THE EXPERIENCES OF CRITICAL CARE NURSES REGARDING STAFF SHORTAGE AT A REGIONAL HOSPITAL IN NAMIBIA

By

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DECLARATION

By submitting this thesis electronically, I declare that the entirety of the work contained therein is my own, original work, that I am the sole author thereof (save to the extent explicitly otherwise stated), that reproduction and publication thereof by Stellenbosch University will not infringe any third party rights and that I have not previously in its entirety or in part submitted it for obtaining any qualification.

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ABSTRACT

The global shortage of critical care nurses contributes to the high workload experienced by critical care nurses and the provision of quality patient care. As a result, critical care units are mostly staffed by less trained and more experienced critical care nurses. Herzberg's two factor theory and concepts such as critical care units, critical care nurses and critical care patients were contained in the research framework that supported the study.

The aim of the study was to explore the experiences of critical care nurses regarding staff shortages at a regional hospital in Namibia. The objectives of the study were to explore staff shortages in the critical care unit such as:

- Current staffing strategies
- The experiences of critical care nurses regarding quality patient care
- Ways to enhance staffing management in the critical care unit at the hospital

A descriptive qualitative design was applied. A sample size of n=11 was drawn from a total population of N=18, using purposive sampling. A pilot interview was also completed using a semi-structured interview guide that was based on the objectives of the study. Trustworthiness was assured by adhering to Lincoln and Guba's criteria of credibility, confirmability, transferability and dependability. All ethical principles were met.

Seven themes emerged from the data analysis, i.e. staffing strategies, critical care work environment, workforce planning and management, occupational health and safety, quality patient care, continuous professional development and job satisfaction. The findings of the study were congruent with Herzberg's two factor theory in that hygiene factors such as staff shortages contributed to job dissatisfaction in the critical care unit. In addition, the critical care nurses related that they did not receive recognition for work completed under stressful conditions such as constant staff shortages and high workloads. It therefore appeared that the motivational factors, meaningful recognition and motivation derived from the work itself tend to be compromised due to staff shortages.

Keywords: critical care nurses, staff shortages, critical care environment, quality patient care.

OPSOMMING

Die wêreldwye tekort aan kritieke-sorgverpleegsters dra by tot die hoë werkslading in kritieke-sorgeenhede wat kritiek-sorgverpleegsters ervaar en die voorsiening van gehalte pasiëntsorg. Ter gevolg word kritieke-sorgeenhede meestal deur min opgeleide en meer ervare kritieke-sorgverpleegsters beman.

Herzberg se twee-faktor teorie en konsepte soos kritieke-sorgeenhede, kritieke-sorgverpleegsters en kritieke-sorgpasiënte was in die navorsingsraamwerk wat die studie ondersteun het, vervat.

Die doel van die studie was om die ervarings van kritieke-sorgverpleegsters rakende personeeltekorte by 'n streekhospitaal in Namibië te verken. Die doelwitte van die studie was om personeeltekorte in die kritieke-sorgeenheid te verken, soos:

- Huidige personeelstrategieë
- Die ervarings van kritieke-sorgverpleegsters rakende gehalte pasiëntsorg
- Maniere om personeelbestuur in die kritieke-sorgeenheid by die hospitaal te verbeter

'n Beskrywende kwalitatiewe studie was toegepas. 'n Steekproef van n=11 is uit 'n totale populasie van N=18 getrek deur die doelgerigte steekproeftegniek te gebruik. 'n Loodstudie was voltooi deur van 'n semi-gestruktureerde onderhoudgids wat op die doelwitte van die studie gebaseer was, te gebruik. Die betroubaarheid van die studie was verseker deur van Lincoln en Guba se kriteria vir geloofwaardigheid, oordraagbaarheid, betroubaarheid en bevestigbaarheid gebruik, te maak. Daar is aan alle etiese vereistes voldoen.

Sewe temas het uit die data-ontleding ontstaan, d.i. personeelstrategieë, kritieke-sorgwerksomgewing, personeelbeplanning en -bestuur, beroepsgesondheid en -veiligheid, gehalte pasiëntsorg, deurlopende professionele ontwikkeling en werksbevrediging. Die bevindings van die studie het ooreengekom met die twee-faktor teorie van Herzberg in dat higiënefaktore soos personeeltekorte tot werksontvredenheid in die kritieke-sorgeenheid bygedra het. Meer nog, kritieke-sorgverpleegsters het vertel dat hulle nie vir werk wat onder stresvolle omstandighede soos konstante personeeltekorte en hoe werksladings voltooi was, erkenning kry nie. Dit kom dus voor dat motiveringsfaktore, bedoelende erkenning

en motivering, wat uit die werk self ontstaan deur personeeltekorte neig verhinder te word.

Sleutelwoorde: kritieke-sorgverpleegsters, personeeltekorte, kritieke-sorgomgewing, gehalte pasiëntsorg

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ABBREVIATIONS

AACN	American Association of Critical Care Nurses
ANCC	American Nurses Credentialing Centre
BACN	British Association of Critical Care Nurses
CCNs	Critical Care Nurses
CCU	Critical Care Unit
EN	Enrolled Nurses
FICM	Faculty of Intensive Care Medicine
HPCNA	Health Profession Council of Namibia
ICS	Intensive Care Society
ICU	Intensive Care Unit
IOM	Institute of Medicine
LPN	Licenced Practical Nurses
SANC	South Africa Nursing Council
MOHSS	Ministry of Health and Social Services
NQA	National Qualification Authority
OSD	Occupation Specific Dispensation
OSH	Oshakati State Hospital
PCS	Patient Classification System
PHC	Primary Health Care
RN	Registered Nurses
UAP	Unlicensed Assistive Personnel
UNICEF	United Nations International Children Emergency Fund
WHO	World Health Organization

CHAPTER 1

FOUNDATION OF THE STUDY

1.1 INTRODUCTION

Staff shortage appears to be one of the main challenges that almost every healthcare sector experiences; Namibia is no exception (Eastword, Naicker, Plange-phule & Tutt, 2010:129). According to Kunaviktikul (2014:1) nurses contribute to the majority of personnel in the health sector. However, the shortage of all categories of nurses became one of the prevailing global trends (Beer, Bhengu & Brysiewkz, 2011:7; Aiken, Chen, Hao, Liu, You, Zhang & Zhu, 2012:148; Alison, Barribalb, Lua & Zanga, 2012: 1030; Botha & Matlakla, 2016:52). A similar problem with staffing was confirmed in Namibia by the National Audit on Health Service Provision (2009:13).

The effective delivery of critical care services in public and private healthcare sectors depends on the competence of all staff employed. Nurses are normally trained specifically to meet the necessary skills that are expected of a critical care nurse (Klein, Sole & Soseley, 2011:6). According to the Ministry of Health and Social Services (MOHSS), only six out of 19 nurses in the Critical Care Unit (CCU) were trained in critical care nursing (2016:21). The limited number of critical care nurses is experienced worldwide. This consequently led to some countries, such as United States of America (USA), and South Africa, to utilise other categories of nurses in critical care units (Beer *et al*., 2011:7; Bae, Brewer, Kelly & Spencer, 2014:981).

A 1:1 nurse to patient ratio for ventilated patients, and 1:2 for acute patients is recommended by national and international nursing governing bodies (Health Professional Council of Namibia, 2014:7; South Africa Nursing Council, 2015:2; American Nursing Association, 2015:np). California remains the only country in USA that successfully utilised the 1:1 nurse to patient ratio in critical care units (Coughtright & Kerlin, 2014:206). Many African countries however do not utilise the recommended ratio due to some pertinent factors such as: increased patient care demands, unavailability of skilled personnel, and financial constraints (Eastword, Naicker, Plange-Rhule &Tutt, 2009:60; Beer *et al*., 2011:7).

Furthermore, the World Health Organisation (WHO) (2013:np) recommends a health worker capacity of 2.5 per 1000 population. However, an audit report on the health service provision in Namibia (MOHSS, 2009:13) found that there was a severe shortage of health professionals in the country with the health worker's capacity of 2.0 health worker per 1000 population, which was below 2.5 the WHO recommended benchmark. The Health Professional Council of Namibia (HPCNA) requires a nurse to patient ratio of

1:1 in critical care units (2014:7). However, the researcher has observed that because of staff shortages, sometimes a nurse to patient ratio of 1:2 or 1:3 is used in both public and private sectors. This shortage of staff is attributed to many factors: lack of funding, unsatisfying work environments, and staff turnover, for example (Ganz & Torren, 2014:4; Awases, Bezuidenhout & Roos, 2013:6).

Several strategies and staffing methods have been employed, including the use of agency and unskilled workers, to address the issue of staff shortages in CCU, however the problem appears to be ongoing thus posing a great challenge to critical care nurses and patients (Botha & Matlakla, 2016:54; Merriefield, 2015:np). Cost implications, and increased workload due to constant supervision of temporary staff, are some of the challenges faced by CCN's and managers (Bae *et al*., 2014:981; Moorman & Rispel, 2014:5). Moreover, the influence of staff shortage of nurses varies depending on hospital departments or specialty requirements. Therefore, this study explored the experiences of critical care nurses regarding staff shortage at a regional hospital in Namibia.

1.2 SIGNIFICANCE OF THE PROBLEM

Shortage of critical care nurses is a worldwide problem; however, it is more prevalent in most African countries as well as in Namibia (Alderson, Saint-Jean & St-Pierre, 2011:2). A study done regarding the shortage of health workers in Africa revealed that the continent has a health worker population of 2.3 per 1000 population compared to America where there are 24.8 health workers per 1000 population (Eastword *et al*., 2009:60). These authors found the shortage being more prevalent in Africa due to insufficient number of medical schools and the migration of nurses to developed countries (Eastword *et al.,* 2009:61). Migration of nurses was associated with personal, professional, and economic factors (Bonner & Dywili, 2013:511). These factors include, amongst others, job security, nursing workload, anticipated good working environment, and better remuneration.

As a result, critical care nurses and patients are negatively affected. Critical care nurses have to work in understaffed CCU's resulting in job dissatisfaction, work-related stress, burnout and fatigue (Kirstin, 2012:29). Therefore, findings from this study should create an awareness and understanding on the experiences of critical care nurses regarding staff shortage in Namibia as well as measures needed to enhance staffing.

1.3 RATIONALE

Staff shortage seems to be an ongoing challenge and it is unclear how to successfully address the situation. In Namibia for example, CCN's are either enrolled or registered with the Health Profession Council of Namibia HPCNA). Both enrolled and registered

nurses perform their duties according to their scope of practice as stipulated in the regulations (HPCNA, 2014:4). Enrolled nurses practice primary care under the supervision and delegation of registered nurses (HPCNA, 2014:8).

This study was done at an intermediate hospital in the northern part of Namibia. It is the only main referral and training hospital in the Oshana region, thus selected for study. It provides both secondary and tertiary healthcare (National Referral Policy, 2013:8).

According to the 2015-2016 annual hospital report, there are six beds in the critical care unit. However, there are only 18 staff members; a unit manager, nine registered nurses of which six are trained in critical care nursing, and eight enrolled nurses. The six critical care trained registered nurses have an additional responsibility of dialysing outpatients with acute and chronic renal failure. Consequently, enrolled nurses have to care for critical ill and intubated patients (Ministry of Health and Social Services (MOHSS), Oshakati State Hospital Annual Report, 2016:21).

The critical care unit does not have a full time intensivist. As a result, based on the researcher's observations, nurses are required to make their own decisions regarding patient care especially in emergencies while waiting for the doctor on call. Alderson *et al*. (2011:2) maintain that emergency situations become a major source of stress and anxiety to critical care nurses.

Several studies pertaining to staffing in critical care units have been done in other countries such as South Africa (Anthonie & Van der Heever, 2012:np), China (Alison *et al*., 2012:np), and Canada (Kirstin, 2012:np), but none have been done in Namibia, specifically with regards to the Oshakati State Hospital. This study thus explored the experiences of critical care nurses regarding staff shortage. Based on the findings recommendations are presented on how to improve staffing needs within a critical care unit in Namibia.

1.4 PROBLEM STATEMENT

The demand for critical care nursing exceeds the availability of critical care nurses worldwide (Aiken *et al*., 2012:145). Several staffing strategies have been employed, but critical care nurses continue to experience work-related stress, burnout and job dissatisfaction (De Gieter, Hoffmans & Peppermans, 2011:1564). Moreover, inadequately staffed critical care units have been associated with poor quality of patient care (Courtright & Kerlin, 2014:207).

The hospital in this study is the only main public hospital in the northern part of Namibia with a critical care unit catering for four northern regions of Namibia. Owing to limited

numbers of staff, critical care nurses have to work with an inadequate nurse to patient ratio to meet the demand of patients.

There is limited research regarding staffing management in critical care units in Namibia; the influence of staff shortage on nursing staff and patient care at the hospital in this study is thus not well understood. It is for this reason that the researcher deemed it necessary to explore experiences encountered by critical care nurses due to staff shortage at a regional hospital in Namibia.

1.5 RESEARCH QUESTION

What are the experiences of critical care nurses regarding staff shortage at a regional hospital in Namibia?

1.6 RESEARCH AIM

The aim of the study was to explore the experiences of critical care nurses regarding staff shortage at a regional hospital in Namibia.

1.7 RESEARCH OBJECTIVES

There were three objectives in this study.

- To explore the experiences of critical care nurses in terms of current staffing strategies
- To explore the experiences of critical care nurses' regarding quality patient care
- To determine ways to enhance staffing management in the critical care units at the hospital under study.

1.8 RESEARCH METHODOLOGY

The research methods applied in this study are briefly discussed below. A detailed discussion is presented in chapter 3.

1.8.1 RESEARCH DESIGN

A qualitative design with an exploratory descriptive approach was applied to explore the experiences of critical care nurses regarding staff shortage at a regional hospital in Namibia. This subjective approach was the most suitable method that enabled the researcher to describe and explore the experiences and opinions of the critical care nurses (De Vos *et al*., 2011:95).

1.8.2 Study setting

This study was conducted at the critical care unit of the Oshakati State Hospital (OSH) located in Oshana region, in the northern part of Namibia.

1.8.3 Population and sampling

The population for this study was n=18. The population comprised all critical care nurses (enrolled and registered nurses) working in the critical care unit at OSH. Purposive sampling was used and 11 nurses were selected to participate in the study until data saturation was reached (Polit & Beck, 2011:323).

1.8.4 Inclusion criteria

The inclusion criteria for this study consisted of the unit manager and all experienced registered and enrolled nurses who worked in a critical care unit for at least one year.

1.8.5 Exclusion criteria

Critical care nurses who worked for less than 12 months in the critical care unit of the hospital under study were excluded from the study.

1.8.6 Data collection tool

A semi-structured interview guide was used to assist the researcher and to ensure consistency in collecting data from all participants (Holloway & Wheeler, 2013:89). The interview guide was developed by the researcher. It was validated by the academic supervisors (see Annexure 1).

1.8.7 Pilot interview

A pilot interview was conducted with one participant who met the selection criteria. The reasons for the pilot interview were: to assist in assessing the reliability and validity of the interview guide; to test the suitability of the interview schedule; to determine the number of codes per question; to assess the effectiveness and competence of the interviewer; and to estimate the cost and length of the main study (De Vos, Delport, Fouche & Strydom, 2011:395).

1.8.9 Trustworthiness

The validity of data was assured by adhering to the four criteria of assessing validity in qualitative research as described by Lincoln and Guba (1985: np), as cited by De Vos *et al*. (2011:419).

1.8.9.1 CREDIBILITY

According to De Vos et al. (2011:420), credibility is concerned with the truthfulness of the study findings. In this study, semi-structured interviews, tape recordings, and verbatim transcriptions, assisted in ensuring credibility (Streubert & Carpenter, 2010: np).

1.8.9.2 TRANSFERABILITY

In qualitative research, transferability demonstrates the ability for research findings to be transferred or applied in other settings by providing sufficient descriptive data in the final research report (Polit & Beck, 2010:492).

1.8.9.3 DEPENDABILITY

Dependability relates to the reliability of data, over time and different conditions, as it refers to the details and information provided by the study. Consequently, this allows others to reach the same conclusions by replicating the methods of a researcher (De Vos *et al*., 2011:420).

1.8.9.4 CONFORMABILITY

Conformability refers to objectivity and the potential for congruence between two or more independent people about the accuracy, relevance and meaning of data (Polit & Beck, 2010:492). The researcher used the work of De Vos *et al*. (2011:421) as a benchmark thus the findings of this study were confirmed by the supervisor and co-supervisor of the study in order to remove the researcher's own opinions and therefore to focus directly on the data.

1.9 DATA COLLECTION

Eleven one-on-one interviews were conducted to explore the experiences of critical care nurses regarding staff shortage at OSH. The interviews were conducted over two weeks which also resulted in data saturation (De Vos *et al*., 2011:351). The preferred venue was not available thus most interviews took place at the hospital premises in the critical care unit manager's office. There were slight disturbances because the telephone kept ringing, however it did not affect the data collection process.

The researcher worked in the critical care unit of the hospital under study, thus to avoid bias a fieldworker (PHD holder), who is knowledgeable in qualitative research and interviewing skills and had prior training from Stellenbosch University was recruited. Interviews were tape-recorded with the consent of participants and then personally

transcribed verbatim by the researcher. Interviews were conducted in both English and Oshiwambo as some participants could not comfortably express themselves in English.

1.10 DATA ANALYSIS

Data from this study were analysed manually using iterative thematic analysis according to the steps described by Burns and Grove (2011:93). Seven themes emerged from the analysis, namely staffing strategies, critical care work environment, workforce planning and management, occupational health and safety, quality of patient care, continuous professional development, and job satisfaction.

1.11 ETHICAL CONSIDERATIONS

Permission to conduct research was obtained from the Health Research Ethics Committee of Stellenbosch University (see Annexure 3), MOHSS in (see Annexure 5), as well as from the management of OSH (see Annexure 7).

The following ethics principles were adhered to in this study.

1.11.1 INFORMED CONSENT AND VOLUNTARY PARTICIPATION

The participants were informed that participation in the study was voluntary and nothing would be held against them should they refuse to participate in the study or if they decided to withdraw at any time (Burns, Gray & Grove, 2011:177).

Participants who agreed to participate in the study were given a participant information leaflet and consent form to sign. They also gave consent to recording of the interviews (see Annexure 2).

1.11.2 ANONYMITY AND CONFIDENTIALITY

The participants were assured that their identities would not be revealed. Instead of using their names, participants were assigned numbers (e.g. participant 1 or P1). The transcripts were numerically coded with a number. Only the researcher, research supervisor, and the fieldworker, were able to match participants' names to the numbers assigned to them.

According to Burns, Gray and Groves (2013:532), each research environment determines the duration of data storage. However, most sponsors and publishers require minimum storage duration of five years. The University of Virginia, for example, also requires that data be kept for at least five years before being destroyed. This timeframe allows a researcher to refer to the data when needed for publishing and other legal purposes (Retention of Research Records and Destruction of Data: 2012:np). The policy

responsible for research conduct at the University of Stellenbosch (2013:8) states that it is ideal to keep transcripts locked in a safe place for at least five years. Therefore, transcripts from this study will be kept in a safe place for the next five years before being destroyed.

1.11.3 AUTONOMY

The participants voluntarily agreed to participate in this study and they did so based on informed decisions without any form of coercion or intimidation (Holloway & Wheeler, 2013: 54).

1.11.4 NON-MALEFICENCE AND BENEFICENCE

This study did not pose any direct harm or threat to the participants. However, it might have evoked some unpleasant experiences and some participants might have felt uncomfortable with the interview (Holloway & Wheeler, 2013:54). They were informed that they could, if necessary, be referred to a professional counsellor. However, none became uncomfortable, emotional or requested counselling.

The study did not have direct benefits. Nevertheless, the recommendations from the study are anticipated to result in good staffing strategies that might benefit future critical care nurses at OSH.

1.12 CONCEPTUAL DEFINITIONS

Critical care unit: an intensive care unit is a hospital facility that provides intensive medical care to critically ill patients. It is characterised by the high quality and quantity of continuous medical supervision and by use of sophisticated monitoring and resuscitation equipment (Farlex Partner Medical Dictionary, 2012:np).

Critical care nurses: registered nurses who have adequate knowledge, clinical skills and competence to meet the needs of critically ill patients without direct supervision (Adams, 2009:20). However, for the purpose of this study, the term critical care nurse will be used to refer to all the nurses (enrolled and registered) working in a critical care unit.

Registered nurse: a professional nurse who works independently and is accountable for his/her acts of omissions and commissions and that of subordinates (Nursing Act No. 8, 2004:11).

Staffing: the selection, training, motivating and retaining of personnel in an organisation (Hall, 2009:np)

Nurse staffing: the provision of the appropriate amount and type of care by personnel possessing the required skills (Hall, 2009: np). Hall further describes nurse staffing as a process of determining the appropriate number and mix of staffing resources to meet the workload for the nursing care of a patient.

Staff shortage: the imbalance between the supply and demand for nurses to deliver health care (Aiken & Buchan 2008:3264).

Job satisfaction: the affective orientation that an employee has towards his or her work (Alison *et al*., 2012:1019).

1.13 TIME FRAME

The timeframe for the study is presented in Table 1.1.

TABLE 1:1 STUDY TIMEFRAME

Year	Month	Activity
2017	March	Submission of proposal to Ethics Committee
2017	June	Institutional permission
2017	July	Pilot interview
2017	July - August	Data collection
2017	August	Data analysis
2017	September-November	Writing of thesis with continuous review by supervisor
2017	November	Technical and grammar editing
2017	December	Submission of thesis

1.14 CHAPTER OUTLINE

The chapters of the thesis are as follows:

Chapter 1: Introduction and background. This chapter covered the background and rationale for the study. It provided a brief overview of the research questions and objectives, research methods and design, definition of terms, proposed timeframe and budget.

Chapter 2: Literature review. This chapter presented in-depth discussions of findings from various reviewed literature as well as the theoretical conceptual framework

Chapter 3: Research methodology. This chapter provided a detailed description of the research methodology that was utilised.

Chapter 4: Discussion of the findings. In this chapter, the collected data were analysed, interpreted and then discussed.

Chapter 5: Discussion, recommendations and conclusion. Based on the findings, in this chapter recommendations were made in accordance with the objectives of the study.

1.15 BUDGET

This study was funded by the researcher with financial assistance from Namibia Student Financial Assistance Fund (NSFAF) in the first year of study. The budget amounts are listed in Table 1.2.

TABLE 1:2 STUDY BUDGET

Description	**Cost per unit**	**Estimated total cost (N$)**
Refreshments for participants	N$20.00 per person (min 10 people)	200.00
Voice recorder	N$ 500.00 x 1 voice recorder	500.00
Transport for participants	N$20.00 per person x 10 people	200.00
Language editing and technical formatting	N$ 0.30 per word x 20 000 words	6 000.00
Printing and binding of thesis	N$ 2 000 per copy x 3 copies	6 000.00
Cost of the research assistant (transport included)	N$ 600 per interview x 10 people	6000.00
Total		N$ 18 900 .00

NB: N$1.00 equals R1.00

1.16 SIGNIFICANCE OF THE STUDY

Critical care nursing is the field of nursing that focuses on the complex care of the critically ill and unstable conditions by using advanced and sophisticated technologies (Lough, Stacy & Urden, 2010:1). The shortage of skilled critical care nurses is worldwide and it negatively influences critical care nurses' level of job satisfaction. The findings of this study should contribute to the knowledge gap in the nursing profession and provide recommendations that could address staffing challenges in critical care units. Apart from filling the knowledge gap, the findings of the study may benefit several readers such as Namibian law makers, patients and critical care nurses.

1.17 SUMMARY

This chapter provided an introduction, rationale, objectives, and a brief overview of the research methodology. Ethics principles, and definitions of concepts used in the study, were discussed.

In the next chapter, a discussion of findings from the reviewed literature is provided based on the objectives of this study

1.18 CONCLUSION

Shortage of critical care nurses remains a serious challenge to healthcare sectors worldwide. It negatively affects an organisation, nurses and quality of patient care. Several strategies, employed to minimise the effects of staff shortage, could not address the situation sufficiently as critical care nurses continue to experience burnout and job dissatisfaction (Eastwood *et al*., 2010:129). In view of the limited literature in terms of the experiences of nurses regarding staff shortage in Namibia, the recommendations of this study could benefit critical care nurses at OSH.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

According to Burns and Groves (2011:189) a literature review provides background information about a specific problem. In this chapter, the reviewed literature assisted the researcher to reach a comprehensive understanding of what other scholars found regarding staff shortage in critical care units (CCUs) from a global perspective, as well as in a Namibian context. The reviewed literature provided a theoretical framework which guided the study. Furthermore, the findings of the literature review assisted the researcher in selecting an appropriate research methodology for the study.

This chapter presents information from reviewed literature about the experiences of critical care nurses regarding staff shortage.

2.2 SELECTING AND REVIEWING THE LITERATURE

Literature was gathered over 32 months. Search engines, and electronic data bases, such as SUN search (Stellenbosch University Library and Information Service), EBSCOhost (Elton B Stephens Company research database), CINAHL (Cumulative Index of Nursing and Allied Health Literature), (PubMed) Public- Medline, Science direct, Wiley online library and Google Scholar, were used to access journals, articles and periodicals.

Most of the literature reviewed was published in 2007 to 2017. However, to ensure a comprehensive inclusion of information, some text books that were published more than ten years ago, but did not have recent editions, were also consulted. The researcher could not find any published studies on the experiences of critical care nurses with regard to staff shortage in Namibia. As a result, this study is probably the first of its kind in a Namibian context.

2.3 FINDINGS OF THE LITERATURE REVIEW

The findings of the literature are presented under the following headings.

- Healthcare services in Namibia
- Critical care nursing environment
- Herzberg theory
- Extrinsic factors contributing to staff shortage
- Intrinsic factors contributing to staff shortage
- Quality assurance in health care services

- Conceptual theoretical framework

2.4 HEALTHCARE IN NAMIBIA

The Namibian healthcare system falls under the jurisdiction of MOHSS (Ministry of Health and Social Services). According to a UNICEF report (2012:2) on Namibia's health status, the country is faced with many challenges such as the human immunodeficiency virus (HIV) and tuberculosis (TB) and maternal and infant mortality. Regardless of these challenges, there is also an unequal health care distribution among the rich and the poor (Brockmeyer, 2012:2). Based on the Namibian health financing profile report (2016:2) the total expenditure on healthcare is about 7% of the gross domestic product (GDP). The government's commitment in healthcare expenditure resulted in improved health outputs such as increased access to immunisation and anti-retroviral therapy (ART) services (NDP4, 2016/2017:55). However, there are still challenges related to shortage of healthcare professionals (NDP4, 2016/2017). There are two pillars in the healthcare system in Namibia: the public healthcare sector and the private healthcare sector. These sectors are briefly discussed.

2.4.1 PUBLIC HEALTH CARE

The government provides public healthcare services to about 85% of the Namibian population (Brockmeyer, 2012:2). This healthcare is mainly accessed by lower income groups since it is less expensive compared to private healthcare. Primary health care (PHC) services, such as immunisations, obstetric care, and treatment for chronic medications, are provided for free in the public sector (MOHSS, 2017:np). However, in the private sector, individuals have to pay for all the services either by cash or by the use of medical aid schemes (Brockmeyer, 2012:2). The staffing needs in CCUs are determined by the number of patients through the mid-night census. Furthermore, staff skill mix is utilised in CCUs whereby healthcare is provided by a combination of health professionals of different categories (McQuide, Kolehmainen & Forster, 2013:7). However, the proportion of registered nurses to enrolled nurses is inappropriate with a ratio of 1:3 in some health facilities (MOHSS, 2015:16).

Nevertheless, healthcare is provided through a series of outreach services, clinics, health centres, and hospitals. According to the Namibian Statistics Agency (2013:40) the country has a total population of about 2.35 million. The country has only about 265 clinics, 44 health centres, 1150 outreach points, 30 district hospitals, three intermediate hospitals, and one national referral hospital (National Referral Policy, 2013:2). Therefore, the World Health Organisation (2014:np) reported that the number of health facilities in the country is insufficient for a population of 2.5 million people.

Health service costs in the public health sector are affordable and related to the type and level of the health facility; clinics, district hospitals, and referral hospitals, for example (National Health Act, 2015:29). However, the provision of health services is hampered by a shortage of health facilities and healthcare personnel. The shortage has been attributed to the migration of nurses from the public healthcare sector to the private sector in search of a better working environment (Haoses- Gorases, Jonas & Kapaama, 2014:14). Although the statutory body, the HPCNA, (2014:7) recommends a nurse to patient ratio of 1:1 or 1:2, such a ratio could not be maintained resulting in a nurse to patient ratio of 1:3 or 1:4. According to the World Health Organisation (WHO) these ratios lead to increased levels of job dissatisfaction, poor quality of patient care and staff turnover (WHO, 2014:np).

2.4.2 PRIVATE HEALTH CARE

In Namibia, private healthcare is profit driven; it is only accessed by 15% of the population who are mainly from the middle to high income class (Brockmeyer, 2012:2). Prior to being operational, a private practice has to be approved by the health minister (National Health Act, 2015:21). In comparison to the public healthcare sector, private healthcare is more organised and is mostly managed by medical aid schemes. However, similar to the public healthcare sector, the private healthcare sector also has a challenge of staff shortage (Brockmeyer, 2012:2). All nurses, whether working in public or private services, must be registered with the statutory body, the Health Profession Council of Namibia (HPCNA), before they can practice (HPCNA, 2015:10).

Similar to global practice, the Namibian private sector also uses a variety of staffing models such as acuity score, staff skill mix and other support staff (FICM & ICS, 2013:7). However, each hospital has its own staffing policy. For example, the Rhino Park private hospital staffing policy (2016:20) recommends a minimum of 1:2 nurse to patient ratio in CCUs.

2.5 CRITICAL CARE NURSING PRACTICE

Brouwer, Delnoij, Francke and Kieft (2014:5) define a practice environment as the physical, psychological and social characteristics of a work setting. These characteristics are determined by factors such as physical features, organisational policies, and the behaviour of people at work.

Critical care nursing (CCN) relates to nursing that is provided to critically sick patients in an environment with special equipment and critical care trained personnel (Adam, Osborne & Welch, 2017:2). Since CCUs accommodate critically ill patients these units require a staff component that contributes to patient safety and quality care (Lough,

Stacy & Urden, 2010:5; Early, Lavandero, Ulrich & Woods, 2014:70; Crutcher, Samoya & Pilon, 2015:2).

Early *et al*. (2014:70) found that quality patient care, physical and mental safety, increased support for certification, continuing education, increased job satisfaction, and career plans, are elements necessary for a healthy critical care environment. However, Myburgh, Nel, Poggenpoel and Scholtz (2015:5) reported that CCNs' environments are unhealthy. Good, Kleinpell, Marc and Sessler (2016:6) are of the same opinion as they state that CCNs work in compromising situations due to staff shortage and as a result they become stressed.

A systemic review, by Chuang, Chen, Lin and Tseng (2016:9), on burnout among critical care professionals found that a critical care environment has many cognitive and technological challenges, which takes time for a CCN to adapt. One such challenge is the inability or incompetence in using new equipment; this then culminates in stress and frustrations among CCNs (Engstron & Jansson, 2016:120).

The CCN work environments in Namibia have been reported to be unconducive due to increased workloads, uncompetitive salaries, and insufficient supplies of medical equipment. This led to nurse's job dissatisfaction and consequently increased staff turnover (Haoses-Gorases, Jonas & Kapaama, 2014:15).

Furthermore, the literature review revealed that there are several factors that contribute to staff shortage in CCUs, which in return affects the quality of patient care (Abrahamson & Fox, 2009: 236; Homburg, Van Der Heijden & Valkenburg, 2013:818). These can either be extrinsic or intrinsic factors. The former is related to an organisation, and the latter to CCNs.

2.6. THE HERZBERG THEORY

The literature review for this study was guided by Herzberg's theory of motivation. According to this theory, job satisfaction or dissatisfaction is based on the functions of hygiene and motivational factors (Bezuidenhout, 2014:319). Hygiene or extrinsic factors include an organisation's policies, working conditions, salaries and interpersonal relations. Such factors are considered to be dis-satisfiers and should first be addressed in order to create an environment of employee satisfaction (Sachau, 2007:378). Motivational or intrinsic factors include the work itself, achievement, recognition, advancement and responsibility (Sachau, 2007:378). According to Herzberg, these factors, if put into place, motivate employees to perform exceptionally well.

The Herzberg two-factor theory is presented in Figure 2.1. A brief description of the constituted factors is presented.

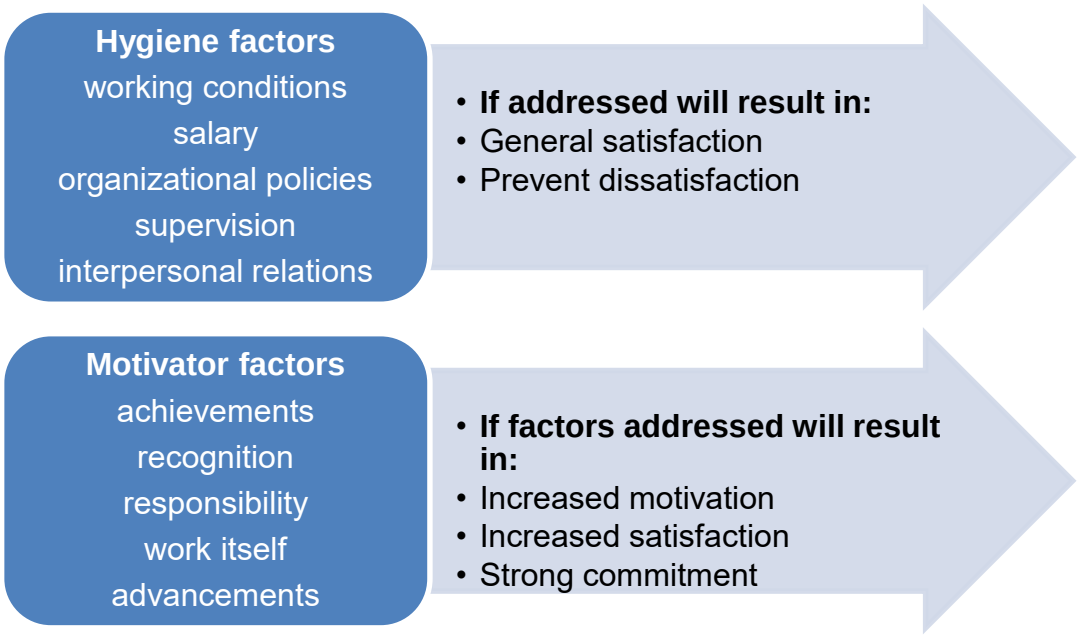

FIGURE 2.1 HERZBERG TWO-FACTOR THEORY

2.6.1 EXTRINSIC OR HYGIENE FACTORS INFLUENCING STAFF SHORTAGE

A shortage of CCNs is recognised worldwide. It has a negative impact on an organisation in general, CCNs, and patients in particular (Ganz & Torren, 2014:6; Kleinpell, 2014:1291). Organisational factors such as policies, work environment, leadership qualities, salaries, and interpersonal relations influence, staff retention and ultimately staff shortage (Aiken *et al*., 2012:np).

2.6.1.1 ORGANISATIONAL POLICIES

An organisational policy refers to methods selected to guide and determine the decisions and positions of an organisation. Policies should be transparent, clear, and fair and applied equally to all employees in order to improve employees' work attitudes (Weaver, 2016:np). However, such policies can be frustrating if they are unclear, unnecessary or only apply to some people in an organisation (Awases *et al*., 2013:np). However, according to the researcher's observations relevant policies and guidelines within the CCU are always available and accessible for all staff members to refer to if necessary.

2.6.1.2 WORK ENVIRONMENT

For an organisation to be productive and effective, a working environment should be conducive (Aiken *et al*., 2012:1480). Upgrading facilities and equipment, and ensuring that employees have adequate personal workspace, can decrease dissatisfaction (Weaver, 2016: np). The American Nurses Credentialing Centre (2012:np) awards hospitals a magnet status if they comply with the set criteria that measure the quality of nursing care. These criteria include: safe handling of needles, tobacco free facilities, zero tolerance to abuse of staff, naps allowed on night shift to facilitate safety, and baby friendly hospitals (Summers & Summers, 2015:np). This award could motivate managers and healthcare professionals to improve their work environments so that they can be eligible to be awarded such a status. However, Petit and Regnaux (2015:np) found that the awarding of a magnet status did not have any influence on nurses or patients.

A study done in China, on the relationship between hospital work environment and nurse outcomes, found that there is a strong relationship between a nurse's work environment, nurse satisfaction, and quality of care being provided (Aiken *et al*., 2012:1480). Therefore, a well-equipped CCU is necessary for staff retention which consequently assists in managing staff. However, it seems the government of Namibia is doing little to improve facilities, which could motivate the nurses; there is still not enough and advanced equipment in the hospitals to effectively facilitate healthcare delivery (Cassim, Karodia, & Kamati, 2014:55).

Haoses-Gorases *et al*. (2014:15) arrived at a similar conclusion in their study of public health facilities in Namibia. They found the facilities were not well equipped and as a result many nurses were dissatisfied and had left the organisation or profession thus contributing to shortage. Abrahamson and Fox (2009:236) also found that nurses tend to leave the profession due to poor work environments.

2.6.1.3 LEADERSHIP STYLE

Leadership is an important component that assures organisational quality healthcare services, patient satisfaction, and financial performance. According to Bezuidenhout (2014:284), leadership qualities refer to the use of one's skills or leadership style to influence others to perform to the best of their ability. There is no prescribed appropriate leadership style; effective managers therefore tend to use a combination of different leadership styles depending on the prevailing situation (Dorgham & Mahmoud, 2013:79).

Research suggests that nurses' satisfaction with management and leadership quality greatly influences their intention to leave (Bezuidenhout, 2014:240; Homburg et al., 2013:819). Critical care nurses, under a leadership that recognises and values their

opinions, are less likely to be dissatisfied and as a result will not leave the organisation (Aboshaigah, Alkhaibany, Hamdam–Mansour & Sherrod, 2014:61). Conversely, an ineffective leader who does not value the contributions of the people under her leadership is associated with increased staff turnover, which consequently contributes to staff shortage (Asresash & Nebiat, 2013:56).

Studies further indicate that poor leadership, and lack of management support, contribute to nurses leaving the profession and thus contribute to shortage of staff (Homburg et al., 2013:818; Abdullah, Atefi, Mazlom & Wong, 2014:357; Melia, Rodgers & Zhu, 2014:8). In addition, poor leadership styles have been associated with patient dissatisfaction and more adverse events in CCUs (Balsanelli & Cunha, 2015:11).

2.6.1.4 SALARIES

According to Cox, Coustasse and Willis (2014:8), there is a positive correlation between nurse shortages and staff turnover. When nurses are satisfied with their salaries, they are likely to be committed to an organisation; this therefore reduces staff turnover (Aikins, Akwenongo, Bonenberger & Wys, 2014:11; Al-Mugatti, Baddar & Salem, 2016:54).

In order to improve job satisfaction, hospitals should make sure that salaries and benefits of nurses are competitive and comparable to other hospitals (Weaver, 2016: np). In South Africa, the government introduced an occupation specific dispensation policy (OSD) in order improve salaries and retain nurses (Mothiba, 2014: np). Ditlopo, Blaaw, Rispel, Thomas *et al.* (2013:148) maintain that the policy was poorly implemented resulting in nurses' job dissatisfaction thus increased staff turnover.

Regardless of salaries, employees tend to be satisfied if other organisational benefits, such as pension, medical aid subsidies, and bonuses are good (Bell, 2016: np). Moreover, competitive salaries can help reduce turnover; employees will invariably be happier and productive if they are fairly compensated as opposed to being underpaid (Alushi, Metani, Nika, Saliaj *et al.*, 2016:106). High salaries attract employees to an organisation and, as a result, most nurses in Namibia are migrating from the public healthcare sector to the private health-care sector since the latter offers competitive salaries (Cassim *et al.,* 2014:48).

2.6.1.5 INTERPERSONAL RELATIONS

Good interpersonal relations in nursing contribute to job satisfaction and patient safety (Juan, Markus, Monux & Soler, 2014:560). It is therefore important to encourage co-worker relationships and teamwork to assist in retaining CCNs within an organisation (Weaver, 2016: np).

Maintenance of interpersonal relations in nursing could be enhanced by acknowledging and respecting other people's cultural backgrounds and practices (Gudykurnst, 2016:np). Furthermore, evidence indicates that workplace trust in relationships encourages social interactions and cooperation among CCNs, which in turn promotes intrinsic motivation and consequently contributes to staff retention (Okello & Gilson, 2015:15). Conversely poor interpersonal relationships, such as lack of teamwork, poor communication and unfriendliness contribute to job dissatisfaction and increase nurses' intent to leave (Juan *et al*., 2014:560; Doram & Lee, 2017:np).

2.6.2 INTRINSIC OR MOTIVATIONAL FACTORS CONTRIBUTING TO SHORTAGE OF STAFF IN CRITICAL CARE UNITS

Several intrinsic factors such as the work itself, achievement, recognition, advancement, and responsibility, have been found to contribute to shortage of staff in CCUs. Discussions of these factors are provided below.

2.6.2.1 WORK ITSELF

According to Herzberg's theory, the work itself should be meaningful, interesting and challenging for an employee to perform and to become motivated. Bell (2016:np) found that employees get motivated if they are interested and proud of the type of work they do on a daily basis. As a population increases, the demand for healthcare services also increases, hence putting pressure on a professional nurse workforce (Abrahamson & Fox, 2009:235). However, if nurses have pride in the type of work they do, they then tend to be more committed to their job and to the organisation; this consequently contributes to retention of staff (Awases *et al*., 2013:113).

Except for direct patient care, CCNs also derive satisfaction from involvement in leadership activities such as drafting off duties, delegation, and chairing meetings, which consequently preserves staff in an organisation (Mallikarjuna, 2012:13). Attitudes of nurses towards their work also affect job satisfaction and consequently influence staff shortage. A CCN who assumes a helping role to a patient is likely to be satisfied with her job and as a result views the profession as more rewarding (Edoho, Bamidele, Neji & Frank, 2015:12). Conversely, CCNs who have a negative attitude regarding their roles are likely to be dissatisfied and resign from an organisation.

2.6.2.2 ACHIEVEMENT

All employees want to succeed in whatever they do at work. Achievement is associated with CCNs having opportunities to perform challenging tasks as well as with receiving regular feedback on their performances (Weaver, 2016:np). Their sense of

accomplishment can only be achieved if job descriptions are well stipulated to help them achieve their goals and those of an organisation (Banerjee, 2015:8).

According to Edoho *et al*. (2015:12) when CCNs successfully complete assigned tasks, they tend to be motivated and satisfied and thus remain within an organisation. However, failure to successfully complete an assignment could result in frustration, job dissatisfaction and staff turnover.

2.6.2.3 RECOGNITION

Acknowledging employees for a job well-done increases the likelihood of employee satisfaction (Weaver, 2016: np). Awases *et al*. (2013:114), also hold this opinion as they found that nurses tend to perform more exceptionally well if they are recognised for a job well done, and, are consequently promoted to the next position or accorded a new title. As a result, it is necessary to emphasise the meaningful contributions of CCNs to the health of a nation (Banerjee, 2015:8). In an attempt to motivate nurses, MOHSS (2017:np) recently launched a nursing excellence award to reward nurses who made extraordinary contributions to the care of patients. When CCNs are recognised by their managers in an organisation, their self-esteem and self-confidence increase and as a result they become motivated to continue working within that organisation (Tao, Ellenbecker, Wang & Li, 2015:147). However, lack of recognition has been associated with tension among CCNs and this culminates in staff turnover (Edoho *et al*., 2015:236)

2.6.2.4 RESPONSIBILITY

Giving employees the freedom and sense of ownership of their work may help raise job satisfaction because individuals realise they are responsible for the outcome of their work (Weaver, 2016:np).

According to the Nursing Act No 8 (2004:46) nurses are held responsible and accountable for all their acts of omissions and commissions. Based on their scope of practice, nurses in Namibia are delegated specific tasks and this gives them the freedom to make their own decisions and implement their own ideas regarding patient care (Government Gazette, 2014:4).

Such autonomy consequently motivates CCNs, enhances job satisfaction and reduces staff turnover (Aiken *et al*., 2012:np). However, CCNs become frustrated and dissatisfied when they are not allowed to make independent decisions regarding patient care (Edoho *et al*., 2015:236). Lack of responsibility could result in job dissatisfaction and consequently staff turnover.

2.6.2.5 ADVANCEMENTS

Allowing employees, who are loyal and performing well, the room to advance will help ensure satisfaction (Bezuidenhout, 2014:309). It has been found that according someone a new, or higher position, and a sense of responsibility can often increase job satisfaction in an employee (Banerjee, 2015:8).

Nurses in Namibia are accorded an opportunity to advance from being an enrolled nurse to a registered nurse through a three-year bridging course with full paid study leave (MOHSS training network, 2015:np). Furthermore, registered nurses in CCUs are, with the financial assistance from the government, also afforded an opportunity to become nurse specialists (MOHSS, 2014:np). This practice serves as motivation for CCNs; it consequently promotes job satisfaction and prevents staff turnover. However, when there is no room for advancement, the level of job satisfaction reduces and CCNs may leave an organisation (Edoho *et al*., 2015:235).

2.7 QUALITY OF CARE AND PATIENT OUTCOMES

In America, the Institute of Medicine (IOM) defines quality patient care as 'the degree to which health services for individuals and population increase the likelihood of desired health outcomes are consistent with current professional knowledge'' (Hughes, 2008: np). The IOM further explains that for healthcare to be considered as quality, it should be safe, effective, reliable, patient-centred, timely, efficient and equitable (Hughes, 2008: np; WHO, 2006:9).

According to a WHO Report (2006: 9), in order to improve patients' health status, the aforementioned basic concepts of quality should be in place. Consequently, Namibia adheres to the ten basic principles recommended by WHO and the Patient's Charter (2015:8). These principles are as follows.

Access: services are organised to ensure equity of access to public health and social services. In Namibia, healthcare services are available to all people irrespective of their age, sex, race or social status. These services are provided through PHC and outreach services to people who do not have access to health facilities (National Referral Policy, 2013:2).

Dignity: the dignity of patients and their families should be respected at all times. The Namibian Patient Charter advocates that nurses should be kind, sensitive and compassionate with patients and their relatives. However, there are still complaints from the public regarding unkind behaviours of nurses towards patients and relatives (WHO, 2014:np).

Safe, effective and efficient service: competent and skilled professionals should provide evidence-based services in a safe environment. In Namibia, healthcare services are provided by well-trained personnel who are also registered with the nursing council to ensure that patients are protected from harm (Nursing Act, 2004:28). Care is also provided in safe environments such as mobile clinics, health centres and hospitals using reasonable resources

Communication and information: according to the charter, there should be an open relationship between patients, relatives and healthcare providers. Patients are free to ask any question related to their care without any fear and if they are not listened to, they can take it up with the customer care centre in all hospitals (Patient Charter, 2015:8).

Active participation: the patient charter recommends active involvement of patients in their care. This participation is enhanced when patients are informed well in advance regarding their diagnosis, treatment options and prognosis, so that they can make informed decisions regarding their care. Furthermore, patients are required to sign consent forms for any procedures or operations or for refusing treatment (HPCNA, 2010:43).

Privacy: patients should be provided with adequate personal space and privacy when receiving care. During consultations, patients should be assisted in a private room with only a health-worker and the patient being present (HPCNA, 2010:43). No other person should be able to see them or hear what they are discussing. This allows patients to feel free and comfortable.

Confidentiality: there should be strict confidentiality with a patient's information in order to protect a patient's dignity and maintain trust from patients (HPCNA, 2010:43). Healthcare providers are not allowed to share patient information with a third party who is not involved in a patient's management and treatment except with the permission of the patient.

Improving health: patients should be well informed on how to prevent illness and stay healthy. Health information is provided through campaigns and health education talks in the communities. Consequently, this promotes the health and wellbeing of community members.

Accountability: patients' complaints should be welcomed and investigated to ensure accountability. When patients air their grievances, the problem is taken up and investigated by the nursing council whereby the responsible person is disciplined accordingly (Nursing Act, 2004:46). This will encourage health-workers to be more responsible when providing care to patients.

Respect: care is patient-centred when it acknowledges and accommodates patients' preferences, cultures and practices. Since Namibia is a very diverse community, patients' cultural practices and beliefs are respected and accommodated if they are not harmful to patients or community members (Patient Charter, 2015:8).

If all the above principles are adhered to, positive patient outcomes and satisfaction will be increased. Apart from the positive components of quality, Hughes (2008:np) explored other negative quality care indicators: death, disease, disability, discomfort and dissatisfaction. If these are present it means that the quality of patient care is poor.

In addition, quality patient care can be measured by using patient reported outcomes and nurse sensitive indicators. The former is used to assess whether care received by patients meets their goals for improving their health (Frosch, 2015:1383). The latter measures the objective and subjective qualities of care as perceived by nurses (Stalpers, Keift, Van der Linden, Kaljouns & Schuumans, 2016:120).

Despite the introduction of quality improvement initiatives, Early *et al*. (2014:np), found that quality of patient care in CCUs in America continues to decline; mainly due to inappropriate staffing. Furthermore, most studies on staff shortage and quality of care found that inadequate staff in CCUs is associated with poor care and negative patient outcomes (Adams, 2009:57; Courtright & Kerlin, 2014:206; Kleinpell, 2014:1292). Consequently, it is important to have adequate staff with skills and knowledge to provide quality patient care. Barron *et al.* (2014: np) argued that CCUs with increased nurse staffing are associated with good patient outcomes and lower mortality rates. However, an increased number of staff alone is not a guarantee that they will provide quality care. Finally, it is essential to have an adequate number of committed, competent, knowledgeable and skilful CCNs (Botha & Matlakla, 2016:56).

2.8 THE CONCEPTUAL FRAMEWORK OF THE STUDY

According to Burns, Gray and Groves (2013:116) a conceptual framework is a logical structure of meaning that guides the development of a study and enables a researcher to link the findings to the body of knowledge. In contrast, a theory consists of integrated defined concepts and statements that can be used to discuss, explain, predict or control the phenomenon under study. The conceptual theoretical framework for this study was guided by Herzberg's two-factor theory (Bezuidenhout, 2014:319), the Nursing Act No.08 (2004:26), and the Health Profession Council of Namibia (HPCNA, 2015:7), which regulates the practice of CCNs in Namibia.

Figure 2.2 illustrates the conceptual theoretical framework related to shortage of staff and job satisfaction in CCUs. Herzberg theory and all elements thereof are discussed.

FIGURE 2.2 DIAGRAM ILLUSTRATING ELEMENTS OF THE CONCEPTUAL FRAMEWORK

The conceptual framework comprised Herzberg's two-factor theory of motivation. According to this theory, job satisfaction is a function of the extrinsic (hygiene) and intrinsic (motivator) factors (Bezuidenhout, 2014:314). These factors are discussed in 2.6.1 to 2.6.2.5 in this chapter. Furthermore, the conceptual framework constituted elements associated with shortage of staff in CCUs: critical care nurses, organisation, legislation and the patient. The above mentioned elements are discussed below.

2.8.1 CRITICAL CARE NURSES

Critical care nurses use their advanced skills to provide direct care for patients who are critically ill and at high risk of life threatening health problems (Prins, 2010:20). Moreover, they work in a stressful and challenging environment characterised by staff shortage, advanced technology, and ethical dilemmas (Bezuidenhout, Botha & Matlakla, 2014:6). Such a stressful condition is described in the literature. Funk and Wiengand (2012:481) found that nurses in CCUs are highly stressed by end of life situations such as medical

futility, organ donation and over use of analgesics. In addition, CCNs are unable to provide expected patient care due to shortage of staff of skilled critical care nurses (Coco, 2015:88).

2.8.2 Training of critical care nurses

In high-income countries such as Canada, Greece, Sweden and Korea, it has increasingly become a standard where the initial preparation of a registered nurse is at baccalaureate level (Benton, Beneit- Montesinos & Gonzalez-Jurado, 2013:163). According to these authors Baldin et al. (2010:21) CCNs need to be specially trained to provide comprehensive care to critically ill patients. Penoyer (2010: 122) also highlights that patients in CCUs are required to be cared for by highly skilled, trained and regulated nurses for better outcomes. Furthermore, Lakanmaa, Souminen, Ritamla-Castren, Vahlberg and Leino-Kilpi (2015:5) advocate for CCNs to be well trained before they can practice in CCUs. However, lack of training opportunities contributes to a shortage of skilled CCNs (Bassumi & Bayoumi, 2015:340).

In Namibia, to become a registered nurse, one has to undergo basic training for four years at training institutions that have been recognised and authorised by the National Qualification Authority (HPCNA, 2015:10). Thereafter, a registered nurse has to obtain an additional post-graduate qualification of one year on a full time basis in critical care nursing and should be registered with the Nursing Council of Namibia (Nursing, 2000:13). However, some nurses are reluctant to undergo training in critical care nursing since there is no extra remuneration upon completion which translates into shortage of skilled CCNs (Awases *et al*., 2013:np).

2.8.3 Legislations

Critical care nurses should be well trained and registered with the relevant regulatory bodies prior to working in CCUs. Moreover, CCNs are regulated by relevant law and different governing bodies. In America, for example, CCNs are regulated by the American Association of Critical Care Nurses (AACN), (2017:np) that provides guidance for the practice of them in critical care units. In South Africa, CCNs are regulated by the Nursing Act (Act no.33 of 2005: np), and the South Africa Nursing Council (SANC), which regulates all matters related to the nursing profession (Act No.33 of 2005: np, SANC, 2010:np).

In Namibia, the Constitution (Act 34, 1998:9) protects the rights of all citizens and ensures the right to access healthcare irrespective of their sex, age, race and social status. Chapter 3 of this constitution on the Bill of Rights places an emphasis on

democratic values and human dignity of all citizens, protection of life, equality and freedom from discrimination. However, the provision of safe patient care is hampered by the shortage of healthcare professionals in the country (Haoses-Gorases *et al*., 2014: 14). The Nursing Act 8 (2004:1) and the HPCNA (2014:8) regulate the practice of CCNs, and stipulate the minimum nurse to patient ratio in CCUs. Furthermore, Chapter 3 of the Labour Act No11 (2007:19) stipulates the basic conditions of employment under which CCNs should practice. Such conditions include a maximum of 40 hours per week, meal intervals of at least 60 minutes, and remuneration of staff who have worked overtime.

2.8.4 THE ORGANISATION

For an organisation to be productive and more effective, the working environment should be conducive. Hence, a CCU should have the latest equipment, qualified nurses, and appropriate staffing strategies. The implementation of such strategies takes cognisance of the economic situation of an organisation.

2.8.4.1 ECONOMIC FACTORS

Every organisation requires money to function effectively, for example, to acquire and maintain physical facilities, equipment and human resources (Bezuidenhout, 2014:120). Human resources, nurses in particular, constitute a substantial portion of healthcare costs since they are the largest group of health- workers (Bezuidenhout, 2014:33). Budget restrictions and lack of resources often limit the number of nurse recruitments and thus make it hard to deal with an increase demand of care in CCUs (Alderson *et al*, 2011:2). Critical care units also require a comprehensive team consisting of a medical team, therapy team (physiotherapy and occupational therapy), dieticians, and pharmacist, to provide holistic care to patients, consequently increasing the total cost in CCUs (Editrooke, Seidel & Whitting, 2013:160). According to Jacob, Mckena and D'Amore (2013:423) financial implications are the main contributing factor to staff shortages.

In South Africa, a lack of human resources prompted organisations to utilise agency nurses who are far more costly and thus increase financial implications of an organisations (Moorman & Rispel, 2015:5). The authors further explained that one hospital spent about R40 million on agency nurses in one financial year. Despite these findings, working as a nurse in a CCU is stressful; the salaries of nurses have been reported to be low in comparison to the type of work they do (Alderson, *et al.*, 2011:1). Owing to this, some young people are not opting for nursing as a career; some nurses migrate to other countries hoping for better wages (Dywili & O'Brien, 2013:515).

According to the 4th National Development Plan (NDP4) (2016/2017:55) the Namibian health sector always receives the second highest budget from the ministry of finance. According to the budget statement for (2016/17:20) financial year, MOHSS received a total of N$ 7.23 billion. Owing to the economic downturn in 2016, all budget allocations to all ministries were reduced; the budget for MOHSS was reduced to N$6.95 billion (Mid-term Budget Review, 2016:45). This resulted in the utilisation of different cost containment measures including freezing of certain posts and a reduction in overtime expenditure (Nghidengwa, 2017:np). In addition, a reduction in budget allocation might result in nurses leaving the country in search of better working conditions which will worsen the shortage even further (Aswegen & Manyisa, 2017:31).

2.8.4.2 HEALTHCARE DELIVERY MODELS

The effective delivery of nursing care is dependent on work organisation within a specific unit. Different healthcare delivery models exist; they enable a nurse manager to organise and allocate nursing care tasks (Bezuidenhout, 2014:221). Such models are: functional nursing, team nursing, and case method. The latter is the commonly model used in CCUs; one nurse is allocated to care for one or two patients and is responsible for all the needs of these patients (Bezuidenhout, 2014:224). However, due to staff shortage, other methods, such as team nursing and patient centred-care, are used to deliver patient care (Loughram, Puthawala &Sutton, 2017:119). Fernandez, Johnson, Tran & Miranda, 2012:332 (2017:119) support the use of team nursing. They state that the care delivered by a dedicated team results in positive patient outcomes, decreased adverse patient events, and therefore improves a team's job satisfaction.

2.8.4.3. STAFFING STRATEGIES IN CRITICAL CARE UNITS

According to the Intensive Care Society (2013:7) there are several standards used to guide staffing strategies in CCUs. These include: the staff skill mix, the use of agency, and other categories of nurses in CCUs care units. These staffing strategies are discussed below.

2.8.4.3.1 STAFF SKILL MIX

Nursing skill mix comprises different levels of nurses, including level of qualifications, expertise, and experience available for patient care during a nursing shift (Hall, 2009: 7). Nursing skill mix differs according to the country in which they are employed and the acuity of patients (Jacob *et al*., 2015:422). In CCUs staff skill mix is appropriate when each shift comprises a higher proportion of registered nurses in comparison with other categories of healthcare workers (Hall, 2009: 7).

However, in USA, for example, the Faculty of Intensive Care Medicine (FICM), and the Intensive Care Society (ICS, 2013:7) stipulate that each CCU should have a shift leader who is responsible for all elements of nursing care. Furthermore, FICM and ICS (2013:7) recommend a minimum of 50% of registered nursing staff with post- registration qualifications in critical care nursing. Several studies support a higher proportion of registered nurses since it has been associated with positive patient outcomes (Chang, Hsu, Marsteller & Thompson, 2013:5; Aiken *et al*., 2016:7; Bloom, Hastings, Sharma & Suter, 2016:6).

Owing to the unavailability of CCNs in hospitals, management utilises various staffing strategies such as the patient acuity score, use of agency nurses, general ward staff, and other categories of nurses, in an attempt to maintain the recommended nurse to patient ratio (Kleinpell, 2014:1291). Nonetheless, the ICS (2013: 9) suggests that units should not utilise greater than 20% of registered nurses from agencies or other wards on any shift when they are not their own staff.

Moreover, Baldin, Bray, Goodman, Gibson, Ledger, Walsh and Wren (2010:20) found that if a CCN staff skill mix is inappropriate whereby some nurses are incompetent, it will influence the role of the experienced nurse by increasing responsibility and workload as well as poor patient outcomes. Subsequently, this leads to fatigue, burnout, and job dissatisfaction, and ultimately increases staff turnover (Ganz & Toren, 2014:7). Increased workload and an inappropriate staff skill mix have been associated with high staff turnover that consequently contributes to shortage of staff and negatively affects the quality of patient care (Jacob *et al*., 2015:424).

2.8.4.3.2 AGENCY NURSES

Agency nurses are mainly used to alleviate staff shortages in countries such as USA, England, and South Africa. However, these nurses are employed by agencies and not by hospitals and their work is scheduled by such agencies (Shuldham, 2016:np). Rispel and Moorman (2015:np), in their study on the indirect cost of agency nurses, found that although agency nurses might help in maintaining the recommended nurse to patient ratio, the quality of patient care may be compromised.

2.8.4.3.3 OTHER CATEGORIES OF NURSES

Owing to a shortage of critical care nurses, management utilises other categories of nurses to assist in critical care. Due to a shortage of CCNs in the USA, management utilised other categories of nurses to assist in CCUs (Bae, Brewer, Maureen & Spencer, 2014:982). These authors found that various categories of nurses were used in CCUs in

the USA. These categories include registered nurses (RNs), licenced practical nurses (LPNs) such as professional registered nurses, and unlicensed assistive personnel (UAP) such as ward assistants or care-workers.

The same practice was confirmed in South Africa as apart from nurses, other personnel, for example, care-workers are utilised in CCUs (Myburgh, Poggenpoel & Van Der Heever, 2013:np). These care-workers have not gone through a formal nursing training programme and are only utilised to perform basic care (i.e. feeding, turning, etc. of patients) under direct supervision of professional nurses. Regardless of the utilisation of auxiliary staff (care-workers), CCNs still find it difficult to effectively function in under-staffed CCUs (Adams, 2009:57, De Gieter *et al*., 2011:1566, Kirstin, 2012:29, Kleinpell, 2014:1291).

Botha and Matlakla (2016:55) revealed that the inability to cope with staff shortage in CCUs is influenced by the work environment, lack of managerial support, and increased workload. Furthermore, constant supervision of some temporary and assistive staff, such as care-workers and agency nurses who seem to be less skilled, increases the workload of CCNs (Cowen & Moorhead, 2011:392). This increased workload for them results in job dissatisfaction and ultimately staff turnover.

In Namibia, inexperienced registered and enrolled nurses are employed in CCUs in an attempt to meet the recommended 1:1 or 1:2 nurse to patient ratio (HPCNA, 2014:7). However, the utilisation of such categories of nurses compromises patient care and increases patient mortality (Aiken *et al*., 2016:7).

2.8.5 PATIENT

The patient is the central point in the healthcare delivery system and healthcare services and has the right to safe and quality care. Critically ill patients require more complex care thus**,** experienced staff is needed to care for such patients (Barron et al., 2014: np). When patients are satisfied with the care received, nurses feel good about themselves and thus become very motivated (Adams, 2009:20). Patient care is considered to be of quality if it is safe, effective, reliable, patient-centred, timely, efficient, and equitable (Hughes,2008:np). Patient classification and nurse to patient ratios should be appropriate in order to provide quality care. These types of classification systems are briefly discussed.

2.8.5.1 PATIENT CLASSIFICATION

According to Bezuidenhout (2014: 40), patient classification refers to the categorisation of patients according to an assessment of their nursing care requirements. Patient

classification systems (PCS), also known as patient acuity systems, are used to assist a nurse leader to determine workload requirements and staffing needs (Berbarie, 2012: np). One method of patient classification in a CCU is by task quantification which mainly focuses on patient needs. Patients are grouped according to the acuity of their needs, and the degree of their dependency on nurses (Sayed & Zinhom, 2016:np).

Patients can also be classified by using other methods of classification: protype evaluation system, and the factor evaluation system, for example (Benzuidenhout, 2016:41). The former allocates nurses based on the time required to complete a task within a specific category of patients (Malloch & Miesel, 2013:35). The latter, on the other hand, assigns nurses based on the number of nursing care elements required by a patient: bathing, feeding, medication administration, monitoring of vital signs, and psychosocial support, for example (Bezuidenhout, 2014:44).

In Namibia, CCNs are mainly allocated tasks based on a patient's needs and the competence of a nurse. A patient who is critically ill demands a lot of attention and may require two CCNs to ensure quality patient care (Intensive Care Unit Staffing Guideline, 2015:7).

2.8.5.2 NURSE TO PATIENT RATIO

A CCU is adequately staffed when there is an appropriate skill mix of competent nurses to meet the demands of patients through the recommended nurse to patient ratio of 1:1 (Court right & Kerlin, 2014:206). Governing bodies, i.e. American Association of Critical Care Nurses (AACN) recommend a minimum nurse to patient ratio of 1:1 or 1:2 in critical care units (FICM & ICS, 203:7). Similarly, the Health Policy Commission in the USA (2015:3), recommends a nurse to patient ratio of 1:1 or 1:2 in all CCUs depending on the stability of the patients. The ratio should, therefore, not exceed 2 patients for one nurse (Mount Hood Medical Centre, 2016:1). As a global practice, the South African Nursing Council (SANC), 2015:2), and the HPCNA (2014:7) also recommend a nurse to patient ratio of 1:1or 1:2 in CCUs.

Owing to a shortage of nurses, such ratios are not always attainable. A descriptive study done in the USA and Canada indicated a high mean ratio of 1:3 in paediatric units and 1:4 in adult units (Houghton, Kleinpell, Lynn & Mollenkopf, 2015:18). South Africa also has a higher nurse to patient ratio in CCUs. Botha and Matlakala (2016:53) found that one critical care nurse can be allocated to four patients making the ratio 1:4 which is a burden and negatively affects the quality of patient care.

Similarly, Namibia also has a higher nurse to patient ratio. According to the WHO Report (2014:np), Namibia has three health-workers per 1000 population, with specifically a 1:

704 ratio for registered nurses. This nurse to patient ratio was attributed to be the leading cause of delays in patient care at hospitals and poor quality of patient care (Haoses-Gorases *et al*., 2014:15). There is limited published research available**,** specifically for the implementation of nurse to patient ratio in CCUs in Namibia. The researcher observed a nurse to patient ratio ranging from 1:3 to 1:4.

2.9 SUMMARY

The reviewed literature provided information about the factors contributing to staff shortage. The relationship between job satisfaction and staff shortage was illustrated by discussing factors related to organisation, critical care nurses, regulations, and the patient. The influence of staff shortage on quality of patient care in critical care units was also discussed. The next chapter presents the research methodology that was used to explore the experiences of critical care nurses at a regional hospital in Namibia.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter presents the research methodology that was applied to explore the experiences of critical care nurses regarding staff shortage at a regional hospital in Namibia. All basic strategies, adopted by the researcher in order to answer the research questions, are presented (Polit & Beck 2010:222). According to Burns, Gray and Groves (2013:23) research methodology refers to the methods used to pursue knowledge or evidence for practice.

3.2 RESEARCH AIM

The aim of the study was to explore the experiences of critical care nurses regarding staff shortage at a regional hospital in Namibia.

3.3 RESEARCH OBJECTIVES

There were three objectives, namely

- To explore the experiences of critical care nurses on how staff shortage relates to the current staffing strategies.
- To explore the experiences of critical care nurses on staff shortage and quality of patient care.
- To determine ways to enhance staffing management in the critical care unit at the hospital under study.

3.4 STUDY SETTING

This study was conducted at a critical care unit of the Oshakati State Hospital (OSH) located in Oshana region, in the northern part of Namibia. This critical unit has a bed occupancy capacity of six. The unit accommodates patients with all types of diseases who require critical care. Patients may be new-borns, children and adults with surgical or medical complications. There are 18 enrolled and registered nurses in the unit who are responsible for providing care to patients.

3.5 RESEARCH DESIGN

A research design elucidates the basic strategies that a researcher adopts in order to answer questions and test a hypothesis (Polit & Beck, 2010:222). In this study a

descriptive qualitative design was employed to explore the experiences of critical care nurses regarding staff shortage (Burns, Gray & Groves: 2013:66)

3.5.1 EXPLORATORY - DESCRIPTIVE QUALITATIVE DESIGN.

According to Burns, Gray and Groves (2013:66) an explorative descriptive qualitative design refers to all qualitative studies that do not clearly fit to be labelled as either grounded, phenomenology or ethnographic. Furthermore, Polit and Beck (2010:22), postulate that descriptive designs aim at describing the dimensions, variations and importance of phenomena resulting in thicker descriptions; exploratory investigates the full nature of a phenomena, its manifestations and its contributing factors. Exploratory-descriptive studies are conducted to investigate the problem at hand and address an issue in need of a solution by seeking viewpoints of the people who are most affected (De Vos *et al*., 2011:95). The researcher used this design in order to understand the experiences of critical care nurses with regards to staff shortage so that appropriate staffing strategies could be employed for them.

3.6 POPULATION AND SAMPLING

The term population refers to an entire set of elements, or cases, in which a researcher is, interested (Polit & Beck, 2010:306). The population included n = 18 critical care nurses who were working at the OSH critical care unit. However, since one cannot always study the whole population, a portion of the population was selected to represent the entire population through sampling (Burns, Gray & Groves, 2010:44). A sampling process is facilitated by using a sampling plan in order to select participants that are a true representative of the whole group so as to avoid sampling bias (Polit & Beck, 2010:307).

Purposive sampling was used in this study to select participants who had knowledge pertaining to the phenomena under study (Polit & Beck, 2010:312). The sample comprised the unit manager, trained critical care nurses, and all experienced registered and enrolled nurses who had been working in the critical care unit for at least one year. Moreover, this ensured that critical care nurses were exposed to a critical care environment. A total of eleven participants (n =11) were selected purposefully and they participated in the study. Information regarding the total numbers of nurses in the critical care unit was obtained from the unit manager after ethics approval had been obtained to conduct the study. Sixteen out of 18 critical care nurses met the inclusion criteria and were contacted to participate in the study. The other two critical care nurses did not meet the inclusion criteria since they have less than 12 months of exposure to the critical care

unit environment. Fourteen participants agreed to participate in the study but only 11 were interviewed as data saturation was achieved with the 11th participant.

According to Burns, Gray and Groves (2013:371), a sample size is determined by the scope of the study, nature of topic, quality of data and study design. Furthermore, the number of participants was determined by participants' sufficiency and information saturation (De Vos *et al*., 2011:350). Consequently, based on the recommendations of Polit and Beck (2011:323), a sample of 11 critical care nurses was selected and data saturation was achieved. De Vos *et al*., (2011:350) maintain that there are not a specified number of participants to be interviewed. However, a sample size should meet two criteria: sufficiency and saturation. Sufficiency means that there should be sufficient numbers to reflect the entire population; saturation is reached when a researcher is no longer getting any new information. Furthermore, Polit and Beck (2010:323) state that depending on the design, a sample size of 10 is sufficient to understand the views and experiences of a certain population. Consequently, 11 individual interviews were conducted using a semi-structured interview guide and data saturation was reached.

3.6.1 Selection of participants

Permission to conduct the research was granted by the hospital manager at OSH and the unit manager. Participants who met the inclusion criteria were selected by the researcher with the assistance of the unit manager. Contact details of potential participants were obtained from the unit manager; they were contacted telephonically. The researcher explained the study to them telephonically. This was necessary as the researcher and study population were not in close proximity. A fieldworker was employed to assist with data collection. The fieldworker was provided with the names and contact details of all participants who had agreed to participate in the study. Individual interview scheduling was done as per each participant's preferences.

Individual sequential interviews were conducted from July to August 2017. Data saturation was reached by the 11th interview.

3.6.2 Inclusion criteria

The inclusion criteria for this study were all the critical care nurses who had been working in the critical care unit for at least 12 months.

3.6.3 Exclusion criteria

Critical care nurses who had been working for less than 12 months in the critical care unit of the hospital under study were excluded from the study as they may not have been

sufficiently exposed to the critical care unit environment. Potential participants, who were on leave and could not be available during the time of data collection, were also excluded from the study.

3.7 INSTRUMENTATION

Instrumentation refers to the method or tool a researcher utilises in order to gather information necessary for a study (Buns, Gray & Groves, 2013:44). The choice of data collection tool or instrumentation is guided by the methodology and objectives of a study (Polit & Beck, 2010:339). For this study, a semi- structured interview guide was used to collect data.

3.7.1 SEMI-STRUCTURED INTERVIEW GUIDE

A semi-structured interview guide with closed and open-ended questions was used to ensure consistency in collecting data from all participants (Holloway & Wheeler, 2013:89). It was used since the researcher had a list of broad questions that needed to be addressed during each interview (Polit & beck: 2010:341).

The guide was based on the objectives of the study. It was validated by the researcher's supervisor and co-supervisor (De Vos *et al*., 2011:349). It consisted of two sections. Closed-ended questions were used in section A for the demographic data; open-ended questions were used in section B to obtain information based on the objectives of the study and the literature reviewed.

The inclusion of open-ended questions enabled the researcher to get the respondents' views about the problem being explored. Moreover, a semi-structured interview guide was used as it allowed the researcher to be flexible on the sequencing of follow-up questions while remaining open to the responses of the participants (Burns, Gray & Groves, 2013:271).

All interview sessions began with a general warm up question which was: "can you describe your experiences regarding staff shortage at this regional hospital"? This question was then followed by probing, prompting and summarising (see Annexure 1). According to Holloway and Wheeler (2013:92) this technique helps to reduce anxiety, search for elaboration, and encourages more talking. The probing questions included: "what are the challenges in the critical care unit? What coping strategies have you been using? What kind of support have you been receiving? How does the shortage influence patient care"?

Examples of questions related to Herzberg two-factor theory were: “how is your working environment? How is your relationship between colleagues? What incentives are you receiving for the services you render and what are the opportunities in place for recognition and achievement?” These questions were asked to determine the level of job satisfaction among critical care nurses.

3.8 PILOT INTERVIEW

According to De Vos *et al*. (2011: 394) a pilot interview is usually conducted informally with a few participants who meet the same characteristics as those of the main investigation. It assists a researcher to make modifications to the design or data collecting instrument.

For the aim of this study, one pilot interview was conducted with one participant (a unit manager) who met the selection criteria. The pilot interview assisted in assessing the reliability and validity of the interview guide, and suitability of the interview schedule (Burns, Gray & Grove, 2013:343). In addition, the pilot interview assisted to determine the number of codes per question as well as in assessing the effectiveness and competence of the interviewer (De Vos *et al*., 2011: 395). Furthermore, it assisted to estimate the cost and length of the main study (De Vos. *et al*., 2011:395). No problems were identified and as such, no amendments were made to the interview guide.

Based on the work of Andrew, Davis and Kraemer (2012:3) data from the pilot interview were included in the findings of this study. This data provided valuable information about the experiences of critical care nurses which could not be lost or left out of the study.

3.9 TRUSTWORTHINESS

According to Holloway and Wheeler (2013:298), trustworthiness in qualitative research demonstrates the carefulness and appropriateness of a study. Lincoln and Guba (1985: np), as cited by De Vos *et al*. (2011:419), developed four criteria to be used when assessing trustworthiness in qualitative research. Each criterion is briefly discussed.

3.9.1 CREDIBILITY

De Vos *et al*. (2011:420) state that credibility is concerned with the truthfulness of the study findings. For this study, semi-structured interviews, tape recordings and verbatim transcriptions assisted in ensuring credibility (Streubert & Carpenter, 2010:94). Furthermore, member checking was used to ensure credibility of the study; the fieldworker provided feedback to participants about emerging interpretations and then obtained participants’ responses regarding the credibility of the collected data (Polit & Beck, 2010: 499).

Transcribed data were shared with the participants to ensure accuracy of the transcriptions. Transcripts, via the courier services, were sent to the fieldworker who facilitated the whole verification process. Participants were then informed telephonically that the transcripts were ready for them to verify. Member checking was done and all participants were in agreement that the content of the transcripts was a true reflection of their views and experiences. The supervisor and co-supervisor also reviewed the transcriptions against the developed themes in order to assess whether the researcher's interpretations truly represented the realities of the participants (Polit & Beck, 2011:4).

3.9.2 TRANSFERABILITY

In qualitative research, transferability demonstrates the ability for research findings to be transferred or applied in other settings by providing sufficient descriptive data in the final research report (Polit & Beck, 2010:492). The researcher provided detailed information on how participants were selected, how data were collected, analysed and interpreted. Information from several sources in the literature review was also included in the study to enhance transferability, and for a reader to decide on the applicability of the findings (Hansen, 2006:49). Thick or detailed descriptions on data collection and data analysis are provided for a reader to decide on the possibility of transferability (De Vos *et al*., 2011:420). Furthermore, the researcher incorporated the concepts and models contained in the conceptual framework of Herzberg's theory to enhance transferability of the study.

3.9.3 DEPENDABILITY

Dependability relates to the reliability of data over time and different conditions; it refers to the details and information provided by a study. Consequently, this allows others to reach the same conclusions by replicating the methods of a researcher (De Vos *et al*., 2011:420). In this study the transcripts were discussed by the fieldworker and the researcher to confirm the authenticity and accuracy of the actual data as recorded during the interviews. The methodology and methods of data collection and data analysis were verified by the supervisors, and were clearly stipulated and transparent to enhance study dependability (Hansen, 2006:49).

3.9.4 CONFIRMABILITY

Confirmability refers to objectivity and potential for congruence between two or more independent people about the accuracy, relevance and meaning of data (Polit & Beck, 2010:492). Consequently, the findings of the study were reviewed by the researcher's

supervisor and co-supervisor in order to remove her own opinions to focus directly on the data (De Vos *et al*., 2011:421).

The link between raw data, findings and interpretations was confirmed by the supervisors through an audit of the tape recordings and transcripts. Themes and subthemes were developed by the researcher in agreement with the supervisor who checked that transcripts and themes resembled raw data (De Vos *et al*., 2011:421).

3.10. ETHICAL CONSIDERATIONS

Permission to conduct research was obtained from the Health Research Ethics Committee of Stellenbosch University, reference S17/03/068 (see Annexure 3), and MOHSS in Namibia (see Annexure 5). The researcher received permission to conduct the study from the management of OSH (see Annexure 7). The following ethical principles were adhered to.

3.10.1 Informed consent and voluntary participation

The participants were informed that participation in the study was voluntary and nothing would be held against them should they refuse to partake in the study or if they decide to withdraw at any time (Burns, Gray & Grove, 2011:177).

A consent form was given to the participants to sign if they agreed to participate in the study. They were also asked to provide permission to be recorded during their interviews (see Annexure 2).

3.10.2 Anonymity and confidentiality

The participants' identities were not revealed. Instead of using their names, numbering was used for participants (e.g. Participant 1 or P1). The transcripts were numerically coded. Only the researcher, research supervisor and fieldworker were able to match participants' names to the numbers assigned to them.

The recordings and transcripts have been stored and locked in a secure area where they will be kept for a minimum of five years for auditing purposes (Burns, Gray & Groves, 2013:531).

3.10.3 Autonomy

The selected participants were allowed to voluntarily make free informed decisions to partake in the study without any form of coercion or intimidation (Holloway & Wheeler, 2013:54). Participants were also allowed to freely decide on the time and place of where the interview would be conducted that was convenient for them.

3.10.4 NON-MALEFICENCE AND BENEFICENCE

This study did not pose any direct harm or threat to the participants. However, it might have evoked some unpleasant experiences; some participants might have felt uncomfortable with their interview (Holloway & Wheeler, 2013:54). Nevertheless, none of the participants became uncomfortable, emotional or requested counselling. They were informed of an option to be referred to a professional counsellor. None used this option.

The study did not have direct benefits either. Nevertheless, the recommendations from the study are anticipated to result in good staffing strategies that might benefit future critical care nurses at OSH.

3.11. DATA COLLECTION

Data collection refers to a systematic way of gathering information that is based or aligned with a research purpose (Burns, Gray & Groves, 203:45). Data refers to pieces of information which have been obtained in a study to be interpreted to draw conclusions (Polit & Beck, 2010:67). In order to explore the experiences of critical care nurses regarding staff shortage at OSH 11 semi-structured interviews were conducted until data saturation was achieved (De Vos *et al*., 2011:351). Since the researcher had worked with the population under study, researcher bias was avoided by using a fieldworker, who is a lecturer in possession of doctorate degree, to collect data. The fieldworker had prior training in qualitative research and interview techniques form the University of Stellenbosch thus conducted the interviews.

3.11.1 INTERVIEW SETTING

The interviews took place in natural settings. The environment was quiet, comfortable and non-threatening (De Vos *et al*., 2011:350). The initial venue (boardroom) had been booked by the researcher, but could not be utilised since it was occupied with other engagements of OSH during the time of data collection.

Therefore, a total of three venues were used for the interviews based on the availability and preference of the participants. Eight interviews took place in the critical care unit manager's office, one interview took place at a participant's home, and the other two interviews took place in a small room within the critical care unit.

Owing to this, all venues that were utilised were a bit noisy. Those at the hospital experienced ringing of the telephone in the office; this was a source of distraction to participants. Although it is advisable to divert or silence the telephone during interview, this telephone could not be diverted or silenced due to the nature and business of the

critical care unit. Nevertheless, this situation did not negatively influence the process of data collection.

3.11.2 INTERVIEW PROCEDURE

Before the interview commenced, participants were made comfortable and at ease. They were then asked to voluntarily sign that they consented to participate in the study and for their respective interviews to be recorded. They were also provided with the information leaflets well in advance to familiarise themselves with what is expected from them. De Vos *et al*. (2011:353) state that an interview guide should be handed to participants so that they can decide on which questions they wish to answer at a specific stage. The interview guide was provided a day prior to each interview to allow each participant to prepare and to avoid unnecessary delays during the interview.

Since the researcher worked in the critical care unit of the hospital under study, as stated in 3.11 an independent person not affiliated to OSH conducted the interviews, so as to prevent bias (Holloway & Wheeler, 2013:97). The researcher and the fieldworker deliberated on the interview guide to clarify all the information before interviews were conducted.

The interviews were recorded using a digital tape-recorder. This ensured that data were captured accurately. Field-notes were written immediately at the end of the interview session so as not to forget important observations (De Vos *et al*., 2011:359). Data were then collected using the semi structured interview guide. Open-ended questions such as "What are your views, can you explain how, what do you think and what do you suggest" were posed to make participants feel at ease (De Vos *et al*., 2011:353).

Probing words such as: workload, stress, challenges, consequences, satisfying, supportive and incentives (see Annexure 1) were used during the interviews to obtain more information. Debriefing was done after each interview to ensure that participants were fine and to assess whether there was a need for emotional support (Polit & Beck, 2010:130). The researcher resides two thousand kilometres away from OSH and therefore could not be present during the interviews. Neither could the supervisor and co-supervisor be present at the interviews as they are based in South Africa. The recordings and interview transcripts were sent to the supervisor for authenticity.

Ten of the interviews were conducted while participants were on duty mostly during their lunch hours or free time to ensure that the interviews did not interfere with their work. One participant was interviewed when she was off duty because she is mostly busy throughout the day when at work; she also preferred to be interviewed at her home.

Participants were addressed as P1 or P2 and no names were mentioned by the fieldworker during interviews so as to ensure anonymity.

Although the initial plan was to conduct all the interviews in English, which is the official medium of communication at OSH, some interviews were conducted in the participants' local language (Oshiwambo). This was done to allow them autonomy to freely express themselves. Three participants were interviewed in Oshiwambo as it was the language they were comfortable using. The researcher and fieldworker could understand Oshiwambo.

The study did not pose any direct risk or harm to the participants and it did not evoke any unpleasant emotions from them. They seemed happy and laughing as they expressed themselves more freely. To maintain confidentiality, the information obtained from the participants was only shared between the fieldworker, principal researcher and the two supervisors.

3.11.3 DATA COLLECTING INSTRUMENT

After obtaining consent from each participant to record what they said, interviews were recorded using both electrical and battery-operated tape-recorders as a backup in case of power failure (De Vos *et al*., 2011:359).

3.10.4 TIME FRAME

Data collection commenced later than what was anticipated due to the unavailability of the fieldworker. Consequently, data were collected from 28 July to 11 August 2017.

3.11.5 INTERVIEW DURATION

According to Jamshed (2014:87), the duration of an effective semi-structured interview varies between 30 minutes to more than an hour. In this study the interviews lasted between 30 to 60 minutes based on the pace of each participant's responses.

3.12 DATA ANALYSIS

Qualitative data refers to the process of examining and interpreting data in order to get meaning, gain understanding and develop knowledge (Burns, Gray & Groves, 2013:279). In this study the data were recorded as explained in 3.11.3 and then personally transcribed by the researcher. This aided the researcher to immediately be immersed in the data. Analysis of data was done manually using iterative thematic analysis to identify important themes that emerged (Hansen, 2006:148). This process required the researcher to find overriding abstract ideas that summarised the phenomenon of interest (Burns, Gray & Groves, 2013:284). The researcher used

bracketing, whereby the researcher identified and set aside her preconceived opinions regarding the problem under study (Polit & Beck, 2010: 268). This ensured that data analysis was guided by the available data rather than what was previously known by the researcher. The researcher read and reread the transcripts in order to identify themes and categories (Hansen, 2006:149).

Collected data were analysed according to the steps described in Burns and Grove (2011:93), and are described below.

3.12.1. TRANSCRIBING INTERVIEWS

The recorded interviews were transcribed verbatim after all the interviews were completed. All expressions such as exclamations, laughter, crying and expletives were included in the text and separated from the verbal text by square brackets. The following paragraph is an example of a transcription from one of the participant's interview. Verbatim statements are presented in italics.

Interviewer: "*have you ever experienced a situation where there are patients that are supposed to be nursed here and yet you do not admit them because there is no space''?*

Participant: "*yes. I have experienced it a lot because as I said we only have six beds so if all those six beds are occupied there are times that we have emergency in casualty that needs ICU care so those patients end up being in general wards.*"

3.12.2 IMMERSION IN THE DATA

Since the researcher transcribed the interviews herself, the researcher immediately immersed herself in the data. During this stage, the researcher became familiar with the collected data by reading and rereading the transcripts, reading field-notes for recorded observations and experiences, as well as listening to the audio-tapes repeatedly. This practice assisted the researcher to gain a better understanding of the topic (Burns & Groves, 2011:94).

3.12.3 DATA REDUCTION

During this step, the researcher reduced the acquired data and tentatively attached meanings to elements in the data. Data were reduced by classifying them into main categories based on the words used by the participants (Polit & Beck, 2010:405). Data were grouped in an orderly manner to prevent misinterpretation and omission of any information. Deductive and inductive approaches were used to group categories and themes in terms of study's aims and objectives, available literature, and the theoretical framework (Burns & Groves, 2011:94). The researcher grouped findings that were similar

to those in the literature related to the influence of staff shortage. The participants' experiences regarding staff shortage were classified into how the latter affected nurses' wellbeing, job satisfaction, work environment and patient care.

3.12.4 CODING

According to Burns and Groves (2011:94), coding refers to the process of reading data, breaking the text down into smaller parts and labelling those parts. As a result, hand-written codes were used to classify words and phrases in the data. Numerical codes such as P1 or P2 were used to ensure, and maintain, the anonymity of participants.

3.12.5 REFLECTION

In qualitative research, reflection occurs when a researcher is aware and critically examines interaction between self and data to identify his or her own biases, preferences and preconceptions (Polit & Beck, 2011:566). Qualitative studies require interaction between a researcher and the data. In this study the researcher set aside her own preconceived ideas and concentrated on the available data (Burns & Groves, 2011:96).

3.12.6 IDENTIFYING THEMES

Themes and subthemes were developed from the codes linked to data from the participants. Codes are descriptive and closely relate to transcribed text whereas themes are inferred from codes (Burns & Groves, 2011:96). Codes that frequently appeared were grouped to form a theme and then subthemes. Both were amended as the researcher kept reading, and re-reading the transcripts, and recaptured new information that might have been missed or misplaced (Polit & Beck, 2010:470).

3.12.7 INTERPRETATION

Burns and Groves (2011:95) suggest the process of interpretation includes a wide range of steps and phases. In this study the researcher examined the findings and verified evidence through peer reading. The researcher's interpretations were further verified by her supervisor and co-supervisor, and then a conclusion was reached. The researcher then explored the significance and meaning of data by contextualising the findings and linking themes to each other. This was followed by her generalising the findings, considering implications, and suggesting possible future research. Lastly, the researcher compiled a report of the interpretations that emerged from data analysis.

3.13 SUMMARY

This chapter covered a description of the research process, methodology and data collection methods that were applied. Seven steps of thematic analysis were used to explore the experiences of critical care nurses regarding staff shortage. Trustworthiness was ensured by using criteria of Lincoln and Guba as described in De Vos *et al*. (2011:419). The next chapter contains the findings of the study.

CHAPTER 4

DATA ANALYSIS AND INTERPRETATION

4.1 INTRODUCTION

The previous chapter contains a description of the methodology that was applied in the study. This chapter provides a discussion on the findings of the study. A series of steps was followed in the process to analyse the data. Raw data were transcribed verbatim, and then analysed according to the steps described by Burns, Gray and Groves (2013: 279). These steps are described in chapter 3, section 3.12.

The findings are presented in two sections. Section A relates to the demographic data; Section B focuses on the themes and subthemes that emerged from the collected data.

4.2 SECTION A: DEMOGRAPHICAL DATA

Eleven (n=11) nurses working in the critical care unit (CCU) were interviewed. Three (n=3) were enrolled nurses, and eight (n=8) were registered nurses. Four participants worked night shift whereas seven worked day shift.

4.2.1 AGE

The ages of participants ranged from 29 to 56 years. Four participants were between 30 to 39 years old, two between 40 to 49 years, four were between 50 to 59 years, and one was in her twenties. The information is in line with that of Hill (2011:1) in that the nursing cadre appears to have a larger component of older nurses and smaller numbers of young nurses. This situation poses staffing challenges for both the unit and hospital managers should the older nurses retire (Benbow, Collin-McNeil & Sharpe, 2012:51).

4.2.2 GENDER

One male and ten females participated in the study. The higher number of female participants could be ascribed to the low intake of male students, as well as the attrition of male students from nursing schools (Mclaughn, Muldoon & Moutray, 2010:306).

4.2.3 HIGHEST QUALIFICATION IN CRITICAL CARE

Only five of the participants were trained critical care nurses. The remaining six participants (three registered and three enrolled) nurses had experience, but were not trained in critical care nursing. Langley, Kisoro and Schmollgruber (2015:38) in their study also reported a low number of trained critical care nurses.

4.2.3 YEARS OF EXPERIENCE IN CRITICAL CARE NURSING

The participants' work experience in CCU ranged from two years to 24 years. The length of employment of four participants was two to six years. The majority had worked nine to 24 years in the critical care unit. This shows that most participants with extensive working experience are categorised under a generation of baby boomers who are found to be loyal and committed to their work (Bell, 2013:206).

4.3 SECTION B: THE EMERGENCE OF THEMES AND SUBTHEMES

Table 4.1 presents the seven main themes and 22 subthemes that emerged from the data. These are discussed below. Participants' verbatim statements are in italics.

TABLE 4:1 THEMES AND SUBTHEMES THAT EMERGED

THEMES	SUBTHEMES
Staffing strategies	Nursing care delivery methods Staff skill mix Supportive staff
Workforce planning and management	Staff allocation and delegation Recruitment
Job satisfaction	Motivation Work commitment and pride Patient outcome
Continuous professional development	Formal training In-service training Self-learning
Critical care work environment	Work conditions Physical environment Social environment Availability of resources Leadership and support Incentives
Occupational health and safety	Physical health Psychological health
Quality of patient care	Delayed patient care Patient neglect Holistic or comprehensive care

4.3.1 STAFFING STRATEGIES

Nursing care in CCU can be delivered through a case method where one nurse is assigned 1 or 2 patients or team nursing where responsibilities are assigned according to rank and the group as a whole is responsible for the delivery of care. The findings

demonstrate that although the case method is practiced (nurses are assigned to care for certain patients) the staff in the CCU ultimately uses and prefer the team method as they find it more useful in ensuring that all nursing tasks are completed at the end of a day. It therefore appears that a combination of team nursing and total patient care (case method) is practiced.

Nursing care delivery methods - Participants indicated that the current staffing strategies used in the CCU are insufficient or inappropriate. Participants repeatedly stated that an insufficient number of skilled nurses, and the absence of supportive staff, resulted in an inappropriate staff skill mix. Moreover, participants indicated that they use team nursing as model of health care delivery and that enabled them to cope with the work demands of the CCU. A number of them felt that despite the teamwork, additional supportive staff could assist with some non-nursing tasks. These repeated concepts emerged as subthemes under staffing strategies.

Participants indicated that they mostly utilised team nursing as a model for delivering nursing care. Therefore, team nursing assisted critical care nurses in providing quality patient care as stated below.

> "…*we usually try our best to render the service to the patient as required: yeah, so we work as a team"* (Participant 2, (RN) Registered Nurse).

Furthermore, another participant argued that they cannot work according to patient delegation as they are sometimes unable to perform tasks expected of them.

> *"…so sometimes also we don't coz we are supposed to work according to delegation but if you just can't be focusing on the two patients that you are delegated on it, it, it won't. You might not do what you were supposed to do"* (Participant 3, RN).

Participants also revealed that due to insufficient numbers of critical care nurses (CCNs), case delegation is not always possible. As a result, CCNs divide nursing tasks such as admissions, evaluations, medication administration, and feeding of the patients, among themselves. This means that when other CCNs are busy, one CCN performs a specific task for all the patients as stated below.

> "…*I don't mind whether I a delegated at that patient since our delegation is like that you are working at what bed since we find ourselves that we are in a situation whereby we are very busy on the side here we cannot leave the patients alone. We have to sit ourselves to divide ourselves. If others are busy so the other side, I can take all over for the patients since we are working as a team especially during*

admission time. So while others are taking parts there, I can do the evaluations for all the patients. I can dish out the medications for all the patient; I can feed them as well" (Participant 10, (RN) Enrolled Nurse).

Team nursing emerged as the preferred method used in delivering nursing care since the case method (total patient care) is apparently not fully utilised and according to them suitable due to staff shortages.

Staff skill mix - Participants raised concerns about the staff skill mix, i.e. untrained and less skilled nurses who worked in the CCU. Participants stated that some of the shifts are not covered by a trained CCN making it difficult to perform certain activities such as managing care provided to a ventilated patient.

"…*but then you find yourself maybe having this problem with the ventilator and like now you find ourselves sometimes being working there with the staff which is not trained, only those that are not trained are allocated at that particular shift…"* (Participant 2*).*

Another participant agreed that it is challenging to work alone with non-trained critical care nursing staff. At times there was only one critical care trained nurse working a shift with non-trained or newly graduate nurses.

"…*sometimes it's really challenging coz if you are working alone with untrained, untrained ICU's so even coz sometimes you find it's only you trained ICU with new nurses just started or joined the group of nurses in ICU."* (Participant 3, RN).

Furthermore, another participant argued that some nurses are not familiar with nursing equipment in CCU; they seem to be slow when carrying out tasks. This causes conflict as evident in the following statement.

"…you may shout to one another but maybe you are just deciding on what to do first. So the other one might think you are slow or maybe I am just not familiar with that specific thing but I am pretending as if I know." (Participant, EN).

Participants indicated the need to consider critical care nurses' competency when planning off duties as stated below.

"…so at least when there is shortage, they should put people who are fast and who are knowledgeable, because some people they don't know anything, everything the person is just asking…" (Participant, EN).

A number of them revealed that lack of specialised doctors in the unit also had a negative influence on patient care as stated below.

> "…*during the night they (nurses) have to call who is on call. The one who is on call he might be working paediatric, he might be working Communicable Disease Clinic (CDC) or he might be working where but yeah when he comes you can see that really it's not like the one who used to be with the patient"* (Participant 4, RN).

Another participant agreed that the absence of specialised doctors in the critical care unit delays patient care since they first have to consult other doctors for opinions.

> "*Or we do not have specialists in the fields so the doctor who is there she came she must force again to call another doctor for opinions and what will, what will happen to the patient who is here" (*Participant 1, RN).

In conclusion, it is evident that participants regard the current staff skill mix in the CCU as insufficient. The absence of a trained CCN on a shift and the presence of staff who lacks experience in the CCU seem to cause frustrations and at times, conflict. These frustrations are aggravated by having to work after hours with doctors from other specialities who are also not familiar with the treatment of critical care patients.

Supportive staff - Supportive staff such as ward assistants, healthcare workers, and porters, assist critical care nurses by doing non-nursing tasks such as transporting patients, taking blood specimens to the laboratory and fetching food for patients from the kitchen. Participants alluded that whatever is done for the patient, even if patients are stable, staff have to fetch food from the kitchen as there is no support staff, i.e. catering staff to assist as explained below.

> "…w*hatever is done for the patient is only the nurse in Intensive Care Unit (ICU). Even to go, for patients who are in a stable condition and they start like soft diet, we normally go and get it from the kitchen ourselves: so we don't have a catering person who is helping us here"* (Participant 10, EN).

One participant expressed a similar view with regard to non-nursing tasks e.g. fetching food or transporting patients to the X-ray department. Such tasks could be done by other non-nursing staff.

> *"… and you also have to do other non-nursing staff like going to get like food for the patients and other things like transporting the patients to x-rays or something"* (Participant 3, RN).

Participants further stated that if there are no CCNs available in the country, they should at least be provided with supportive staff. For example, ward assistants could assist with non-nursing jobs to relieve the pressure of the nurses.

> "…*if possible for them to get us ward assistants like they can help us get food for our patients from the kitchen, at least they can transport like taking the medication trolley to pharmacy or taking blood to (NIP) National Institute of Pathology"* (Participant 3, RN)

Another participant confirmed that supportive staff alleviates the workload in the CCU, therefore the recruitment of such personnel would be beneficial to maintaining quality patient care.

> *"…or maybe they can recruit for example; you see how they call this, okay, from the youth department. I can see in some wards there are people who feed, do the feeding the patient, do the full wash of the patient yeah at least so that they can make working so smooth"* (Participant 10, EN).

The absence of supportive staff in the CCU thus made it difficult for critical care nurses to cope with staff shortages since they then had to perform additional non-nursing tasks.

4.3.2 WORKFORCE PLANNING AND MANAGEMENT

Workforce planning and management are accompanied by subthemes such as the recruitment and allocation of staff. Although participants are aware of the current financial situation in the country (budgetary constraints pertaining to health), CCNs expressed dissatisfaction regarding how personnel are managed in the hospital. They felt that CCNs are not distributed equally and fairly. They indicated that they were unhappy with recruitment, staff allocation and delegation in the hospital.

One participant felt that there is poor planning as some units such as general wards and maternity wards are allocated too many nursing staff whereas in the CCU there were only a few nurses. It was postulated that this unequal staff allocation could be that management is not knowledgeable about work related issues in the CCU:

> "…*maybe the system is just not well planned, because there are units that maybe I feel that there are units that have more staffs but for us maybe they feel we do not have much work that's why maybe they do not allocate that such number of nurses that are expected to be in ICU"* (Participant 3, RN).

It seems that the hospital management lack understandings of how the CCU operates and thus perceive it to be less busy since there are only a few patients.

Recruitment - Participants felt that the hospital has not recruited sufficient nurses, especially male nurses. This leads to gender imbalance of nurses in the CCU and negatively affects the nurses. One participant indicated that they sometimes need staffs that are physically strong. The participant seems to believe that physical power is contained in male nurses; there are only two male nurses in the unit and both of them work night shift.

> "*we really need manpower in ICU but we only have two males like now they are now in night duty so day duty or they can all be on day duty obviously there are days when one is off, so it's really affecting us*" (Participant 11, RN).

Participants were also of the opinion that more male nurses should be recruited and allocated to CCU to assist with nursing activities that physically hard to complete.

> "…*at least they should give us or recruit more male nurses and send us or send them to ICU so that they could assist where manpower is needed*" (Participant 3, RN).

Other reasons cited for recruitment were that more nurses are needed to alleviate the shortage of staff in the CCU and to render quality patient case. This was underscored by a participant.

> "…*that if the number of the staffs that is working in our hospital in our unit its few so that they can recruit at least to enlarge the number of nurses so they, they render the quality nursing care to the patients"* (Participant 10, EN).

Participants seemed to value a stronger male presence to assist with duties that are considered to be physically hard and that overall more staff be allocated to the CCU.

Staff allocation - Although participants acknowledged the current shortage of CCN in the hospital, they expressed dissatisfaction with the number of nurses allocated per shift in the CCU. One participant stated that although there is a nationwide shortage of nurses, some wards are allocated more nurses (e.g. seven nurses per shift) compared to the CCU that has three staff members per shift.

> "…*the shortage is everywhere but sometimes you find people even seven on duty while other are just three"* (Participant 8, EN).

Several participants were also dissatisfied with the re-allocation of skilled CCNs from CCU to other wards. One participant indicated that, at times, the nursing service manager would re-assign CCU staff to other wards for a specific period of time.

> "…*our chiefs the, the matron if they have seen that we got more staffs they take some to go work to ward three at the specific month…"* (Participant 5, EN).

Participants were reluctant to assist in other units when the CCU is not busy. One stated that when they have one patient, for example, some nurses are sent to assist in other wards. This angers critical care nurses.

> "…*when they know that there is only patient and the moment we are about to start then they call one should go to ward 7 one can go to ward 8 one can go and that things it makes the nurses very* angry" (Participant 4, RN).

A number of participants indicated that staff needs to be familiar with the environment in order to work efficiently. The staff who needs to assist in other wards appeared to be frustrated due to not being familiar with the setting of these wards

> "…*you need to get used to the environment, you might not even know where the needles are in casualty*" (Participant 8, EN).

One participant held a different opinion as some were willing to assist in other wards without hesitation.

> "…*they never hesitate to go and render their helping hand to other wards when we have less patients*" (Participant 1, RN).

Overall the participants were dissatisfied with staffing issues in the CCU. Participants were frustrated when deployed to other units. There was consensus that when patient occupancy was low elsewhere general ward staff refused to relief in CCU when staff is needed.

4.3.3 JOB SATISFACTION

Although working in challenging conditions, most participants expressed satisfaction with their jobs. One participant stated that she is committed and enjoys work and wants to stay in CCU.

> *"…I will never run away, this is my territory: I love it, no matter how hectic it is, I do not think really I want to be moved from here"* (Participant 1, RN).

One did indicate that she may opt to leave the CCU should the staff shortages persist.

> "…*if its goes maybe beyond what we are experiencing now; I better go somewhere else"* (Participant 2, RN).

Despite the staff shortage, most participants indicated they enjoy critical care nursing and will never leave the CCU. However, others expressed the desire to leave the CCU if staff shortages persist.

Motivation - Participants were motivated. Feelings of satisfaction arise when a patient's relatives show appreciation for the nursing care of their loved ones.

> "…*Yes sometimes you can also get theeee, how do I put it, omapandulo (appreciations) from the communities especially the family members*" (Participant 10, EN).

However, participants were dissatisfied with hospital management's lack of support, motivation or appreciation.

> *"…Nobody will say you are working with difficulties, we thank you or what…"* (Participant 8, EN).

Nevertheless, despite the lack of motivation from hospital management, participants were satisfied with the type of motivation received from patients' relatives.

Patient outcomes – Positive patient outcomes such as that a patient who fully recovers from being critically ill appeared to be a major source of job satisfaction.

"…*really I feel happy when the person was critical then he recovers especially after resuscitation*" (Participant 9, RN).

Furthermore, they felt guilty if a patient does not recover after a cardiac arrest. They blame themselves for this adverse outcome.

> "*when we are trying to turn the patient he got cardiac arrest and I was so stressed that oh and ah I did not do anything*" (Participant 7, RN).

Whereas positive patient outcomes apparently contributed to job satisfaction, negative patient outcomes seemed to have resulted in job dissatisfaction.

Work commitment and pride - CCNs play a major role in the hospital. The participants were of the opinion that the hospital cannot function without them. Some participants perceived CCNs to be the cornerstone or main support structure of the CCU.

> "…*really we are the backbone of this, this hospital...*" (Participant 4, RN).

In addition, they stated that that they feel proud of themselves for the work they do and to be trained in critical care.

"…*I feel very proud to be an ICU trained because in most cases I am doing really what I am expected to do…*" (Participant 3, RN).

Participants revealed that nurses from other departments viewed CCNS as role models, and consider them as being more skilful. This makes them really proud.

"…*nurses in the hospital they really adore nurses in ICU and even if you are an ICU nurse to be at a certain ward even for a month they the way they are looking at you they expect the best from you*" (Participant 11, RN).

The CCNs in the CCU seem to have a positive view of their role in the hospital and were proud of themselves. Despite the shortage of staff in the CCU, the participants were positive about the type of work that they do and the skills and knowledge that they possessed.

4.3.4 CONTINUOUS PROFESSIONAL DEVELOPMENT

Some participants indicated the importance of continuous engagement in professional development. They were of the opinion that to maintain competency CCNs need to keep abreast with the latest developments in nursing.

"…*yes, yes, really if it was possible each and every year especially the registered nurses they can go, go one at least one each and every yeah, that course can make somebody open" (*Participant 9, RN).

The majority expressed that critically ill patients are nursed in a specialised unit who should be cared for by skilled and trained CCNs. One participant stated that they need more trained people to reduce the workload.

"…it needs people to be trained so that they can work and release the workload" (Participant, EN).

Formal training – The participants acknowledged the value of a formal qualification in critical care nursing.

Participants revealed it is challenging to provide quality patient care with only a few trained CCNs.

"…*nurses who are trained in ICU is also less as we have only six to five, so it's also a challenge to not have trained aah ICU nurses"* (Participant 1, RN).

Enrolled nurses are supposed to only perform basic functions under the supervision of registered nurses (HPCNA, 2014:8). However, one participant expressed the need to

have enrolled nurses also trained in critical care nursing since they also work with critically ill patients.

> *"…that will be of a good idea because now it's only the registered nurses who are trained in critical care but we find ourselves there with enrolled nurses who needs maybe training on how to work with critical care patients"* (Participant 2, RN).

Although unit managers' plan for in-service training to facilitate continuous education of critical care staff, some participants indicated that no training has occurred for the past three years due to the financial crisis in Namibia.

> "*…they have to be trained, there is a need for them to be trained but for the last three years no, there was no training for critical care. Only that next year there are two nurses who are going for training but we are not quite sure regarding because of the current financial situation"* (Participant 4, RN).

The participants highlighted the need to have more critical care trained nurses and appeared to be frustrated with the limited numbers of CCNs that are trained in critical care nursing.

In-service training - Owing to staff shortages, management are unable to release CCNs for in-service training. Participants indicated that in-service training in CCU enhances their knowledge and skills. One participant explained that in-service training, provided by supervisors, was in the form of tests.

> "*…yeah, like some of our supervisors used to give us like eeee, training, in-service training. They use to give us questions and everybody can answer these questions individually so like if I don't know these things which were asked and we, we given answers, it will help you cope"* (Participant 2, RN).

Another participant also acknowledged the need for in-service training, but was dissatisfied with some CCNs who were unwilling to teach new graduates.

> "*…in terms of training, we really need to be trained even by our seniors or our chiefs because some of us like enrolled nurses just from school you come to ICU. You teach, but some of us use to teach us, some of us some, of them they don't like…"* (Participant 5, EN).

In-service training has been a major source of learning for some participants. However, some felt that not all CCNs are really willing to share their knowledge with their co-workers.

Self-learning

Apart from in-service training, participants also attend seminars to improve their knowledge. One participant indicated that CCNs are entitled to attend seminars even those organised by the private sector.

> "…*the seminar in Ongwediva, this one is open to each and every one because a seminar is about head injury, about spinal cord injury; they make a seminar in the private sector they are entitled to come and gain that knowledge*" (Participant 1, RN).

CCNs perceived the existing in-service training programme as inadequate and therefore have to learn by themselves how to operate equipment in the CCU.

> "*…when it comes to operating machines, we also just learned by ourselves"* (Participant 8, EN).

Opportunities for self-learning are available for participants to attend and to keep abreast with the latest knowledge.

4.3.5 CRITICAL CARE WORK ENVIRONMENT

CCNs revealed that the physical or social working environment in the CCU is not therapeutic; this may have a negative impact on patients and CCNs. The participants described the CCU as unpredictable. There may be many patients, but there is not enough time to render patient care.

> "…*you will find us we are okay and you will find us we are not okay as this ward is really so busy and unpredictable that you have how many patients and you have time"* (Participant 1, RN).

Furthermore, participants acknowledged that critically ill patients are nursed in specialised units which require experienced nurses to work there.

> "…*these staffs need experienced people like some who have been here for many years"* (Participant 8, EN).

Another key aspect that emerged was working without a break and the unhappiness this caused. Participants noted that when the unit is very busy then CCNs work throughout their shift and do not even have a lunch break.

> "…*sometimes we don't even go to the lunch; we just work until the time you knock off"* (Participant 6, RN).

Chapter 3 of the Namibian Labour Act (No.11 of 2007:28) stipulates the conditions under which CCNs should practice. One such condition is that they are entitled to a meal interval of 60 minutes. However, participants in this study indicated due to their workload they sometimes do not get a chance to have their meals.

Other issues related to the critical care work environment that emerged were work conditions, physical set up, social interaction, resources availability, leadership and policies. These issues are discussed below.

Work conditions - Several participants explained that due to staff shortages, nurses are forced to work under rather demanding circumstances such as long and awkward hours, i.e. from 1900 to 0300. Moreover, the doctors hold CCNs responsible for patient care. Since the CCNs are scared of litigation they then work the above mentioned hours.

> "…. *Say for example you have worked already from seven to seven and then before seven the doctor says" this patient needs dialysis and if you don't dialyse the patient might die and I wash my hands it's up to, to you sister". What are you going to do? Because you are afraid to be taken to court you are going to work up to three o'clock in the morning"* (Participant 4, RN).

Another participant argued that management is of the opinion that those nurses who are not familiar with monitors in CCU cannot assist in CCU. Consequently, CCNs are expected to extend their working hours.

> "*In most cases they say, if I send somebody to ICU who is not experienced with monitors, so they feel it's no use to send somebody from outside. So it's better maybe for us to extend"* (Participant 2, RN).

Some participants mentioned that basic nursing remains the same and nurses can at least assist with taking temperatures, and feeding patients, but they refuse because they have never worked in CCU.

> "…*nursing is just nursing and every nurse could even take temperature, to feed the patient but everybody will just say no, we didn't work before in ICU"* (Participant 4, RN).

Except for the long working hours, participants indicated that physical labour such as turning heavyweight patients results in health-related problems such as back ache.

> "*We can find the patient is big, you have to turn the patient, the patient is very heavy that can also lead to you have to have such back aches"* (Participant 3, RN).

Participants also pointed out that they work in difficult and compromising conditions which could be unsafe for both nurses and patients. For example, participants were supposed to be three on duty, but only two of them worked because one of the staff member's mothers passed away. Subsequently, two CCNs were compelled to work with five critically ill patients. Although they coped with some difficulty, they also emphasised that they could have lost a patient as indicated below.

> "…*I remember last week we were supposed to work three in the night one of our colleagues, ah his mother passed away just a time when he come on duty so we were forced to work two nurses with five patients in critical, like they are now yeah but we end up coping but we worked with difficulties, if something had happened like a crisis, we could have you end up losing somebody just because of the…*" (Participant 8, RN).

This was supported by another participant. She stated that they have a lot on their shoulders as one nurse might be forced to care for two or three patients.

> *"…yes we have too much on our shoulder because we in like for ICU we are expected to at least nurse one nurse per patient but then you will be forced to even have two patients or three patients*" (Participant 3, RN).

Participants also revealed that a high nurse to patient ratio, i.e. 1:3 leads to delays in patient care. They expressed that if the ratios were improved, patient care would also improve as they would be able to timeously respond to patients' requests.

> *"…but if each patient had a nurse, it would have been better: if the patient asks for a bed pan, you give quickly and the medications and milk will be given on time" (*Participant 5, EN).

The current working conditions, such as extended working hours, use of inexperienced staff, physical hard labour and insufficient staff in the CCU, are not conducive and therefore compromise quality patient care.

Physical environment - Most participants indicated that the current space in the CCU is insufficient in comparison with the population that they serve. One participant stated that they have already suggested to Ministry of Health and Social Services (MOHSS) that the CCU space is not sufficient since they cater for both the country's largest population as well as the neighbouring country.

> "…*we already suggested to the medical superintendent and even to ministry that the place really where we are not is not sufficient*. *Point number one the*

population here is bigger even if you take the north is bigger than the south including our neighbouring country" (Participant 1).

Lack of space makes the work of CCNs difficult, and also compromises patient care. One participant stated that there are times whereby critically ill patients from casualty could not be admitted to the CCU due to insufficient space. This resulted in such patients being nursed in general wards although they required critical care nursing.

"…*I have experienced it a lot because as I said we only have six beds so if all those six beds are occupied there are times that we have emergency in casualty that needs ICU care but sometimes you have patients that can't even be transferred out to be nursed in general wards so those patients end up being in general wards but they really needed ICU care but because of lack of beds there is nothing we can do"* (Participant 3, RN).

Participants indicated that in some situations, they are forced to discharge patients as an emergency to enable admission of a new patient. Sometimes nurses who bring a critically ***ill*** patient for admission have to wait for the area to be cleaned while at the same time manually ventilating the patient.

"… *you have to decide who is better off to be out, maybe this one, the you are rushing with a bed and they are waiting and some they are coming they are just standing there ambubaging the patient there like we are waiting for the bed that is pushing out to come again and cleaning and put up everything…"* (Participant 7, RN).

Lack of space has also caused conflict among doctors who feel that their patients deserve to be nursed in the CCU.

"…*yeah, even doctors are now fighting, not physical fight but each and every doctor wants its patients in ICU. No my patient has a major operation, no, no, no mine has a head injury, mine has pneumonia, something like this…"* (Participant 1, RN).

Despite the lack of space to accommodate patients, one participant indicated that the physical layout is inappropriate as there is poor ventilation due to absence of windows.

"…*okay maybe it's because there is the air con there, we do not have the windows in ICU. So I think it will be better if we have an open space where we get fresh air*…" (Participant 2, RN).

Another participant was dissatisfied with the structuring of the unit. She was of the opinion that the unit is not logically arranged making it difficult to work efficiently and to implement effective infection control measures. Patients with septic and burn wounds are sometimes nursed in the open due to an insufficient number of isolation rooms.

> *"…the, the structuring of the ward is not sufficient as you can see here is already the machine and there, there are beds and we have only two isolations we have now this septic wounds and burn wounds and everybody you put in the open"* (Participant 1, RN).

Over and above the staff shortage, the physical layout of the CCU also contributes to CCNs' job dissatisfaction.

Social environment - The shortage of nurses in the CCU has greatly influenced its social environment. Participants revealed that there is high level of stress due to high workloads. This in turn impacts on staff interaction, communication and relationships in CCU. The shortage has resulted in nurses shouting or even answering each in an inappropriate manner.

> "…*First of all, I will start with us staff or us nurses, there are times that one is just you can see is stressed but you can see it's because of the workload and they end up shouting to you unnecessarily or answering others bad but you can just see that it's because of the work is too much"* (Participant 3, RN*).*

Some participants revealed that CCNs do not intend to shout at each other and are therefore willing to apologise.

> *"…coz one nurse can even go to other person that he or she shouted last day that maybe sorry I did this but it was not my intention"* (Participant 11, RN).

Although participants disagreed at times, they have a good relationship whereby they care and support each other during difficult times. One participant stated her colleagues noticed that she was unwell. They gave her moral support and this enabled her to cope.

> "…*but one can see that oh, this is touched her then moral supporting that one, then you cope"* (Participant 7, RN).

Furthermore, the staff shortages also lead to poor relationships between patients and nurses. Patients may feel neglected in that nurses do not care for them as they should. This was articulated by a participant.

> "…*the relationship will be like the patient will feel neglected so it will be somehow*" (Participant 5, EN).

Nevertheless, participants valued the relationship between CCNs and doctors. They felt that doctors are supportive and understand when procedures are not done as expected. They then inform the unit manager who in turn tells staff how to perform nursing tasks.

> "…*yeah doctors that we have in ICU they are very helpful coz if things they are not maybe done the way they expected or the way it's supposed to be they usually tell us or give the message to the in charge and she will tell us what to do" (*Participant 11, RN).

The social environment in the CCU has been negatively affected by the staff shortage. This has resulted in CCNs not communicating effectively among themselves or with the patients. In contrast, CCNs did have a good working relationship with the doctors.

Availability of resources - This subtheme comprises lack of resources as another challenge affecting the work environment. Participants explained that there is not enough equipment in the unit thus making it very difficult to render quality patient care. One stated that they want to help patients but equipment is unavailable, therefore they just keep wishing for more.

> "…*you want to help the patient but the equipment are not there, so you just keeping wishing if it was like this, I could have done this*" (Participant 9, RN).

Furthermore, several indicated that the available equipment is either old or malfunctioning, this then delays patient care.

> "… *yes and equipment that we have there that I mean which we are provided for example the monitors that we are having some of them for example they are not showing even temperatures it's also killing time because if we could have more advanced equipment we could work better*" (Participant 11, RN).

A similar view was shared regarding the negative impact that unavailable and broken equipment had on patient care. The participants revealed that malfunctioning equipment wastes time that could have been used for patient care. The CCNs have to keep changing equipment until one is found to be working.

> "…*like we have that IVAC or that BP is not working we are trying another and another one is and time is gone*" (Participant 7, RN).

Participants also expressed that available equipment is insufficient to correspond with the number of patients admitted to CCU. This influenced patient care negatively. One stated that there were not enough ventilators (i.e. five ventilators in a six-bed unit), which makes it impossible should all patients require mechanical ventilation.

> "…*like for the ventilators, we have at the moment we have only five ventilators which are working and we have six beds so if all the patients might need to be ventilated it will not be possible*" (Participant 2, RN).

In addition to equipment challenges, participants also indicated that emergency drugs (medication) are not always in stock resulting in unpreparedness for emergencies. One indicated that sometimes emergency medication, such as dopamine and adrenaline, is out of stock before the designated ordering days. This means that during emergencies nurses borrow drugs from other departments.

> "…*but those things can get finished before the day of ordering and you will be running to ask for dopamine and adrenaline…"* (Participant 5, EN).

In short, both the unavailability of emergency medication, and malfunctioning equipment, impact on the work of CCNs. This is not unique to the CCU in this study. Abdullah *et al.* (2014:357) found that critical care nurses experienced job dissatisfaction when there is insufficient supply of equipment and medication.

Leadership and support - Participants were dissatisfied with the leadership style of the unit and hospital managers. Several were of the opinion that hospital managers were not knowledgeable and understanding of issues influencing staffing management of CCUs since general wards, according to them, are better staffed than CCUs. One indicated they can only be assisted better if hospital managers had a better understanding of what a CCU is all about.

> "…*if our hospital managers understand what is ICU we can be assisted better because we are treated just like the normal wards*" (Participant 1, RN).

Some expressed the need for frequent supportive visits from the hospital managers for a better understanding of the critical care environment. One stated that hospital managers would have a better understanding of the workload in the CCU if one manager regularly came and assessed the situation to then report to all of management.

> "…*if they could come even just once a week one to come and asses really what we used to do maybe that one help: at least for that week that specific person can go give report for others about what workload we have in ICU*" (Participant 3, RN).

Furthermore, participants felt that their immediate unit manager did not really care about them and therefore did not take their grievances seriously. They also alluded that the unit manager used the shortage of staff as an excuse to ignore their complaints.

> "…*sometimes when you complain in the unit, she will just say it's the shortage that's it, and it ends there*" (Participant 5, EN).

This sentiment was shared by another participant.

> *"…If you complain that we also work under pressure and nobody comes to help, they will tell you that you are trained nurse you have to work*" (Participant 8, EN).

One disclosed that there is discrimination and that the unit manager sides with some staff thus nurses are not being treated equally.

> "…*discrimination is there, people are divided that's the things ah, ah I don't understand…"* (Participant 9, RN).

Two had opposing views. They indicated that they were satisfied with the support they get from the unit and hospital managers. One acknowledged that the unit manager motivates them to be committed and work harder since staff shortage is everywhere.

> "…*sometimes we get motivation from our chief more especially Ms X that we must just work as there are no nurses in the country, the shortage is everywhere and that how we get committed to our work*" (Participant 6, RN).

A similar view was shared regarding support and appreciation from the hospital management. One participant stated that hospital managers visit the CCU to see how they are working.

> "…. *they really appreciate in many was especially from our management they use to come and see how we are working* (Participant 10, EN).

The leadership style of the unit manager and that of the hospital manager was not appreciated by most of the CCNs. A few did however mention that managers were supportive and appreciative.

Incentives - Participants did not mention salaries and other benefits, or whether they were satisfied with the monetary compensation received for working overtime. They however acknowledged that they are compensated whenever they work beyond normal working hours.

> *"...but yeah we use to get something, if you extend, work extra hours you get something"* (Participant 3, RN).

Nevertheless, some participants expressed dissatisfaction with management's unwillingness to sometimes compensate them for the extra hours worked. One stated that they are sometimes forced to reduce the number of hours they claim even though they have worked the extra hours.

> "…*then when you claim for that hours you work, they might say no you have to cut some hours or why you have to, to claim such this hours but…*" (Participant 4, RN).

Participants seemed to be satisfied with their incentives and remuneration except that sometimes management is reluctant to fully compensate them for all the hours worked.

4.3.6 OCCUPATIONAL HEALTH AND SAFETY

Occupational or work-related stress has a direct influence on the wellbeing of CCNs both physically or psychologically.

Physical health - Owing to the heavy workload in CCU, the participants often have to work long hours under stressful conditions, which can result in fatigue and physical illnesses. One indicated that most CCNs complain of back, neck and leg pain due to their heavy workload.

> "…*like I have experienced a lot of nurses in our unit I think majority are complaining of back ache, they are complaining of neck, legs pain, they, everybody or let me say majority they are just having those complaints but this can be caused by, we do heavy works*" (Participant 3, RN).

Some revealed that they work continuously without rest and this leads to exhaustion. Moreover, one participant stated that because of fatigue, simple tasks such as patient handovers were challenging.

> "…*tired or even you are coming to give exchanging of reports, let me say I am doing day duty and the night shift come, you give the report you are just tired and cannot concentrate"* (Participant 7, RN).

This situation then results in CCNs abusing their sick leave benefits (i.e. take sick leave when they are not actually sick).

> "…*some people may just say I will go to the doctor to be booked off so that I can rest*" (Participant 8, EN).

The shortage of staff in the CCU has resulted in CCNs absconding to relax.

Psychological health - Participants expressed that the current working condition in CCU has affected their psychological wellbeing. One stated that when nurses are tired it also affects their concentration.

> "…*yes it's too much, because sometimes you find that nurses they use to tired exhausted most of the time and it will also you know, it affects their mind"* (Participant 10, EN).

All revealed that there is a high level of stress among CCNs, which negatively affects their performance at work. One stated that nurses are stressed due to their heavy workload. They therefore were not communicating effectively. They then ended up shouting at each other.

> "…*even now nurses they are stressed for just small things, they can shout; they can do what, because they are, the workload is too much for them"* (Participant 4, RN).

One participant had worked in a particular unit for several years, and did not stress and has accepted the situation of poor communication.

> "…*but myself it doesn't stress me that much, maybe it's because I have been working here for sometimes and so I am used to…"* (Participant 6, RN).

In order to cope and avoid stress some participants indicated that they have accepted the situation they find themselves in. They pretend the situation is normal.

> *"…you just ignore and think that its normal work in this environment" (*Participant 8, EN).

Participants further revealed ineffective communication in the CCU may result in medico legal hazards such as needle prick injuries or medication errors.

> "…*and it's also the situation if we are not able and cannot cope you can find that you run to casualty you punch yourself with a needle or you can do something if you are not yourself…" (*Participant 1, RN).

One stated that staff shortages, and heavy workloads, negatively impact the psychological and spiritual calm of CCNs.

> "…*you can read through their facial expressions that these people they are not feel well or they are not having inner peace*" (Participant 4, RN).

Several revealed that teamwork and peer support assist them to cope with the heavy workload and to correct errors.

> *"…kombinga yokutya aaye ohatulongo as a team shili ohatu kwatathana nawa. Ngele opuna ngu aninga epuko, ohatu pukululathana ngaa.* Translated response: *"No we work as a team, and we support one another, where you have made a mistake, you will be corrected"* (Participant 6, RN).

Nevertheless, participants emphasised the importance of the implementation of occupational health and policies in CCU. They specifically underscored the need for a professional psychologist to care for the psychological needs of CCNs. The following was the opinion of one participant.

> "…*otwa hala okangudu kelipo ndee ngaye ote emphasize mano kutya o psychologist ngaa lela.* Translated response: *We want a committee for that but I am emphasizing on the real psychologist"* (Participant 9, RN).

Staff shortages in the CCU also affected the psychological well-being of CCNs. This was characterised by lack of peace and difficulty to concentrate. The need for a professional psychologist was highly emphasised since participants indicated the need to have someone who understands and will take care of their psychological needs.

4.3.7 QUALITY OF PATIENT CARE

Since patients are central points in the nursing profession, they are entitled to safe and quality nursing care. Participants revealed that the current staff shortage in the CCU limits the ability of CCNs to render quality patient care as expected. In addition, both patient and hospital service quality suffer when a few nurses are required to care for a high number of patients. This is evident in the statement of a participant.

> "…*sometimes we find that we only give or render the nursing care which is really which we are not supposed to give…*" (Participant 10, EN).

Furthermore, participants revealed that the nursing care rendered was either incomplete, delayed or patients were completely neglected as discussed below:

Comprehensive or holistic care - All participants indicated that caring for critically sick patient requires holistic or comprehensive care since they cannot help themselves. One indicated that patients in the CCU were critically sick and sometimes they cannot talk. They therefore depend on mechanical ventilators.

> "…*our patients are not what, are not talking, most of the time they depend on the respiratory support*" (Participant 8, EN).

However, most revealed that they are unable to provide comprehensive patient care due to the shortage of staff. CCNs are unable to full fully wash patients. They instead only wash their faces as explained by one participant.

> "…*we for example there are patients if you are only few, few like three and you have six patients you have to do full wash for all those six patients so some we only wash the face"* (Participant 3, RN).

In contrast, one participant indicated that patient care is not negatively affected by the shortage because they compromise and ensure that quality patient care is rendered.

> "…*all necessary nursing care is given, with that, even though we are in that stressful situation, we are really trying our best, yeah. So patients are being taken care of…"* (Participant 4, RN).

The shortage of nurses has negatively influenced patient care as the available CCNs are unable to render comprehensive care due to high workloads.

Delayed patient care - Critical care nurses indicated that staff shortages have led to delayed patient care. One revealed that due to shortages, patients do not get their medication or food on time.

> "…*it's only that the patient won't get their treatment or their feeding at the time because of this shortage and sometimes they just do not get the care that they need at the right time that all maybe I can say…*" (Participant 2, RN).

Delay in patient care also contributes to an increase in patient mortality and an increased workload for CCNs. One participant indicated that patients are at risk to aspirate and may not be assisted timeously; seconds count. A delayed response could be due to one CCN having to care for more than one patient:

> "…*because if there is a patient that needs suctioning, I may be suctioning here but when you go there you might find that the patient has aspirated or while you are busy here, something again happens at the other side, which means you might not rescue the other patient on time"* (Participant 8, EN).

In conclusion, it is evident that shortage of CCNs resulted in delayed patient due to a mismatch between patient needs and available staff (Gillespie & Reader, 2013: 156).

Patient neglect - A number of participants felt that staff shortage was the reason for neglecting patients. One explained that at times patients who requested assistance were ignored because the CCN has to prioritise and attend to urgent matters such as administration of medication.

> "…*sometimes it's unfortunate that the patient is calling you to help him and maybe sometimes you ignore so that you can give medication that are urgent and when you come you might find that the patient has defecated on the bed"* (Participant 5, EN).

In addition, staff shortages result in ethical dilemmas. CCNs sometimes are unsure which patient to take care of first during emergencies. One participant indicated that they sometimes have to choose which patient to resuscitate first in case of concurrent cardiac arrests.

> "…*I can recall there was a time we had six patients and we were only three on duty and three patients went into cardiac arrest at the same time. So now we were just we did not know really which patient should be resuscitated, which patient we would start resuscitating. So you have to choose the one who you think have a better chance of surviving…"* (Participant 3, RN).

The current shortage of staff in the CCU also led to CCNs unintentionally neglecting some patients since they have to prioritise which patient needs the service more.

4.4 SUMMARY

In this chapter the findings of the study were presented and discussed. Staffing strategies, critical work environment, workforce planning, occupational health and safety, quality of patient care, professional development, and job satisfaction, were themes that emerged from the study. Overall the themes and subthemes illustrated the experiences of CCNs regarding staff shortage. The next chapter provides a discussion of the findings in relation to the literature, the limitations and final conclusion.

CHAPTER 5
DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

The previous chapter presented the findings as they emerged from the collected data. In this chapter, the findings are discussed based on the literature and study objectives. Recommendations are proposed based on the findings.

5.2 DISCUSSION OF FINDINGS

The aim of the study was to explore the experiences of critical care nurses regarding staff shortage at a regional hospital in Namibia. The findings, and how they relate to each objective, are discussed in this chapter.

5.2.1 OBJECTIVE 1: TO EXPLORE THE EXPERIENCES OF CRITICAL CARE NURSES ON HOW STAFF SHORTAGES RELATE TO THE CURRENT STAFFING STRATEGIES

Staffing strategies used in the critical care unit were teamwork and total patient care or case method. The participants preferred team work as it assisted them in carrying out tasks that could otherwise not be accomplished by individuals (see chapter 4, section 4.3.1). Another staffing strategy utilised in CCUs is the staff skills mix reflecting trained and CCU experienced RNs as well as ENs.

The current shortage of CCNs have influenced staffing strategies negatively as there are not enough nurses in the country to maintain the mandated nurse to patient ratio in the critical care units (CCUs). Participants indicated that the current nurse to patient ratio in the CCU is 1:2 or 1:3 for ventilated patients (see chapter 4, section 4.3.5). Moreover, insufficient numbers of CCNs led to the use of ineffective staffing strategies, namely the utilisation of non-trained staff in CCU to care for critically ill patients. The current trend in CCU is that, CCNs are assigned tasks by using a total patient care model or case method (see chapter 2, section 2.8.3). However, participants indicated that they made use of team nursing whereby they divided nursing tasks among themselves (see chapter 4, section 4.3.1). This was attributed to insufficient staff, i.e. experienced and trained critical care nurses to match the number of patients in CCUs. Furthermore, participants emphasised that teamwork, and team nursing, assisted them to cope with the challenges and demands in CCU (see chapter 4, section 4.3.1). Team nursing has been the preferred model of care because each team member is involved in decision making and is allowed to perform the tasks and skills at which they excel which consequently

contributes to job satisfaction (Tomey, 2009:393). Furthermore, in team nursing, patient care is comprehensive and individualised, contributing to patient safety and improved patient outcomes (Myburgh e*t al*., 2016:7). According to Babiker, Husseini, Nemri, Frayh, et al. (2014:12) when teams are more organised with clear objectives and effective communication, it results in better patient outcomes. However, there are some challenges associated with the utilization of team nursing such as unavailability of team members with varied competencies, poor team management and lack of interpersonal relations among team members (Bezuidenhout, 2014:221). When teams are poorly managed, team members get frustrated and it may result in poor patient care and staff turnover (Cuthbertson & Reader, 2014:132).

Participants in the current study indicated that some shift leaders are not trained in critical care nursing (see chapter 4, section, 4.3.1.2). The Faculty of Healthcare Medicine and Intensive Care Society (2013:7) recommend that every CCU should have an experienced senior CCN with vast knowledge and skills to undertake the operational management and strategic development of the health facility. Maharmeh, Alasad, Salami, Saleh, (2016:1816) confirm that trained CCNs are needed in CCUs as they are able to respond to patients verbal and non-verbal cues, interpret observations from the monitors and act promptly to avoid deterioration in patient's conditions.

Although the HPCNA recommends a 1:1 nurse to patient ratio in a CCU, participants indicated that this was not the practice due to unavailability of CCNs (see chapter 4, section 4.3.1.). Consequently, there was a high nurse to patient ratio whereby one CCN would be allocated to care for two or three critically ill patients (see chapter 4, section 4.3.5). Owing to this, CCN are exhausted, both mentally and physically, resulting in an increased medico-legal hazards risk. The latter is a finding of Gooch (2016:8) who states that medical errors increased by 18% for every 20% decrease in the minimum staffing requirement. Similarly, Vahedian-Azimi *et al*. (2017: 4) revealed that increased workloads contributed to a high level of stress and job dissatisfaction among CCNs.

In agreement with Herzberg's two-factor theory (see chapter 2, section 2.6), participants were dissatisfied with both hygiene and motivation factors. Hygiene factors are related to leadership, work conditions, salaries and interpersonal relations (see chapter 2, section 2.6.2). Motivation factors include work itself, lack of recognition, achievements and advancements (see chapter 2, section 2.6.1).

Furthermore, participants indicated that they were not appreciated and supported by the nurse managers for the type of work that they do which in turn contributed to job dissatisfaction (see chapter 4, section 4.3.3). The perceived non–supporting role of unit

managers is in accordance with the findings of Myburgh *et al.* (2016:9) who indicated that CCNs felt ignored and abandoned by their managers which resulted in job dissatisfaction and ultimately poor patient care. Similarly, Aron (2015:31) found that if nurses are not satisfied with their jobs they cannot render quality nursing care. Mantynen, Twist and Vehvilainen-Julkunen (2014:7) also found that a lack of motivation among nurses resulted in poor productivity and subsequently poor patient care.

The findings of the study demonstrated that a shortage of skilled and competent nurses resulted in an inappropriate staff skill mix (see chapter 4, section 4.3.1). According to Hall (2009:9) staff skill mix is appropriate when there are sufficient numbers of trained CCNs in CCUs. The latter is emphasised by the ICS and FICM which recommends that 50% of CCNs should possess a qualification in critical care nursing (see chapter 2.8.3.3).

However, an insufficient number of trained CCNs made it difficult to allocate an appropriate skill mix for a particular shift. The unavailability of trained CCNs resulted in some of the shifts being led by mostly non-trained CCNs (see chapter 4, section 4.1.3). Similarly, Munyinginya, Brysiewizz and Mill (2016:57) found that the unavailability of sufficient trained CCNs in Rwanda resulted in organisations utilising nurses with little knowledge and skills in critical care nursing.

In addition, participants indicated that they were sometimes compelled to extend their working hours beyond the recommended working hours and this led to them being exhausted (see chapter 4, section 4.3.5). A similar situation was reported by Knudson (2013:1) who found that some organisations use mandatory voluntary overtime for CCNs; this organisational policy led to burnout, fatigue and more frequent medical errors. In the current study participants stated that because of being exhausted some CCNs abscond from work by faking sickness so that they can rest (see chapter 4, section 4.3.6.1). Similarly, Bargas and Monteiro (2014:537) highlighted that overworked CCNs are more likely to abscond from work due to illness.

Job satisfaction is related to the extrinsic and intrinsic factors of Herzberg's theory of motivation. According to Abdou, Nassar and Mohmoud (2011:247) staff shortage greatly influences nurse job satisfaction and when nurses are dissatisfied with their job, they are likely to leave their employment in search of better working environments. The opposite was found in this study as most of the participants indicated their willingness to stay at their job despite staff shortages (see chapter 4, section 4.3.3).

Participants explained that critically ill patients need to be cared for by highly skilled nurses on a 1:1 ratio basis (see chapter 4, section 4.3.4). However, this was not the

practice in their CCU as one nurse could be assigned to care for two or sometimes three ventilated patients (see chapter 4, section). According to Blegen, Goode, Park and Vaughn (2013:92) critically ill patients should be nursed by skilled nurses for better outcomes. However, participants indicated that the current poor economic status of the country has been an obstacle for the nurses to be trained in critical care nursing due to a shortage of funds (see chapter 4, section 4.3.4).

The burden of non-nursing tasks was a source of frustration to some of the participants. Although participants recognised the national shortage of CCNs, they indicated that having to perform non-nursing tasks is a waste of time. They were of the opinion that supportive staff should be available to perform some of the tasks such as fetching patient food from the kitchen, feeding patients and accompanying CCNs when transporting patients to the X-ray department (see chapter 4, section 4.3.1). Patients' food is collected from the hospital main kitchen which is about 500m from the critical care unit. Dmytrow (2016:9) states that supportive staff should be available to assist CCNs with some of the non-nursing tasks in order to allow them to have sufficient time with patients. Moreover, time spent on additional tasks limits the time available for patient care (DeLucia, Ott & Palmlerl, 2009:3).

Intrinsic factors such as recognition and the work itself motivate employees to high levels of performance. The findings are consistent with Herzberg's theory of motivation as presented in the discussion of the study's conceptual framework (see chapter 2, section 2.6). However, participants cited that managers were oblivious to their opinions and suggestions regarding staffing and scheduling of critical care nurses in CCU (see chapter 4, section 4.3.5). Similarly, Balsanelli and Cunha (2015:111) revealed that a leadership style of manager, who does not pay attention to subordinates, impacts job satisfaction which could consequently impact patient care. Participants were unhappy that managers ignored their request as described by one participant, *"…*sometimes when you complain in the unit, she will just say it's the shortage that's it, and it ends there" (see chapter 4, section 4.3.5). Perez (2014:30) argues that the leadership style of managers greatly influences nurses' job satisfaction and intent to leave.

Both positive and negative opinions relating to lack of support of critical care nurses within CCUs were revealed (see chapter 4, section 4.3.5). Participants were of the opinion that the unit manager, as a leader does not care about them. Yet, some critical care nurses valued the leadership style of the unit manager stating that she motivates them to work harder (see chapter 4, section 4.3.5). According to Ashresash and Nebiat (2013: 56) if critical care nurses are satisfied with the leadership style of the manager, they are likely to remain in the organization. However, when the leadership style is not

appreciated by the critical care nurses, they become dissatisfied with their job and consequently opt to leave the organization contributing to staff shortages.

Furthermore, participants felt that the unit manager, a leader, did not care about them. They indicated that the unit manager discriminated and favoured some staff members which resulted in divisions within staff members (see chapter 4, section 4.3.5). Roodehghan, Zohreh and Nasrabadi (2014:241) found that discrimination of nursing staff members results in frustrations and job dissatisfaction.

In conclusion, it is evident that CCNs were dissatisfied with the current staffing strategies utilised in the CCU. The skill mix was not always ideal as some shifts did not have trained CCNs on duty. In addition, the high nurse to patient ratio of 1: 3 contributed to an increased workload, exhaustion and poor concentration among some participants due to long working hours. Finally, one group of CCNs were dissatisfied with the leadership style of the unit manager and some dissatisfied with that of the hospital manager.

5.2.2 OBJECTIVE 2: TO EXPLORE THE EXPERIENCES OF CRITICAL CARE NURSES OF STAFF SHORTAGE AND QUALITY OF PATIENT CARE

Participants recognised the need to provide holistic and comprehensive care for critically ill patients. However, due to a shortage of critical care nurses, patient care appeared to be compromised because nurses are either not knowledgeable or do not have time to complete all the tasks expected of them (see chapter 4, section 4.3.7). Armstrong (2009:18) confirmed that when a shortage of staff is experienced and nurses are not completely skilled, patient care tend to be compromised due to the increased workload. Owing to the higher workload there is less time available to complete all nursing tasks thoroughly.

In order to improve the quality of patient care, Mosadeghrad (2014:80) suggests that healthcare providers should be sufficient, well trained and competent. Participants indicated the need to be trained in critical care nursing to render quality care (see chapter 4, section 4.3.4). Aiken *et al.* (2012:27) confirmed that skilled CCNs provide quality care and reduce adverse patient conditions. Based on Herzberg's theory (see chapter 2, section 2.6) creating an environment whereby CCNs are afforded an opportunity to advance personally and professionally, enable training of more CCN will improve quality patient care.

According to WHO (2014:6) quality patient care should be timely and effective. However, this study revealed that due to a shortage of critical care nurses, patient's needs are not met on time or at all (see chapter 4, section 4.3.5). Gillespie and Reader (2013:156)

confirmed that a shortage of staff, overworking and staff burnout results in patient needs being neglected. Except for the untimely response to patient's needs, this study found that patients are not treated equally or fairly as the nurse has to prioritise which patient needs attention first during emergencies, "…so you have to choose the one who you think have a better chance of surviving" (see chapter 4, section 4.3.5). Furthermore, due to staff shortages, critical care nurses at times, could not address all care related issues and tended to focus on the physical needs of the patient such as cleanliness, "…so sometimes we only wash the face" (see chapter 4, section 4.3.5).

According to Razavi, Nejad and Talebian (2013:14) increased workloads contribute to adverse events such as medication errors, unplanned extubations, and patient injuries. Moreover, if the nurse-to-patient ratio increases, the workload also increases, nurses are more stressed and may not be able to care for patients efficiently and effectively. Consequently, the increased workload leads to errors and adverse events such as unplanned extubations and patient injuries that contribute to high patient mortality (Knudson, 2013:6). However, the number of critical care nurses alone does not contribute to good patient outcomes; therefore, it is crucial to have skilled and competent nurses (Izumi, 2012:4).

Finally, the working conditions (extrinsic factors) were experienced negatively by the critical care nurses and contributed to job dissatisfaction. CCNs apparently received little support and their request for additional staff was seemingly ignored by management.

5.2.3 Objective 3: To determine ways to enhance staffing management in the critical care unit at the hospital under study

Participants highlighted the need for more experienced and trained staff in the CCU to enable quality patient care (see chapter 4, section 4.3.6.1). Nobanar (2016:2398) suggests that CCNs should be competent (clinical and professional) for better staffing and improved patient outcomes. According to Lakanmaa, Souminen, Ritmala-Castrén, Vahlberg *et al.* (2015:5) CCNs should have a higher clinical and professional competence to cope with the technical and skills requirements of CCUs. Several studies have confirmed that CCUs which are staffed with trained CCNs had lower rates of hospital acquired infections, lower mortality rates and decreased staff turnover (Aiken *et al.*, 2012: 67; Weinberg & Perllof, 2012:7; Blegen *et al.,* 2013:92).

In addition, a number of participants expressed a need for an improved working environment whereby they are supported, motivated, recognised and provided with the latest equipment. Moreover, the AACN (2015:13) recommend that a healthy work

environment should be characterised by effective communication, true collaboration, effective decision making, appropriate staffing, meaningful recognition and authentic leadership.

Several participants indicated that the shortage of life saving equipment pose some difficulty in executing nursing tasks, “if we could have more advanced equipment we could work better” (see chapter 4, section 4.3.2). Divatia, Khan and Sheila (2011:473) postulates that CCUs should have lifesaving equipment readily available for unforeseen complications for example; airway complications and cardiovascular collapse.

The findings of the study demonstrated the necessity for supportive staff such as porters, care workers and ward assistants to assist with basic non-nursing duties, “if possible for them to get us ward assistants like they can help us get food for our patients from the kitchen, at least they can transport like taking the medication trolley to pharmacy or taking blood to (National Institute of Pathology) NIP” (see chapter 4, section 4.3.1). Moreover, these non-nursing duties are time consuming, limit the time available for patient care and contribute to job dissatisfaction. Participants indicated that supportive staff assist with quality patient care by reducing stress caused by heavy workloads (Marshall, *et al.,* 2017:273).

In addition, managers should show empathy for the plight of critical care nurses as described by some participants, “…if our hospital managers understand what is ICU we can be assisted better” (see chapter 4, section 4.3.2.). According to Herzberg’s theory (see chapter 2, section 2.6) CCNs tend to be satisfied with their job when they are recognised and supported by their managers. Consequently, job satisfaction assist with staffing management as CCNs are likely to remain in an organisation (Masum *et al*., 2016:14).

Finally, appropriate staffing, i.e. skilled and experienced critical care nurses are necessary to compile staffing plans that meet the needs of patients. As a result, critical care nurses should be trained either through formal education programmes or undergo short courses. Many participants recognised the need for empowerment, training and continuous professional development to promote job satisfaction (see chapter 4, section, 4.3.4). The findings of previous research studies suggest that staffing CCUs with nurses who are in possession of baccalaureate degrees, for example, contributes to improved patient outcomes (Blegen, 2013: 90; Weinberg, Azad & Hoque, 2015:14).

5.3 LIMITATIONS OF THE STUDY

The study was conducted in the public healthcare facilities in Namibia and private healthcare facilities were excluded. Furthermore, CCNs working in the private sector may have different views on the topic under study.

5.4 RECOMMENDATIONS

The following recommendations are made based on the objectives, information and evidence derived from this study. These recommendations should assist to improve staffing and working conditions of critical care nurses.

5.4.1 Staff development

The results revealed that more trained CCNs are needed to provide quality patient care. Unit managers play a key role in the continuous professional and personal development of staff in a CCU. However, professional and personal development plans should be done in consultation with CCNs. In addition, training and development comprises formal training, in-service training, workshops, seminars, appropriate orientation and mentorship (Chaghari, Saffari, Ebadi & Ameryoun, 2017:30). According to Aiken *et al*. (2014: 7) when nurses are equipped with knowledge, patient safety and outcome are also improved. Furthermore, it is necessary to value and empower CCNs in order to influence the quality of patient care. Empowerment can be achieved through several strategies such as creating a therapeutic environment, engaging leadership, and empowering the environment through magnet recognition (Potratz, 2012:25).

In-service training **-** Critical care nurses are responsible to keep themselves updated with the latest knowledge to enhance skills. Consequently, it is necessary to collaborate with training institutions establishing formal regular compulsory refresher courses for all nurses working in the critical care unit (Islan, Kol & Turkay, 2017:9). Furthermore, regular and well planned in-service training sessions in the critical care unit enhance critical care nurses' knowledge, skills and abilities to perform their daily duties (Letlape, Coetzee, Koen & Koen, 2014:6). In order to facilitate the process, an in-service training committee should be established in the unit and the committee should develop an in-service training needs assessment form. Training should therefore be based on the priority needs of the critical care nurses (Letlape *et al*., 2014: 8). Herzberg's theory suggests that when CCNs are afforded opportunities to advance their knowledge, they tend to be satisfied with their job and consequently are more productive (see chapter 2, section 2.6).

Workshops **-** Critical care nurses should be motivated to attend workshops which would contribute to their personal and professional growth (Jordan, 2013:4). Workshops should

be planned in such a way that every CCN gets a chance to attend. Furthermore, there should be a formal way of giving feedback after a staff member attends a workshop in order to share knowledge gained with those who did not attend (Eslamian, Moeini & Soleimani, 2015:380). Participants expressed feelings of satisfaction when they possess a certain or some degree of knowledge and skills which others do not possess (see chapter 4, section 4.3.3).

Orientation **-** A detailed and proper orientation programme should be developed in consultation with relevant stake-holders for newly graduate nurses who are allocated to the CCU (Bayley, Burnell, Patterson & Reading, 2010:211). An orientation programme will aid the transition of newly graduate nurses to competent critical care nurses and therefore increase job satisfaction (Ashton, 2015: 148). In addition, early exposure to a critical care department, by increasing the number of critical care nursing hours at the beginning of students' training programmes will stimulate interest in critical care nursing (see chapter 4, section 4.3.5).

Mentoring **-** Owing to the acute shortage of critical care nurses, it is important to have a mentoring programme for staff retention in the CCU. The mentioned programme has been tested and has worked in other disciplines such as mental health (Harding & Mawson, 2017:7). Moreover, the programme should be designed in such a way that an experienced CCN acts as a mentor of a junior inexperienced nurse. According to Foley (2011:278) this programme is anticipated to benefit both the mentor and the mentee whereby they both aspire to attain higher levels of knowledge and professional satisfaction.

In addition, there should also be an effective coaching programme in place to provide guidance to CCNs, and maximise their potential for personal and professional growth (American Holistic Nurses Association (AHNA), 2017: np). Coaching improve interpersonal relationships, enhances CCNs' careers and improves the quality of care rendered, which consequently contributes to job satisfaction (Therrell, 2017:np).

5.4.2 POLICIES

Risk management ensuring the safety of employees is one of the important responsibilities of an employer. Hospital management should establish a committee that will promote physical and psychological safety of all nurses as per risk management standards (Bezuidenhout, 2014:404). All policies related to occupational health and safety should be implemented to prevent medico-legal hazards. Owing to a high level of stress among CCNs, the participants indicated the need to have a professional

psychologist appointed to take care of their psychological needs. If recruiting a professional psychologist would not be feasible: there should be support groups in the hospital for critical care nurses to support one another psychologically.

5.4.3 SUPPORTIVE WORK ENVIRONMENT

A supportive work environment is one of the most important aspects that every nurse manager should establish to increase nurses' job satisfaction and consequently improve patient outcomes. According to Huber (2010:587) nursing must provide for a balanced work life in which it allows CCNs freedom to recover from a busy day of work. Furthermore, CCNs should be motivated and supported to enhance job satisfaction.

Motivation **-** It is important to develop support strategies that would motivate CCNs. This could be achieved by empowering and involving CCNs in decision-making (Bawafaa, Laschinger & Wong, 2015:618). Participants stated that managers should be understanding and supportive towards critical care nurses. Moreover, the implementation of the nursing excellence award that was recently launched by MOHSS (2017:np) may also motivate CCNs. Bezuidenhout (2014:330) recommends conducting annual surveys regarding CCNs' satisfaction to identify major causes of job dissatisfaction in order to then address such shortcomings.

Leadership and interpersonal communications **-** No leadership style is suitable in all situations. However, Jordan (2015:110) confirms that the use of transformational leadership in critical care units could result in job satisfaction and staff retention. In this type of leadership, a leader empowers, motivates, respects, recognises and stimulates subordinates to excel (Thomas, 2015:63). Hence, nurse mangers should utilise the transformational leadership style to increase CCN autonomy, communication, and commitment to an organization. Furthermore, nurse managers should create a therapeutic environment whereby communication principles are adhered to. According to, Kourkouta and Papathanassiou, (2014:64) CCNs appreciate when they communicate with each other effectively with feelings of empathy, acceptance, kindness, trust and harmony.

Financial incentives **-** According to Herzberg's theory (see chapter 2, section 2.6) financial incentives such as salaries contribute to CCNs' job satisfaction. It is therefore important to review their salaries in order to be in-line and correspond with the type of work they do. It was found that offering competitive salaries could improve CCNs' job satisfaction and consequently staff retention (Oni-Ojo, Salau, Dirisiu, Waribo, 2015:84). Except for competitive salaries, CCNs could be motivated through other financial

incentives i.e. the Pay for Performance (P4P) model. According to this model, extra financial incentives are paid to the CCNs who performs exceptionally well in certain metrics for example: improved patient outcome, patient satisfaction and efficient use of facilities in the provision of care (Baird, 2016:np). Moreover, utilising the P4P model contributes to improved quality care, increases job satisfaction and consequently staff retention (Epstein, 2012:1852). Finally, offering incentives such as allowances for nurses working in specialist units such as CCUs could result in job satisfaction (Alushi *et al*., 2016:106).

***Non- financial incentives* -** According to Lambrou, Kontodipoulus and Niakas (2010: 26) financial incentives alone are not enough to motivate CCNs. Similarly, the Herzberg theory denotes that CCNs are more satisfied with intrinsic factors such as recognition, achievement, work itself and advancement (see chapter 2, section 2.6). Therefore, nurse managers should recognise and acknowledge CCNs contributions and commitment to the organisation despite lack of funding. Recognition can be conveyed through performance awards, allowing CCNs to have flexible working arrangements and creating a positive work environment (WHO, 2008:17).

***Equipment* -** Advanced and sufficient equipment is necessary to improve a work environment, but lack of knowledge on how to use equipment may act as a barrier to patient care (Engstrom, *et al*., 2017:122). Participants indicated the need to be provided with advanced equipment so that they can work better (see chapter, section 4.3.5.4). However, if it is not viable to get all the required equipment, the available equipment should be serviced regularly to prevent unnecessary faults or malfunctioning (Bakshi, Heydari, Najar: 2015:392). As a result, management have to establish and implement regular service plans of equipment in the CCU. Nurse managers also need to budget and procure patient lifting equipment to avoid back-ache and other physical ailments that may result from lifting patients (Lee & Lee, 2017:58).

5.4.4 MAGNET ACCREDITATION

Provision of quality patient care is the goal of every health care organisation. Similarly, the ANCC (2012:np) require hospitals to implement certain criteria related to nurses and patient safety as described in chapter 2, section 2.6.1.2. According to Friese *et al.*, (2015:7) hospitals that were afforded a magnet status had a favourable conducive work environment characterised by good leadership, competitive salaries, increased nurse autonomy, and improved patient outcomes. As a result, there is increased nurses' job satisfaction and consequently staff retention (Aiken, Kelly & McHugh, 2015:5). Hence,

MOHSS should strive for magnet accreditation in Namibia to establish a conducive work environment for CCNs.

5.4.5 QUALITY ASSURANCE

Nurse Managers are responsible to ensure quality patient care in the critical care unit. Consequently, they have to develop standards of patient care consistent with the principles of quality care (WHO, 2014:6) and approved by the relevant stakeholders (Bezuidenhout, 2014:417). When quality principles are in place, patients are protected from commonly reported adverse events such as medication errors, unplanned extubations, pneumothorax, and accidental removal of intravenous lines (Garrouste-Orgeas *et al*., 2012:5). Moreover, an appropriate evaluation tool, based on patients' needs, should be developed and reviewed regularly to assess the performance of nurses against the set standards (Patel, 2010:29). Furthermore, all nurses are expected to familiarise themselves with such standards.

5.5 FUTURE RESEARCH

A quantitative study to determine the level of job satisfaction for CCNs may be useful in providing more information regarding staff shortage and job satisfaction. Furthermore, a quantitative research study may provide more information regarding quality of care by measuring the variables or elements of quality care.

5.6 DISSEMINATION

The study will be available on the website of the Stellenbosch University. In addition, the study will be presented at relevant academic seminars. Articles derived from this study will be published in peer reviewed journals. Furthermore, the findings of the study will be distributed to the management of the hospital under study as well, as the permanent secretary of MOHSS.

5.7 CONCLUSION

The study revealed that management used inappropriate staffing strategies that resulted in the allocation of untrained critical care nurses to CCUs. In addition, participants worked with a high nurse to patient ratio while not supported by their manager; this led to stress among the CCNs.

Intrinsic factors (motivator) such as work itself, lack of recognition, achievements and advancements motivate an employee to high levels of performance. These aspects were viewed as negative experiences and could lead to job dissatisfaction.

Extrinsic factors (hygiene) influencing job satisfaction, such as leadership, work conditions, salaries and interpersonal relations were experienced negatively by critical nurses. These aspects led to job dissatisfaction as some of the participants apparently had no support or in-service training. However, some participants were satisfied with nursing care provided in the CCU, leadership and management practices.

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ANNEXURES

ANNEXURE1: SEMI STRUCTURED INTERVIEW GUIDE

Title: The experiences of critical care nurses regarding staff shortage at a regional hospital in Namibia.

Part 1: Demographic data

1.1 Age

1.2 Gender

1.3 Nurse category or rank (e.g. unit manager, registered nurse)

1.4 Critical care trained (yes or no)

1.5 Number of years working in this critical care unit

Part 2: Open ended questions

1) Describe your experiences regarding current staffing in the critical care unit

Probing words: workload, stress, coping strategies, challenges

2) Describe how current staffing strategies influences the work environment

Probing words: supportive, motivating, satisfying

3) Can you tell me how current staffing influences patient care? Give your views.

Probing words: good, negatively, consequences

4) Can you tell me about the current coping strategies used in the critical care unit? How do you wish to be assisted to cope better?

Probing words: overworked, incentives, ancillary staff and support.

ANNEXURE 2: PARTICIPANT INFORMATION AND CONSENT FORM

PARTICIPANT INFORMATION LEAFLET AND CONSENT FORM

TITLE OF THE RESEARCH PROJECT:

The experiences of critical care nurses regarding staff shortage at a main referral hospital in the northern Namibia: Oshana region.

REFERENCE NUMBER: S17/03/068

PRINCIPAL INVESTIGATOR: Ms Monika N Ndikwetepo

ADDRESS: ERF 2531 Otjomuise – Windhoek: Namibia

CONTACT NUMBER: CELL: +264 81 468 4645

E-mail**:** **meamenon@yahoo.com**

You are being invited to take part in a research project. Please take some time to read the information presented here, which will explain the details of this project. Make sure that you aware and satisfied with every detail of the project before partaking by asking the researcher any questions about any part of this project that you do not fully understand. Please note that your participation is **entirely voluntary** and you are free to decline to participate or to withdraw at any point. Also, be assured that refusing to participate or withdrawing from the study will not affect you in any way.

This study has been approved by the **Health Research Ethics Committee at Stellenbosch University** and will be conducted according to the ethical guidelines and principles of the Stellenbosch University, international Declaration of Helsinki, South African Guidelines for Good Clinical Practice and the Medical Research Council (MRC) Ethical Guidelines for Research.

What is this research study all about?

With the escalating need of nurses in the country, one needs to know and understand how critical care nurses experience their day-to-day work in a short-staffed critical care unit. To date, no study or literature is available pertaining to the experiences of critical care nurses regarding staff shortage in the Namibian context.

This study is aimed at exploring the experiences critical care nurses who have a minimum of one year working experience in a critical care unit at a regional hospital in Namibia. The main public referral hospital in the region will be used to explore the experiences of critical care nurses regarding staff shortage.

In total, 10 critical care nurses who meet the inclusion criterions will be interviewed individually until data saturation occurs.

Interview procedure:

- Participation has been purposefully selected by the researcher and unit manager
- An appointment date will be scheduled with all interested participants to conduct a one-to-one interview at a venue of the participants' choice; of about 30-60 minutes in duration.
- Interviews will be audio-recorded and transcribed.
- The interviews will be conducted by the research assistant not affiliated to the hospital
- All participants will be given a pseudonym to enhance protection of identity, confidentiality and ensure anonymity.
- Participation is voluntary and you are free to withdraw at any point.

Why have you been invited to participate?

You meet the inclusion criteria and so assumed to have experienced the critical care unit with regard to staff shortage.

What will your responsibilities be?

- Read this leaflet.
- Think about, reflect and respond honestly to questions on your experiences regarding staff shortage.
- Complete and sign this consent form in duplicate. Keep one form for yourself and give the other to the researcher.

Will you benefit from taking part in this research?

There will be no direct benefits to participants, however the information from the study will create awareness on the experiences of critical care nurses and advocate for policy improvements within the nursing profession.

Are there risks involved in your taking part in this research?

There will be no direct risks involved. However, you may become uncomfortable or emotional distressed and should that happen, professional counselling will be provided. Declining to participate will not affect you negatively in any way whatsoever. All information will be treated with confidentiality, anonymity and privacy.

If you do not agree to take part, what alternatives do you have?

There are no alternatives – either you participate or not. You may withdraw your consent at any time and discontinue participation without penalty. Participation is voluntary.

Who will have access to your participant records?

All information collected during interviews will be treated as confidential. The identity of the participant will remain anonymous at all times, including in any publication or thesis resulting from the study. All data will be locked up in a safe for a period of five years and will only be made available to the supervisor, co-supervisor and research ethics committee upon request.

Will you be paid to take part in this study and are there any costs involved?

No, you will not be paid to take part in the study. There will be no costs involved for you, if you do take part since participation is on a voluntary basis.

Is there anything else that you should know or do?

You can contact the **Human Research Ethics Committee of the Faculty of Medicine and Health Sciences at 021-938 9207** if you have any concerns or complaints that have not been adequately addressed by the interviewer.

You will receive a copy of this information and consent form for your own records.

Declaration by participant

By signing below, I ……..……. agree to take part in a research study entitled “The experiences of critical care nurses regarding staff shortage at a regional hospital, Namibia.”

I declare that:

- I have read or had read to me this information and consent form and it is written in a language with which I am fluent and comfortable.
- I have had a chance to ask questions and all my questions have been adequately answered.
- I understand that taking part in this study is **voluntary** and I have not been coerced to take part.
- I may decide to terminate the study at any time and will not be penalised or prejudiced in any way.
- I may be asked to leave the study before it has finished, if the researcher feels it is in my best interests, or if I do not follow the study plan, as agreed to.

Signed at (*place*) .....…..…….. On (*date*) ……...…….. 2017.

....

Signature of participant **Signature of witness**

Declaration by investigator

I Monika N Ndikwetepo declare that:

- I explained the information in this document to ……..
- I encouraged him/her to ask questions and took adequate time to answer them.
- I am satisfied that he/she adequately understands all aspects of the research, as discussed above
- I did not use an interpreter.

Signed at (*place*) .....…..…….. on (*date*) ……...…….. 2017.

.....

Signature of investigator

....

Signature of witness Date

....

Signature of research assistant Date

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Signature of research assistant Date

……

ANNEXURE 3: ETHICAL APPROVAL FROM STELLENBOSCH ETHICAL COMMITTEE

UNIVERSITEIT•STELLENBOSCH•UNIVERSITY
jou kennisvennoot • your knowledge partner

Approval Notice
Response to Modifications- (New Application)

16-May-2017
Ndikwetepo, MONIKA MN

Ethics Reference #: S17/03/068
Title: The experiences of critical care nurses regarding staff shortage at a regional hospital in Namibia

Dear Miss MONIKA Ndikwetepo,

The **Response to Modifications** - ***(New Application)*** received on **16-May-2017**, was reviewed by members of **Health Research Ethics Committee 2** via Expedited review procedures on **16-May-2017** and was approved.
Please note the following information about your approved research protocol:

Protocol Approval Period: **16-May-2017 -15-May-2018**

Please remember to use your **protocol number** (**S17/03/068**) on any documents or correspondence with the HREC concerning your research protocol.

Please note that the HREC has the prerogative and authority to ask further questions, seek additional information, require further modifications, or monitor the conduct of your research and the consent process.

After Ethical Review:
Please note a template of the progress report is obtainable on www.sun.ac.za/rds and should be submitted to the Committee before the year has expired. The Committee will then consider the continuation of the project for a further year (if necessary). Annually a number of projects may be selected randomly for an external audit.
Translation of the consent document to the language applicable to the study participants should be submitted.

Federal Wide Assurance Number: 00001372
Institutional Review Board (IRB) Number: IRB0005239

The Health Research Ethics Committee complies with the SA National Health Act No.61 2003 as it pertains to health research and the United States Code of Federal Regulations Title 45 Part 46. This committee abides by the ethical norms and principles for research, established by the Declaration of Helsinki, the South African Medical Research Council Guidelines as well as the Guidelines for Ethical Research: Principles Structures and Processes 2004 (Department of Health).

Provincial and City of Cape Town Approval

Please note that for research at a primary or secondary healthcare facility permission must still be obtained from the relevant authorities (Western Cape Department of Health and/or City Health) to conduct the research as stated in the protocol. Contact persons are Ms Claudette Abrahams at Western Cape Department of Health (healthres@pgwc.gov.za Tel: +27 21 483 9907) and Dr Helene Visser at City Health (Helene.Visser@capetown.gov.za Tel: +27 21 400 3981). Research that will be conducted at any tertiary academic institution requires approval from the relevant hospital manager. Ethics

Annexure 4: Letter requesting permission from MOHSS

Date : 17 May 2017

To : Dr A Mwoombola
Permanent Secretary
MOHSS

Re : **Application to conduct a health related research**

Title: The experiences of critical care nurses regarding staff shortage at a regional hospital in Namibia.

Dear Sir

I am here by applying for ethical clearance to conduct a health related research with the above title. The following documents are attached:

1. The ethical clearance application form
2. The research proposal and data collection tool
3. The curriculum vitae of the researcher
4. Ethical approval letter from Stellenbosch University

I hope my application shall receive your utmost attention.

Sincerely

Monika Ndikwetepo
Student number: 18852939

ANNEXURE 5: LETTER GRANTING PERMISSION FROM THE MOHSS

REPUBLIC OF NAMIBIA

Ministry of Health and Social Services

Private Bag 13198
Windhoek
Namibia

Ministerial Building
Harvey Street
Windhoek

Tel: 061 – 203 2562
Fax: 061 – 222558
E-mail: hnangombe@gmail.com

OFFICE OF THE PERMANENT SECRETARY

Ref: 17/3/3 MN
Enquiries: Dr. H. Nangombe

Date: 19 June 2017

Mrs. Monika Ndikwetepo
University of Stellenbosch
PO Box 25224
Windhoek
Namibia

Dear Mrs. Ndikwetepo

Re: The experiences of critical care nurses regarding staff shortage at a Regional Hospital in Namibia

1. Reference is made to your application to conduct the above-mentioned study.

2. The proposal has been evaluated and found to have merit.

3. Kindly be informed that permission to conduct the study has been granted under the following conditions:

3.1 The data to be collected must only be used for academic purpose;

3.2 No other data should be collected other than the data stated in the proposal;

3.3 Stipulated ethical considerations in the protocol related to the protection of Human Subjects should be observed and adhered to, any violation thereof will lead to termination of the study at any stage;

3.4 A quarterly report to be submitted to the Ministry's Research Unit;

3.5 Preliminary findings to be submitted upon completion of the study;

3.6 Final report to be submitted upon completion of the study;

3.7 Separate permission should be sought from the Ministry for the publication of the findings.

Yours sincerely,

Andreas Mwoombola (Dr)
Permanent Secretary

PERMANENT SECRETARY
MINISTRY OF HEALTH & SOCIAL SERVICES

"Health for All"

ANNEXURE 6: LETTER REQUESTING PERMISSION FROM OSH.

Date : 21 June 2017

To : Mrs Johanna Haimene
Health Reginal Director
Oshana Region

Re : **Permission to conduct a health related academic research**

Topic: The experiences of critical care nurses regarding staff shortage at a Regional Hospital in Namibia

Dear Madam,

I, Monika Ndikwetepo (student number: 18852939) is a Master of Nursing Science student in the Faculty of Health Sciences, University of Stellenbosch. As part of my thesis, I am required to collect data from nurses working in the Intensive Care Unit (ICU) of Intermediate Hospital Oshakati in a form of interviews.

Since I have worked with the proposed participants before, I will not be in a position of conducting interviews myself. As such, Dr Ndapewa Shifiona, a Lecturer from the University of Namibia has been entrusted by the researcher to conduct the required interviews in order to avoid researcher bias.

Given the **urgency in collecting the desired data**, I am hereby applying for permission to conduct a health related academic research as per the title of the study above.

Attached to this application, kindly find the following:

1. The Ethical Approval Letter from Stellenbosch University.
2. The Ethical Approval Letter from the Permanent Secretary: MOHSS

I hope my application shall receive your utmost attention.

Yours Sincerely

Monika Ndikwetepo
Student Number : 18852939
Cell: 0814684645
Email: meamenon@yahoo.com

ANNEXURE 7: LETTER GRANTING PERMISSION FROM OSH MANAGEMENT

REPUBLIC OF NAMIBIA
Ministry of Health and Social Services

Private Bag 5501 — Tel: + 264 65 2233367
OSHAKATI **INTERMEDIATE HOSPITAL OSHAKATI** — Fax: + 264 65 221390
Enquiries: Ms. H. N. Konstantin — Ref: 17/3/3 MN — Date: 29 June 2017

TO: Ms. M. NDIKWETEPO
University of Stellenbosch
P.O. Box 2522
Windhoek
Namibia

Dear Ms. Ndikwetepo

RE: PERMISSION TO CONDUCT AN ACADEMIC RESEARCH ON THE EXPERIENCE OF CRITICAL CARE NURSES REGARDING STAFF SHORTAGE AT A REGIONAL HOSPITAL IN NAMIBIA.

Receipt of your letter dated 21 June 2017 and the permission from the Office of the Permanent Secretary, to conduct the above mentioned study; is hereby acknowledged with appreciation.

This office does not have any objections with regard to the intended study; provided that conditions highlighted on the permission letter from the office of the Permanent Secretary are complied with.

Yours Sincerely

DR. J. AUGUSTINUS
MEDICAL SUPERINTENDENT

MINISTRY OF HEALTH & SOCIAL SERVICES
P/Bag 5501
2017 -06- 29
Oshakati
Namibia
OSHAKATI HOSPITAL

ANNEXURE 8: DECLARATION FROM LANGUAGE EDITOR

MARLEO'S COMMUNICATION SERVICES

Cc 2009/033794/23

Mun2mun@absamail.co.za

Cell: +27 83 6701737

27 November 2017

Confirmation of sub-editing thesis entitled

THE EXPERIENCES OF CRITICAL CARE NURSES REGARDING STAFF SHORTAGE AT A REGIONAL HOSPITAL IN NAMIBIA

I, Leonie Munro of MarLeo's Communication Services, confirm that I subedited the text of the abstract and that of five chapters of the above thesis.

The final proofreading of the text is the responsibility of Monika Namupa Ndikwetepo

MLC Munro

ANNEXURE 9: DECLARATION FROM TECHNICAL EDITOR

TOMAS K NAMUPALA

+264 81 3242380
kaunation2010@gmail.com

Confirmation of technical editing thesis entitled

THE EXPERIENCES OF CRITICAL CARE NURSES REGARDING STAFF SHORTAGE AT A REGIONAL HOSPITAL IN NAMIBIA

I, Tomas K Namupala, confirm that I technically edited the text of the entire document of above stated thesis.

The final confirmation and proofreading of the text is carried out by Monika Namupala Ndikwetepo

Tomas K Namupala

IT Support Technician

Computer Centre

University of Namibia

ANNEXURE 10: TURN IT IN REPORT

turnitin

Digital Receipt

This receipt acknowledges that Turnitin received your paper. Below you will find the receipt information regarding your submission.

The first page of your submissions is displayed below.

Submission author:	MN Ndikwetepo
Assignment title:	Thesis submission link Part 1 (Moo..
Submission title:	Reseach Thesis
File name:	82588_MN_Ndikwetepo_Reseach_...
File size:	176.83K
Page count:	97
Word count:	30,179
Character count:	164,505
Submission date:	28-Nov-2017 08:41AM (UTC+0200)
Submission ID:	886201592