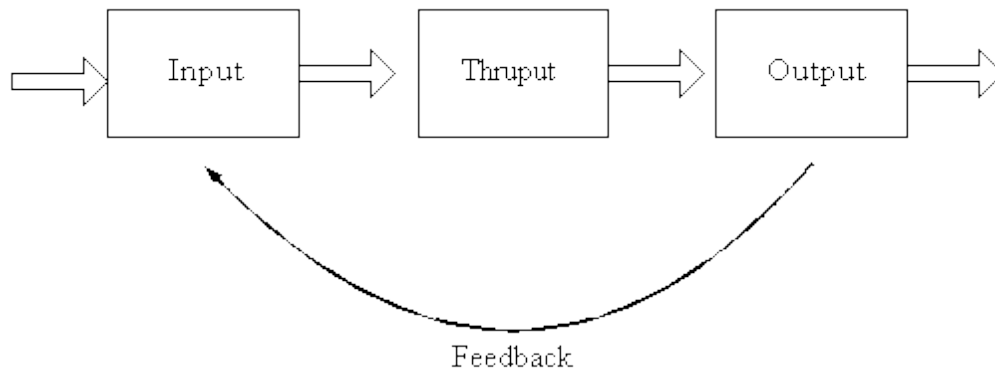


Figure 5.1: Input, throughput and output systems model

(University of North Carolina:[s.a.]

The model helped the researcher by providing the key concepts *input*, *throughput* and *output* as a plausible structure for the discussions. *Feedback* was also included as an important key concept to indicate how the participants viewed or suggested changes that could be made to address the situation of overcrowding in the ED. This information can be communicated appropriately as feedback to the relevant authorities.

5.3 DISCUSSIONS AND CONCLUSIONS ON THE MAJOR FINDINGS

The findings of this study were based on the purpose and objectives of the study. They are discussed in this section as an integrated summary of results derived from the data and related to literature.

Overcrowding, according to McClelland, Lazar, Sears, Wilson, Siegel and Pines (2011:1396-1397), in the ED refers to a situation where patients who are in need of inpatient care are unable to have access to appropriate hospital beds within a reasonable period of time. In today's world overcrowding in the ED has gradually developed into a widespread and debilitating situation across the globe. It is an emerging threat to patient safety and has a negative impact on patient care and job satisfaction on health care workers especially nurses.

This research study reflected the personal experiences of nurses in the context of the paediatric ED they were working in. The analysis of the data revealed that ED overcrowding is a complex, multidimensional situation that affects the functioning of EDs, and impacts on the patient- and staff outcomes. Some experiences of participants

were adverse for both nurses and patients as it potentially compromised nursing care, but others were reported in a positive sense. A number of issues were identified from the findings as feedback to management on concerns that warrant improvement of the quality of work life for nurses, with resultant better patient outcomes and better handling of activities in the paediatric ED.

5.3.1 Input factors related to the perceptions of nurses about ED overcrowding

Emergency department overcrowding was perceived and described in terms of the volume of people, space and equipment as well as access blocks that exacerbated the flow of patient into, through and out of the ED. Patient flow was hampered, most often as a result of inpatients boarding in the ED instead of moving on to appropriate disposition locations. Lewis and Asplin (2010:202) argue that this situation challenges hurried nurses and doctors to convert hallways and offices into patient care space.

Nurses relayed they were aware that numerous factors contributed to the accumulation of people in the ED and confirmed the resultant overcrowding then hampered the business of ED care provision. The impression is left of an overwhelming presence of people in the ED with nursing staff, space and equipment being in short supply relative to the number of patients admitted.

Asaro et al (2007:240) report that the current nationwide nursing shortage has caused many hospitals to close available inpatient beds and thus fewer inpatient beds are available for admitted ED patients. Participants in the study shared that they were expected to provide inpatient care, which they had not been trained to do in the ED environment and, according to the participants, this situation was not acceptable as it compromised the care of new emergency patients (Hoot & Aronsky 2008:130-131; Joint Position Statement (2001:82). McClelland et al (2011:1396) confirm that despite being often very busy, ED nurses may be expected to handle problems they are not trained for or inclined to handle. This can lead to dissatisfaction with their work life and leave ED nurses feeling misused and overextended. Bauman (2007:6) points out that for a work life to be meaningful, it should foster professional identity, there needs to be a high level of predictability in workplace safety and job security, and employees should be able to practice with autonomy and have some say in scheduling. The author asserts

that these are important aspects for enhancing the social and psychological well-being of employees (Bauman (2007:6).

Organisationally, the ED is part of a bigger system. A hospital culture that demonstrates recognition of ED overcrowding as a hospital problem and not an ED problem alone leads the way in setting the scene for significant process improvements. But as McClelland et al (2011:1396) reason, strategies to relieve ED overcrowding requires unbiased insight and transparency. Unless ED nurses and physicians are part of this process of “shining a light” where shortcomings in processes and quality exist (McClelland et al 2011:1396), strategies will still enhance paternalism in that the employees are protected and provided with what they need by the employer, but their responsibilities are minimal and their freedom of choice are negligible (Oxford Advanced Learner’s Dictionary 2010:1075). This approach will not satisfy the need for transparency and participation which are reflected in mission statements.

5.3.2 Throughput factors related to participants’ experience of work during ED overcrowding

Participants shared their experiences of how working in the ED during times of overcrowding affected them as they delivered care to patients. The nurses admitted they were affected on both a personal and emotional level; some developed a negative attitude and demonstrated unprofessional behaviour as a result of feeling overextended and exhausted (Carayon & Gurses 2008:5-6).

Some of the causes of ED overcrowding are related to patient throughput factors such as insufficient inpatient capacity for patients who need hospital admission. Emergency departments are designed for rapid triage, stabilisation and initial treatment. They are not equipped with nurses and resources for ongoing, longitudinal care of patients. Some participants reported that the rushed, stressful environment during ED overcrowding exposed them to potentially making medical errors as they operated under duress (Robinson et al 2004:276-277).

The ED overcrowding, as a workplace stressor, leads to workplace attitudes and communication patterns that affect team behaviours negatively. It can also elicit behaviours that can be perceived as uncaring towards the patient and family members

who accompany them to the health facility (Parsons et al 2005:202-203). Examples of behaviours that lack compassion or caring could be considered to be callousness, impatience, being short to the extent of being rude, voice intonation and various non-verbal expression such as frowning, being unsmiling and/or appearing tense. Yoder (2010:196) proposes that these types of expression are related to burnout. Hooper et al (2010:421) note the correlation between high levels of RN caring behaviours and high patient satisfaction outcomes and, inversely, high levels of RN burnout that is linked to greater patient dissatisfaction.

Moreover, demands that fit the resources available to individuals such as the absence of excessive work pressure can contribute to the psychological and social well-being of health care workers in the ED (Bauman 2007:6).

5.3.3 Output factors related to ED overcrowding on nurses

The responses of the participants with regard to whether they considered leaving this work setting varied. Some shared that they considered applying for transfer to other work settings while others responded that they preferred to stay in this work setting because of the financial benefits they received.

Yoder (2010:194) expounds on the RNs' coping abilities. According to this author, in a work environment the appropriate and best strategy would be to ignore the situation, intensify their patient focus or otherwise disengage. Thinking about changing the nature of their work involvement by leaving the unit, leaving the organisation or leaving the profession of nursing was a coping strategy employed by some of the participants. A relationship was established between the RNs' perception of their work environment and nurse outcomes such as unsafe professional practice and preferences to either transfer or resign or to stay. Self-reports related to staff retention factors that influenced the staff to continue with the same organisation and in the same setting were identified as significant findings reflecting their ability to adjust to work pressures through effective coping, whether work related or personal (Yoder 2010:195).

The intent of most participants to remain in the ED revolved around the fact that the nurses valued their roles as professional nurses, they experienced a sense of comfort and belonging, the remuneration, the experience they gained and that they were

exposed to positive growth and development. With reference to an environment that fosters the social and psychosocial well-being of employees, effort seemed to be negligible when balanced against reward, remuneration, recognition and access to education and professional development (Bauman 2007:6). Issues related to quality patient care were secondary to retention factors that brought about personal benefit (Parsons et al 2005:202).

Although some of the participants expressed that they were satisfied with the benefits they were also feeling the effects of exhaustion, stress and burnout. This is understandable considering that these nurses' job satisfaction and quality of life is increasingly compromised in a system where unit nurses and their managers have little control over the context in which they practice their profession.

5.3.4 Feedback on strategies to handle overcrowding in the ED

The participants indicated areas of concerns which they felt, if addressed, would make the situation more tolerable. The main areas they focused on were access control, efficiency and effectiveness, alternatives to admission, socially driven medical management and nursing leadership. These issues must be viewed and dealt with as the concern of the whole hospital and not only that of the ED.

The Emergency Nurses Association Position Statement (2005:2) calls for nurse leadership to advocate for enhanced patient flow from presentation to disposition with specific reference to efficiency and effectiveness of patient care processes and systems.

Nurses strived for excellence in patient care which included timely ED access, diagnosis, treatment and disposition. Excellence in patient care processes and systems promotes efficient and effective interventions from the time of presentation to the ED until such time patients exit the ED environment (Parsons et al 2005:201). This can only be attained and maintained through effectual interprofessional relationships, collaboration and teamwork behavioural norms especially between nurses and doctors. All those involved in patient care in the ED must work cooperatively during times of overcrowding. Serious discussions on these issues should be held by the leaders at different levels (Parsons et al 2005:202).

Professional development opportunities to increase knowledge and skill for better decision making is of paramount importance for staff retention (Bauman 2007:6). New incentives must be suggested to retain the current emergency nurses and attract new ones.

Nurse leadership support at times of overcrowding is essential to nurses' sense of well-being and belonging (Parsons et al 2005:202). Strategies to be considered include those that will counter RNs' feelings of powerlessness by addressing recurring problems which can potentially be resolved and involving RNs in improving their work environment and processes. Morale building opportunities and venting sessions should be facilitated. Burnout and compassion fatigue must be recognised and addressed by nurse leaders and managers (Hooper et al 2010:426).

Maslach cited in Vahey et al (2004:2) describes job related burnout as "a syndrome of emotional exhaustion, depersonalisation and reduced personal accomplishment". Accordingly, it leads to feeling overextended and exhausted, acting unfeeling or impersonal to the recipients of care and feelings of incompetence and unsuccessful achievement of one's work with patients. Burnout, according to Figley (cited in Hooper et al 2010:422), develops steadily and worsens increasingly.

Stamm and Valent cited in Yoder (2010:195) link high workloads, unsupportive work settings and an inability to achieve personal goals to burnout. Emergency department nurses are especially susceptible to burnout as their work domain is fraught with stressors such as overcrowding, pressure to improve patient input-throughput-output and dealing with issues related to delays in inpatient bed-assignments (Hooper et al 2010:421).

Although some positive accounts were reported by the participants, the general consensus was that ED overcrowding had a negative impact on the emergency RNs. Ning et al (2009:2643) grant that there are no "quick fix solutions". Overcrowding in ED is a symptom of a bigger challenge with problems such as inadequate resources, shortages of nurses and poor organisational planning being in the forefront. These place the quality of patient care and also the quality of the work environment for nurses at risk.

5.4 RECOMMENDATIONS

This study demonstrated that ED overcrowding impacts negatively on the professional practice of nurses. The following generalised recommendations are made based on the findings of this study.

- Organisational leadership needs to identify and address system processes that aggravate the problem of ED overcrowding, whether in the ED domain or outside of it, but specifically the inpatient settings for effective and efficient work processes.
- Nurses are to be supported by means of having realistic expectations of performance against the backdrop of ED overcrowding and recognition of overall effort. They must be reassured of the implementation of “just culture” principles for safe practice.
- The negative experiences of nurses in the ED damages the image of the whole organisation. Its image, respectability and making it a place health care workers want to work in need be restored by reviewing the current practices against successful recruitment and retention.
- Strategies that have longevity and lead to sustained improvement of the work environment such as getting all healthcare professionals on board to work towards improved patient flow should be implemented and maintained.
- The ED and its diversity of role players at different levels may need to consider strategies that holistically look at structure, process and outcomes (Alessandrini et al 2011:520-521) in order to take the system application of input, throughput and output to the next level of managing this ongoing phenomenon of ED overcrowding for the benefit of the nurses and, additionally, quality patient care with specific reference to effectiveness, efficiency, timeliness, safety, equity and patient centeredness. Input, throughput and output adverse factors that are associated with ED activities need to be more aptly identified and addressed.
- Promote patient centeredness through education of the patients and their families and involving them to a greater degree in decision-making and discussing alternative options about their treatment and care.
- The ED needs to be clearly defined in the policies, for example, be clearly indicated as an outpatient, emergency care or as an episodic patient care area.

“Admission” can mean admission to the ED or admission as an inpatient/boarded patient. This has relevance as most policies apply to the inpatient units when the ED is not an inpatient unit other than by default of the boarded patients. An ambiguity that exists as to when specific policies are applicable or should be enacted should be better clarified. This will also contribute to the RNs having more of a professional identity, a more meaningful work life and as such experience better social and psychological well-being (Bauman 2007:6).

- The ED nursing staff are frequently under pressure to be supportive of practices that are not ED specific “for the sake” of the patient when inpatient support could have been arranged to provide this support. A good example would be if the patient who is ready for an inpatient bed is sent for multiple diagnostic tests should be accompanied by the ED nurse rather than the inpatient nurse.

5.5 IMPLICATIONS

Based on the findings and the broad recommendations made, the following are cited as possible implications the findings have specifically for nursing practice, education and further research.

5.5.1 Nursing practice

The findings of this study have the potential to contribute to the existing knowledge base according to which modifications can be made to the existing strategies, support the work domain and professional practice of emergency nursing. The implications for nursing practice are set out below.

- The demand on the ED nurse is to have an overall command of most fields of practice as the dictum is to provide care of a similar standard to that of inpatient units to patients being boarded in the ED. The intent is to ensure that standards of patient care are similar to that of the admitting unit, but currently a false assurance is being created that patients are still cared for in an environment that is not suited for ongoing patient care.
- Nurses appear to have adopted a subservient role, or seem to have adopted a guest role, to that of physicians. They need to be familiar with the international benchmarks for estimated length of stay (ELOS) for specific age groups with

specific conditions. Participative/multidisciplinary decision-making should be in place with regard to patient readiness for discharge. Variances should be monitored, managed from a multidisciplinary perspective, reported up the nursing chain of command and be addressed in a consistent manner at a directorate/chairman level.

- At times of ED overcrowding ED staffing can become insufficient as the relative increase of patient numbers exceed the unit's daily maximum staffing. Nurses who are not put off by working in the ED during periods of overcrowding when it appears chaotic can be pulled in to assist with providing care to inpatients boarding in the ED for lack of availability of inpatient beds. A source of this type of nurses is exposing the boarding unit nurses to ED during periods of no overcrowding.
- Age becomes a sensitive subject as was identified in the demographics of the participants. However, the nursing profession needs to remain cognisant of the ageing nurses and recognise their usefulness in the work environment owing to their experience and skill. Many of these nurses demonstrate difficulty in coping with the increased reliance on technology, the fast pace of change and the ever increasing demands on the basis of their seniority in the unit. Nursing needs therefore to consider alternatives for these nurses by having flexible in-house transfer opportunities from the main ED to, for example, the ED Urgicenter, and decreased hours in the main ED balanced with hours mentoring new nurses to the ED.

5.5.2 Nursing education

Nursing education underscores the preparation and ongoing development of skills, knowledge and decision-making abilities in meeting the expected work outcomes. In this regard, the following is recommended.

- In-service education programmes and access to various workshops that will develop not only nurses' clinical knowledge and skill, but also interpersonal skill to relate with patients and families of different cultural origin are to be put in place.
- Intentional training on good interpersonal skills can empower nurses to be able to negotiate or set terms. Nursing staff are oftentimes caught between the pressure

to deliver care and demands made by patients and families that either have little relevance at that moment of time or that are not well justified. Educating nurses on appropriate coping mechanisms during overcrowding in the ED will help them to emotionally better tolerate this ebb and flow in patient numbers and conditions. Even the best of nurses need an outlet for conflicting emotions and support or advice to positively handle difficult work situations.

- Specific training and workshops on leadership development that incorporates team leadership and management theory is critical as the nursing staff look towards their charge nurses as a support resource and for advocacy in times of challenges in the workplace.

5.5.3 Nursing research

Findings in this study suggest that further research be undertaken on the topic of ED overcrowding but with the focus on the aspects noted below.

- A *comparative study* could be conducted in the adult ED (adult care and critical care) to determine whether different working environments providing a similar service elicit similar or additional responses pertaining to the impact of ED overcrowding on the professional practices/practice of nurses.
- Research on ED overcrowding from a paediatric perspective to focus on what is potentially different from that of an adult perspective. A literature research that is not overweighed by sources based on the adult population (Stang et al 2010:151) can reveal new focuses for exploration and development of hypotheses. As paediatric specific data mounts, alternative approaches to resolve ED overcrowding may surface thereby improving the work environment of nurses and other health care workers.
- Professional practice can be *better explored* in order to identify the gap between expectations and practice. Areas such as professional practices are the first to be compromised and the impact this may have on the retention of nurses and standards of care is crucial for the running of the overcrowded ED.
- *Exit interviews* can be conducted at phased intervals with nurses declaring intent to transfer or end their contracts. Phased intervals can be at the time of declaring the intent to leave, the last week of work and, potentially, a follow-up after the nurse has already left. Information need to be analysed and correlations with ED

overcrowding to be noted, shared and addressed. Useful information obtained from the nurses can better contribute to prevent premature exit of these nurses because of preventable burnout or inability to cope in the ED environment.

- As ED overcrowding has a definite impact on the frontline nursing staff, so it will impact the workload of the ED manager. The ED is considered a dynamic and complex work environment characterised by organised chaos. Within this environment a nurse manager has to manage a multitude of input, throughput and output factors with the focus on patient safety and satisfaction, recruitment and retention of the nursing workforce. Further research is indicated on the impact of ED overcrowding on ED nurse managers with regard to skill sets required and leadership style in this environment by considering the needs of the nursing staff balanced against the role requirements. Findings of such studies may lead the way to better selection, development and enhancement of nursing leaders at different levels within the ED.
- Research into burnout and compassion fatigue in this ED context can be beneficial in identifying those vulnerable to either. Strategies are to be put in place to diminish the impact of stressors and explore the coping strategies specific to the expatriate workforce who make up the majority of the workforce.
- Research with larger populations through the quantitative mode of enquiry will be helpful to make objective conclusions.

5.6 CONTRIBUTIONS OF THE STUDY

In this study the nurses who participated demonstrated the humaneness they bring to the work environment. During ED overcrowding nurses have to attend to everything and everyone at once with little consideration to those nurses who are dedicated to patient care and strive to deliver nursing care to the best of their abilities. This study highlighted some of the difficulties that nurses experience when faced with a working environment that can by no means be considered as conducive to quality patient care or positive when considered from a professional practice point of view.

It is believed that a better understanding of the pressure nurses experienced during times of ED overcrowding was generated. There needs to be a greater demonstration of caring by acknowledging the individualised efforts and shared support of the team. The manner can be determined through experience and application of leadership and

human resource practices in the specific context of ED overcrowding to build a positive environment for nurses, patients and their families.

The majority of data pertaining to ED overcrowding has been generated from an adult patient population perspective (Stang McGillvray, Bhatt, Colacone, Soucy, Leger & Afilato 2010:151). By conducting this study a contribution was made from a paediatric specific ED perspective.

This study demonstrated that nurses are impacted at a professional care level by ED overcrowding. Constructive, supportive attention by appropriate authorities and stakeholders for better patient care outcomes and staff retention purposes are imperative.

5.7 LIMITATIONS OF THE STUDY

The limitations of this study pertain to the methodology of the research with specific reference to the research setting, study design and research method.

The research was conducted in the paediatric ED of a tertiary hospital which was the researcher's area of assignment. This unit is specific in its scope as it provides service to children from new-born to 14 years old. Multidisciplinary processes are unique to this domain if compared to the adult ED in this organisation. As such, the contextual challenges that the RNs experienced may not be generalisable to the other units.

The paediatric ED represented 35-40% of the whole ED. The primary focus was to examine the impact of ED overcrowding on the general functioning of RNs. The small sample size made the findings applicable to only the paediatric ED context and not necessarily applicable to the other ED departments, but transferability is a possibility.

The study design was qualitative, explorative and descriptive. This was an appropriate approach for the topic, but the volume of data generated was daunting for a neophyte researcher. The researcher's limited experience with interviewing posed a challenge in focusing the participants' responses without leading them on and this may have led to interview error. It is important to note that the fact that the paediatric ED was the

researcher's area of assignment did not appear to have an inhibiting effect on the responses of the participants.

The participants' responses could be affected by the shifts preceding the interviews. It is possible that busy or quiet shifts might have affected their mind-sets or influenced their responses. Factors not related to ED overcrowding but that do that affect staff satisfaction could have surfaced as dissatisfaction with work.

The manager as researcher could pose an inhibiting factor; conversely, the longstanding relationship with the nurses could also illicit greater honesty and depth of information. In this study the researcher had gone to the point of making sure that all interviews were conducted during low-activity periods within the unit which enhanced the nurses' feeling of being relaxed and limited distractions due to thinking about work to be done. Judging this opportune time for interviewing was crucial.

DISSEMINATION OF FINDINGS

Findings of this study will be disseminated through primarily presentations with the hospital management. An article will be written for publication in an accredited journal with the help of experts.

The research method limitations included that the sample size was small and therefore the generalisability of the findings was restricted to only the population and context that was included in the study. In establishing the themes, relevant themes might have been overlooked as a result of the researcher's interpretation of the information.

5.8 CONCLUSION OF THE STUDY

Emergency department overcrowding is a relevant, ongoing concern that affects all the role players. Those affected most are the patients and their families in need of emergency care and the health care providers who have to provide this care.

Undertaking this study from a qualitative perspective allowed the researcher to give a voice to the registered nursing staff through capturing their lived experience in a systematic manner.

In this chapter the discussions focused on the input, throughput, output and feedback factors as perceived by the participants and other scholars identified in literature. Conclusions were drawn from these discussions. Recommendations were made based on the findings. The implications for nursing practice, education and further research were highlighted. Some of the identified limitations were described.

As long as ED overcrowding continues, the delivery of a professional standard of care by nurses in the ED will be compromised by broader forces not liable to change. Empirical findings need to be disseminated to the practice arena if a worthwhile difference is to be made in the present and future sustainability of a satisfied nursing cadre committed to improve the quality of patient care in an ED.

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Annexure A

Approval from the university

**UNIVERSITY OF SOUTH AFRICA
Health Studies Higher Degrees Committee
(HSHDC)
College of Human Sciences
ETHICAL CLEARANCE CERTIFICATE**

Date of meeting: 24 February 2011 Project No: 3083-380-9
Project Title: The effect of overcrowding in the Paediatric Emergency Department
on Nursing Staff at a Tertiary Hospital.
Researcher: Corina Meissenheimer
Degree: MA in Health Studies Code: DFHLS95
Supervisor: Dr EN Monama
Qualification: D Litt et Phil
Joint Supervisor: Dr LV Monareng

DECISION OF COMMITTEE

Approved

Conditionally Approved


Prof E Potgieter
RESEARCH COORDINATOR


Prof MC Bezuidenhout
ACADEMIC CHAIRPERSON: DEPARTMENT OF HEALTH STUDIES

PLEASE QUOTE THE PROJECT NUMBER IN ALL ENQUIRES

Annexure B

Letter seeking consent from National Guard Health
Affairs, King Abdulaziz Medical City: Riyadh



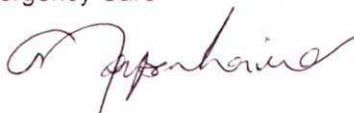
Kingdom of Saudi Arabia
National Guard Health Affairs
King Abdulaziz Medical City in Riyadh
Nursing Services

Date: (G) 19 April 2011
(H) 16-05-1432

To: **Dr. Majed Al Jeraisy**
Head Clinical Research
King Abdulaziz International Medical Research Center

Thru: **Ms. Joan Murray**
Associate Executive Director, Nursing Services

Mr. Hassan Batarfi
Director Clinical Nursing, Ambulatory Care Services/Hemodialysis/
Primary Health Care
Interim Director Clinical Nursing, Emergency Care

From: **Corina Meissenheimer, BN 19329** 
NM ECC Paediatrics

Subject: **Request for approval to conduct MA Health Studies research project at KAMC-R**

I am a student at University of South Africa (UNISA) pursuing MA in Health studies.

Attached is the research proposal, letter from UNISA and documentation as per research committee for your review. The proposal has been submitted and approved by Dr. Ernestine Monama, my supervisor.

The title of the study is: "The Effect of Overcrowding in the Paediatric Emergency Department on Nursing Staff at a Tertiary Hospital".

I am looking forward to your positive response.

Thank you very much.

Cc: chrono file

Annexure C

Letter of approval: National Guard Health Affairs, King
Abdulaziz Medical City: Riyadh



Research Office



16592/16591



2216



16567



CLNresearch1@ngha.med.sa

MEMORANDUM

Ref. #: RO/359/2011

Date: **(G) 11 SEPTEMBER 2011**
(H) 13 Shawwal 1432

To: **MS. CORINA MEISSENHEIMER**
Principal Investigator RC11/039
Nurse Manager ECC Pediatrics (1304)
King Abdulaziz Medical City
National Guard Health Affairs

From: **DR. MAJED AL JERAISY**
Chairman, Research Committee
King Abdullah International Medical Research Center
National Guard Health Affairs

Subject: **Protocol RC11/039** "The Effect of Overcrowding in the Pediatric Emergency Department on Nursing Staff at a Tertiary Hospital."

Thank you for submitting the above-mentioned subject, after careful review by the Research Committee Chairman we have **decided to award scientific approval for your master project.**

Your proposal will be forwarded to the Institutional Review Board (IRB) for review on the ethical point of view and final approval. You should not start your project until this approval from IRB has been granted.

Please do not hesitate to call our office at Ext. 16592/16591, if you have any questions.

Thank you.

MJ/rb



Annexure D

Permission obtained from the Institutional Review Board



National Guard - Health Affairs
King Abdulaziz Medical City
Institutional Review Board



1515

16567

MEMORANDUM

Ref. #: IRBC/227/11

Date: (G) 17 DECEMBER 2011
(H) 22 Muharram 1433

To: **MS. CORINA MEISSENHEIMER**
Principal Investigator RC11/039
Nurse Manager ECC Pediatrics (1304)
King Abdulaziz Medical City
National Guard Health Affairs

Subject: **PROTOCOL RC11/039 - "The Effect of Overcrowding in the Pediatric Emergency Department on Nursing Staff at a Tertiary Hospital"**

This is in reference to your subject proposal, which has been reviewed by the IRB Office on the 28th of November 2011 through the expedited review process. Upon recommendation of the Research Committee, and following the review of the IRB on the ethical aspects of the proposal, you are granted permission to conduct your study.

Your research proposal is **approved for one year** commencing from the above date with the following conditions:

TERMS OF APPROVAL:

- Annual Reports:** Continued approval of this project is dependent on the submission of an Annual Report. Please provide KAIMRC with an Annual Report **determined by the date of your letter of approval.**
- Amendments to the approved project:** Changes to any aspect of the project require the submission of a Request for Amendment to KAIMRC and must not begin without an approval from KAIMRC. Substantial variations may require a new application.
- Future correspondence:** Please quote the project number and project title above in any further correspondence.
- Monitoring:** Projects may be subject to an audit or any other form of monitoring by KAIMRC at any time.
- Retention and storage of data:** The PI is responsible for the storage and retention of original data pertaining to a project for a minimum period of five years.

Prof. Amin Kashmeery
Chairman, Institutional Review Board (IRB)
National Guard Health Affairs

Dr. Mohammed Al Jumah
Executive Director, KAIMRC
National Guard Health Affairs

Dr. Bandar Al Knawy
Chief Executive Officer
National Guard Health Affairs

Annexure E

Letter to the Participant and Consent Form

Dear Participant,

PARTICIPATION IN RESEACH STUDY

I am a master's student in the Department of **Health Studies** in the College of **Human Sciences** at the **University of South Africa**.

You are invited to voluntary participate in a research project entitled "The impact of overcrowding in the pediatric emergency department on nursing staff at a tertiary hospital".

The purpose of this study is to explore and describe the effect of overcrowding in the pediatric emergency department on nursing staff at a tertiary hospital".

I am requesting you to participate in a 30 minute interview, with a possible follow-up, if needed. With your permission, the interview will be audio-taped. Your identity and any information you disclose will be treated as confidential. Tapes will be destroyed at completion of the study and no identifying information will be disclosed in the publication of the research finding. I want to stress that an honest reflection of your views, without any fear of victimisation, will be appreciated.

The direct benefit to you of participating in this study is that you will have the opportunity to verbalise your views on the impact of emergency department overcrowding on your perception of quality of work life.

Selection of a private venue and possible timeframes for the interview will be discussed with you. You have the right to refuse the interview or withdraw from the research project at any time if you so wish. Your help in the research project will, however, be greatly appreciated.

If you are willing to participate, please sign the attached consent form.

Thank you for your assistance.

Corina Meissenheimer

Student number: 30833809

CONSENT FORM

In signing this document, I voluntarily agree to an interview, to be audio-taped, by the researcher. I understand the objectives of the study and that the researcher may contact me for more information after the initial interview.

I understand that my identity and all responses will be kept completely confidential. I retain the right to withdraw from the study at any time, without any fear of reprisal.

SIGNATURE: PARTICIAPANT.....

RESEACHER.....

DATE:

Annexure F

Interview guide

Semi-structured Interview Schedule/Guide for conducting interviews with Nursing Staff working in the Paediatric Emergency Department at a Tertiary Hospital with specific reference to Overcrowding.

Section A: Geographical Data

Date of Interview		_____ (ddmmyyyy)		
1	Participant's gender	1 Male	2 Female	
2	Age	1	Less than 25	
		2	25 – 34	
		3	35 - 44	
		4	45 - 54	
		5	55 - 64	
3	Nationality	1	Australian	
		2	Malaysian	
		3	Middle Eastern	
		4	Philippian	
		5	Saudi	
		6	South African	
		7	Other	
4	Length of Employment in Paediatrics ED	1	Less than 1yr	
		2	1 - 4	
		3	5 – 9	
		4	10 - 14	
		5	More than 15yrs	
5	Overall length of time working in ED setting, includes previous work placements.	1	Less than 1yr	
		2	1 - 4	
		3	5 – 9	
		4	10 - 14	
		5	More than 15yrs	

6	Professional Title	1	CRN	
		2	ENC	
		3	SN1	
		4	SN2	
7	Highest Level of Education attained	1	Diploma	
		2	Bachelors	
		3	Honors	
		4	Masters	

Section B: Individual Interview Guide

1. Tell me in your own words what you understand emergency overcrowding is?
2. In your mind, do you think there is specific reasons for overcrowding in this department? (prompt: to mention a few).
3. How do you feel about work when there is overcrowding?
4. Have you ever come across a situation during overcrowding that affected your actions or behaviour toward the patient or relatives? For example, if you were not in this situation you would have behaved differently? Please give an example.
5. Do you ever consider transfer out of the area, resigning or not renewing your contract during times of overcrowding? (Prompt – what would you state as your main reason for considering this?)
6. Consider at least three reasons for staying on and list them in order of importance to you.
7. What would you suggest to nursing leadership do to support you during these periods of overcrowding?

Annexure G

Letter from the Editor

Suzette M. Swart

FULL MEMBER: Professional Editors' Group

13 November 2013

TO WHOM IT MAY CONCERN

I, Suzette Marié Swart (ID 5211190101087) confirm that I have edited the noted master's thesis. The accuracy of the final work is still the student's own responsibility.

Student:

Ms C MEISSENHEIMER

Title:

THE IMPACT OF OVERCROWDING IN THE PAEDIATRIC EMERGENCY DEPARTMENT ON REGISTERED NURSES AT A TERTIARY HOSPITAL

The edit included the following:

- Spelling
- UK vs USA English
- Vocabulary
- Punctuation
- Grammar (tenses; pronoun matches; word choice etc.)
- Language tips
- Correct acronyms (please supply list)
- Consistency in terminology, italisation etc.
- Sentence construction
- Suggestions for text with unclear meaning
- Basic layout, font, numbering etc.
- Logic, relevance, clarity, consistency
- Checking reference list (reference guide supplied by student) against in-text sources

The edit excluded:

- Correctness of crediting another's work – PLAGIARISM.
- Content
- Correctness or truth of information (unless obvious)

- Correctness/spelling of specific technical terms and words (unless obvious)
- Correctness/spelling of unfamiliar names and proper nouns (unless obvious)
- Correctness of specific formulae or symbols, or illustrations
- Style
- Professional formatting

Thank you

Suzette M Swart (not signed – sent electronically)
0825533302
smswart@vodamail.co.za

LANGUAGE PRACTITIONER/EDITOR/FACILITATOR:

The Consortium for Language and Dimensional Dynamics (CLDD)
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