

**A COMPREHENSIVE HEALTH CARE MANAGERIAL  
FRAMEWORK THAT EXPLICATES THE MANNER IN  
WHICH WORKLOAD FACTORS INFLUENCE NURSES'  
WELL-BEING: A CASE STUDY OF A SAUDI ARABIAN  
HOSPITAL**

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Technology

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## Declaration

This is to certify that the work is entirely my own and not of any other person, unless explicitly acknowledged (including citation of published and unpublished sources). The work has not previously been submitted in any form to the Durban University of Technology or to any other institution for assessment or for any other purpose.

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# **Abstract**

## **Background**

The shortage of specialized intensive care unit (ICU) nurses is a workload factor that negatively influences the provision of quality nursing care by compromising workplace productivity and job satisfaction. Work pressures are evident in health systems throughout the world, where there is growing concern over a nursing shortage in relation to the country's disease profile, population increases, chronic disease growth and increased life expectancies. Although workload plays a fundamental role in staff and patient well-being, minimal research has been conducted on the evaluation of workload effects and its impact on nurses' well-being among Saudi Arabian ICU nurses.

## **Aim**

The aim of the study were to determine the various workload factors that influence the well-being of ICU nurses working in a Saudi Arabian Hospital and to develop a comprehensive healthcare managerial framework that explicates the way workload factors influence nurses' well-being.

## **Methodology**

Using a convergent parallel mixed methods design, data were collected by means of semi structured interviews, with 20 participants in the qualitative phase. A survey questionnaire, that was developed and adapted from the Job Demand Resource (JDR) Model, was used to collect to data from 200 participants. The quantitative data were analysed using the latest version 25 of SPSS and qualitative data were analysed using Tesch's method of data analysis.

## **Findings**

The findings from the study were aligned to the JDR Model and provided evidence that ICU nurses experienced various workload factors that influenced

their well-being and productivity. It was found that the high job demands cause strain and health impairment, which are associated with decreased job satisfaction of staff working in the ICUs of Saudi Arabian hospitals. On the basis of these findings, the researcher proposed and developed guidelines for the implementation of a comprehensive managerial framework that explicated workload factors that influence the well-being of the ICU nurses. The proposed framework can be utilized as an interactive tool that will set out clear actionable steps, providing ongoing guidelines on how healthcare organisations should plan and implement suitable workloads, efficiently and effectively, to ensure staff health and well-being.

**Key words:**, health, intensive care, Job satisfaction, nurses, productivity, Saudi Arabia, well-being, workload.

## **Dedication**

This study is dedicated to my late parents, Mr and Mrs Naidoo, who I dearly miss and will always love and remember forever. They would have been extremely proud of my efforts and achievement as they always wanted their children to pursue a career successfully. I also dedicate this study to my late brother Richard Naidoo who was my strength and support throughout my school years. Thank you for investing in my education during my early years of my schooling. I could not have achieved all this success without the foundation you have provided for me academically. I also dedicate this study to my two loving children, Tiffany and Darryn, who I adore very much and thank you for being my pillar of strength during our life challenges.

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## **Glossary of terms**

### **Workload**

Cho *et al.* (2016: 74) define workload as the relationship between the work demands that are placed on an employee, given a specified amount of time and resources.

### **Nursing workload**

Finkler *et al.* (2013: 233) defines nursing workload as the amount of work performed by a patient care unit.

### **WELL-BEING**

Well-being is a broad concept that includes people's satisfaction with their life, their personal development and social functioning (Marks and Shah 2004: 499).

## List of acronyms

<b>Acronym</b>	<b>Full word/sentence</b>
AACN	American Association of Critical Care Nurses
ADC	Average Daily Census
CBC	Canadian Broadcasting Centre
COR	Conservation of Resources Theory
EI	Emotional Labour
ERI	Effort Reward Imbalance Model
FICM	Faculty of Intensive Care Medicine
FTE	Full time Equivalent
HPPD	Hours Per Patient Days
ICU	Intensive Care Unit
ICS	Intensive Care Society
JCI	Joint Commission International
JDR	Job Demand Resource
MOH	Ministry of Health
MSD	Medical Services Directorate
NASA	National Aeronautics and Space Administration
NPR	Nurse Patient Ratio
PCS	Patient Classification System
QoL	Quality of life
QEAW	Questions on Experience and Assessment of Work
RCN	Royal College of Nursing
SPSS	Statistical Package for the Social Sciences
WHO	World Health Organisation

# CHAPTER 1: OVERVIEW OF THE STUDY

## 1.1 INTRODUCTION AND BACKGROUND TO THE STUDY

In medical and nursing systems and structures, the workload is conceived on several different levels. In addition, objective measurements such as attendance and hospitalisation of patients in hospital intensive care units (ICUs) or critical care environments provide useful information about healthcare staff workload dimensions. These measurements also include physical, emotional, and cognitive factors (Holden *et al.* 2011: 15). From the human factor viewpoint, the excessive workload in healthcare shows its effect in the forms of patient and staff-related outcomes such as staff demotivation, job dissatisfaction and increased staff turnover (Chui *et al.* 2009: 258). Although workload plays a fundamental role in staff and patient's well-being, minimal research has been conducted on the evaluation of workload effects and its impact on nurses' well-being among ICU nurses in Saudi Arabia. Well-being not only contributes to reducing the risk of mental problems to ICU nurses but also reduces many work-related issues, such as the completion of tasks, workplace errors due to burnout and increases the quality of workplace relationships, motivation and engagement (Farquharson *et al.* 2012: 1624).

According to the World Health Organisation (WHO), a healthy workplace environment is essential, where workers and managers collaborate for continuous quality improvement processes, to protect and promote the health, safety, and well-being of all employees (WHO 2015: 3). The shortage of specialized ICU nurses because of the above factors may, therefore, impact on their ability to stay focused to provide quality and safe nursing care and can contribute to their well-being thus affecting their ability to be productive. As a result, working in ICU's might be perceived as stressful and demanding emotionally with possible poor health outcomes for nurses' well-being (Hsu *et al.* 2010:1592). Nurses who work in the various ICUs are exposed to different types of workload factors. Changes in healthcare environments and the

dynamic, complex nature of ICUs can have a great impact on ICU nurses' workload, compounded by the fact that ICU nurses also have to provide quality care and ensure patient safety.

Nurses' workload is increased by shortage of nurses, and increasingly they have to play more versatile roles which increases the work demands (Stordeur *et al.* 2010: 533). Practical methods of studying workload among ICU nurses were reviewed and analysed by Kwiecień *et al.* (2012: 209-217), who concluded that the measurement of workload was essential among healthcare workers. Workload represents an important context for studying the well-being of nurses because of different factors that impact on their mental health. Optimal social functioning and performance of work tasks such as patient care delivery clearly demand a significant amount of employees' time and effort. Findings from literature searches revealed a generalized focus on challenges faced by ICU nurses, for example, stress, burnout, and job dissatisfaction. These findings then became a catalyst for this study, whereby the researcher aimed to develop a comprehensive healthcare managerial framework that explicated how workload factors influenced nurses' well-being in the critical areas in a Saudi Arabian Hospital.

## **1.2 PROBLEM STATEMENT**

The healthcare system and the health infrastructure in Saudi Arabia are improving and developing gradually. Nevertheless, the shortage of nurses and the increasing demand for national nurses in Saudi Arabian hospitals have become critical issues for health policymakers. There is an increase in demand for critical care services in the Kingdom of Saudi Arabia and globally. This demand is attributable to the increasing population age, longer survival of previously incurable diseases, and advanced surgical procedures that make post-operative intensive care admission mandatory. Most nurses working within the Saudi Arabian healthcare system come from other countries and should they terminate their contracts for whatever reason, the Saudi Arabian healthcare system and public hospitals will be faced with a crisis due to loss

of human resources. Therefore, to retain the workforce from outside the country, the Saudi Arabian healthcare system should focus on job satisfaction and well-being of nurses. Researchers have found that there are many workload variables, such as work environment, age, job demands, level of skills and, patient and organisation expectations that can influence nursing well-being (Borkowski 2011: 19).

Many programmes to improve the quality of nursing care and to retain staff are implemented. Programmes such as the reward and recognition programmes, employee of the month and long-term service awards fail to address the issue of nurses' well-being. While there is a plethora of literature sources on patient safety, medication errors, job satisfaction, factors contributing to intention to leave, burnout and workplace stressors, there is a paucity of literature on the impact of workload factors on nurses' well-being in ICUs, from a nursing perspective in Saudi Arabia. A greater understanding of nurses' experiences will not only provide a baseline from which to work, but it will help raise awareness throughout the various ICU's related to workload and well-being and to identify workload factors most in need of improvement.

### **1.3 AIM OF THE STUDY**

The aim of the study was to determine the various workload factors that influence the well-being of ICU nurses working in a Saudi Arabian Hospital and to develop a comprehensive healthcare managerial framework that explicates the way workload factors influence nurses' well-being.

### **1.4 OBJECTIVES OF THE STUDY**

The objectives of the study were to:

- Determine the workload factors that influence ICU nurses' well-being in a Saudi Arabian hospital.

- Explore nurses' experiences regarding workload factors in a Saudi Arabian hospital.
- Develop a comprehensive healthcare managerial framework that explicates how workload factors influence the nurses' well-being.

### **1.5 RESEARCH QUESTIONS**

- What are the workload factors that influence ICU nurses' well-being in a Saudi Arabian hospital?
- What are nurses' experiences regarding workload factors in a Saudi Arabian hospital?

### **1.6 SIGNIFICANCE OF THE STUDY**

ICU nurses play versatile roles and their workload extends beyond the care of the patient with additional team and organisational responsibilities. Their well-being can be conceptualized as a spectrum, with happiness and high well-being at one end, and depression, anxiety, and low well-being at the other. Human factors are important contributors and play an important role in staff well-being (West *et al.* 2012: 22). Research on these associations is imperative and relevant now more than ever due to increased pressures on healthcare service budgets, causing growing concerns around staff working conditions, morale and well-being.

In Saudi Arabia, no studies focus on workload and well-being among nurses in an ICU environment. Most studies are related to workload and patient safety. Work pressures are evident in health systems where there is growing concern over a nursing shortage in relation to the country's disease profile, population increases, chronic disease growth and increased life expectancies.

It was essential to explore the experiences of nurses working in an ICU environment in a Saudi Arabian hospital in the Southern Region of Saudi Arabia. Based on the findings of this study on the workload factors influencing nurses' well-being, the researcher's recommendations will assist hospital

management, nurse managers, nursing education and policy makers with the implementation of employee well-being programmes. The development of a comprehensive, healthcare managerial framework will explicate how workload factors influence nurses' well-being. Further recommendations from this study regarding the early identification of the various workload factors, with early detection and intervention strategies will also assist in the prevention of factors leading to staff dissatisfaction and thereby promote staff retention.

## **1.7 STRUCTURE OF THE THESIS**

### **CHAPTER 1: BACKGROUND AND THE OVERVIEW OF THE STUDY**

The background of the study and an overview is presented in Chapter 1. This includes the problem statement, the aim, key objectives and significance of the study, a brief review of the related literature and the methodological approach of the study.

### **CHAPTER 2: LITERATURE REVIEW**

A literature review of the sources that are relevant to the research topic are discussed in Chapter 2.

### **CHAPTER 3: THEORETICAL FRAMEWORK**

In Chapter 3, the theoretical underpinnings of study are discussed. The conceptualization of how the workload factors relate to well-being dimensions are explored and discussed within the context.

### **CHAPTER 4: RESEARCH METHODOLOGY AND DESIGN**

In Chapter 4, the research methodology and design

### **CHAPTER 5: PRESENTATION OF RESULTS: (QUANTITATIVE DATA)**

The analysis and results of the quantitative data are presented in Chapter 5.

## **CHAPTER 6: PRESENTATION OF FINDINGS: (QUALITATIVE DATA)**

In Chapter 6, the analysis and results of the qualitative data are presented.

## **CHAPTER 7: DISCUSSION OF FINDINGS**

In this chapter, literature sources that either support or refute the findings of the study will be reviewed.

## **CHAPTER 8: DEVELOPMENT OF A COMPREHENSIVE HEALTHCARE MANAGERIAL FRAMEWORK**

In Chapter 8, a developed comprehensive healthcare managerial framework that explicates how workload factors influence the nurses' well-being is presented.

## **CHAPTER 9: CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS**

The conclusions, limitations and recommendations of the study are presented in Chapter 9.

### **1.8 SUMMARY OF THE CHAPTER**

An overview of the study was presented in this chapter. The objectives of the study, together with the problem statement and rationale, were outlined. The chapter alludes to the influence of workload experiences on ICU nurses' well-being, within the Saudi Arabian Hospital in the Southern Region of Saudi Arabia. A mixed methods design, using the convergent parallel approach to the selected health care organisation in Saudi Arabia confined to all the intensive care units predominantly. In the next chapter, the relevant literature sources on workload factors and nurse's well-being from a global, Middle Eastern and Saudi Arabian viewpoint will be reviewed.

## **CHAPTER 2: LITERATURE REVIEW**

### **2.1 INTRODUCTION**

Aveyard (2014: 2) defines literature review as an interpretation and study of literature, which follows a topic of enquiry and attempts to identify and track down all the available literature on the topic, by following a systematic and comprehensive methodology. A literature review is a process that involves researching, reading, understanding and using the findings from the various literature sources to draw conclusions about a topic. A literature review determines what is known and unknown about a subject, concept, or problem (Burns and Grove 2011: 399). The purpose of the literature review, in this study, was to identify and analyse literature that is related to the concept of workload factors that influence nurses' well-being in a Saudi Arabian hospital critical care environment. There are many terms about the workload that has been known since the 1970s. Various different definitions related to the concept of workload, have been put forward by experts since 1970s. However, a definition of workload according to experts occurs when pre-determined activities must be completed by employees within a preset period of time (Dhaniala, 2010).

### **2.2 PROCESS OF SOURCING RELEVANT LITERATURE**

The advantage of the search process was, to organize the literature review into sections that present themes or identify trends, including relevant theory in order to synthesize and evaluate it according to the guiding concept of the topic of enquiry (Adair and Vohra 2003: 15). For the current study, a literature search was conducted using various search engines, namely Academic Search Complete, Cumulative Index to Nursing, Allied Health Literature (CINAHL) Plus with Full Text, EBSCO Host, Education Resources Information Centre (Eric) on EBSCO Host platform, Google Scholar, Medical Literature online (Medline) with full text, South African (SA) e-publications, Science

Direct, and the Ministry of Health in Saudi Arabia and World Health Organisation (WHO) websites. Different search words related to the research topic were used, namely nursing care delivery systems, workload demands, well-being factors, nursing models of care, workload, well-being, personnel staffing and scheduling, nurse-patient ratio and nursing service, managerial frameworks and job demand. To yield maximum results when conducting the literature search, terms were used independently, and combined with other key terms to broaden search parameters. The literature search was conducted at different stages of the research process.

## **2.3 EMOTIONAL WORKLOAD IN NURSING**

A shrinking nursing workforce, an ageing patient and nursing population, coupled with a mismatch between hospital demands and the available nursing staff, has created a situation detrimental to both patient and nursing personnel well-being. The nurse shortage in Saudi Arabia is mainly attributed to various social, cultural, and educational factors (Abu-Zinadah 2006; Miller-Rosser, Chapman and Francis 2009). Nurses' well-being has never been the focus in Saudi Arabia, and there is no cited literature specific to workload and nurses' well-being, despite studies on general workload, burnout, and job satisfaction in Saudi Arabia.

Although workload plays a pivotal role in staff and patients' well-being, very few studies have been conducted on the evaluation of workload effects on healthcare (Dawson and Zee 2005:1104). Long working hours, working in more than one job, low staffing ratios, high patient acuity, minimal social support, low experience level, complicated equipment, and complex procedures and varying workload are some of the factors that may negatively impact the well-being of nursing personnel. It is recommended that well-being programmes should be provided, especially for nursing staff, in all critical care areas.

The staff in senior management positions should emphasize the importance of interactions among the nursing staff and between the nurses and patients. The performance of emotional labour (EL) has been associated with fewer adverse effects and with more positive psychological and social well-being for hospital nurses. According to Hochschild's Theory, emotional work is the process by which workers have to manage their feelings, in accordance with organisationally defined rules and guidelines, to produce the proper state of mind in others, and the concept of being cared for in a safe place (Hochschild 2003: 7). The concept of EL also refers to a worker's endeavour to display various emotions in compliance with the social and the cultural norms and values rather than what he or she feels. (Huynh *et al.* 2008: 195). According to the original conceptualisation of Hochschild work, EL is an occupational requirement of waged work environments that induces the outward expression of certain emotions during the interactions, and that implies the management of feelings/emotions (Hochschild 2003: 7). In recent years, nursing literature has shown a growing interest in this type of emotional work and its physical and psychological implications (Leka and Jain 2010: 102).

The performance of such emotional work is a valuable coping strategy and should be encouraged by hospital management for nurses' well-being in the workplace environment. The literature indicates that staff well-being has been extensively explored in different industries and that patient well-being and quality has been the focus of many studies in recent years. However, there are very few literature sources on the well-being of healthcare professionals, particularly nurses, who care for these patients. To provide a relevant managerial framework that will explicate the workload factors that influence the well-being of nurses, in the critical care environments within a Saudi Arabian hospital, the researcher conducted a systematic literature review. The sources reviewed included relevant documents such as policy and nursing management sources, books, journal articles and online sources. The literature review enabled the researcher to gain a broader perspective of the topic under study.

## 2.4 DIMENSIONS OF NURSING WORKLOAD

Morris *et al.* (2010: 154) refers to the term, *nursing work*, as the amount of work performance required to carry out a nursing task in a specified time. Lundgrén-Laine and Suominen (2006: 894) argue that patient classification, acuity, and the various categories within the nursing team, play an important role in workload and the performance of various nursing duties. Frengley and Mion (1988: 26) found that the clinical severity concepts and the values occur during the patient admission process and was a predictor of the daily workload. Nursing workload can generally be categorized into low, medium, and heavy workload, based on the level of patient care needed. Carayon and Gurses' (2005: 284) study revealed that nursing workload measures are divided into four different levels: (1) unit level, (2) job level, (3) patient level, and (4) situation level. The study further added that various situations and patient-level workload factors or dimensions were embedded in the job-level workload concept, and the job-level workload factors were embedded or grounded in the unit-level workload. In the clinical unit, for example, numerous nursing tasks need to be performed by a group of nurses during a specific shift, which can also be termed unit-level workload. The type and amount of nursing workload is partly determined by the type of unit and speciality, such as critical care units and general wards which is referred to as the job-level workload. Nursing job performance can also be determined by the situation- and patient-level workloads (Carayon and Gurses 2005: 284).

Higgins *et al.* (2003: 45) have found that the mid-clinical severity group of patients have extended hospital stays and have high scores on nursing workload measurement systems, while Weinger *et al.* (2004: 1419) note that workload is usually measured using physiological, psychological and procedural techniques. Wu and Wang (2001:339) define acceptable workload in the clinical area as a level where an individual can sustain, for a given work shift period, a physiologically steady state without fatigue or discomfort. Chen *et al.* (2011: 57), also agree that an individual's well-being and curtailed work performances may occur when workload moves beyond an acceptable level.

At this level, the workload causes physiological strain, manifesting in heart rate elevation and behaviour changes which result in reduced work pace and poor work performance.

## **2.5 GLOBAL SHORTAGE OF NURSING PERSONNEL**

Nursing shortages, which are prevalent globally, have an adverse impact on health systems (Oulton 2006: 345). Nursing shortage can be defined as an overarching imbalance of supply and demand that is attributed to demographics, the qualifications, availability and willingness to do the work (Kimball and O' Nell 2002: 180). According to Toh *et al.* (2012: 126), a shortage of nurses occurs when the number of nursing staff do not meet the nursing ratios to provide a high quality of care.

Very little information was retrieved from the literature searches on nursing staff workload. An unambiguous definition of workload dimensions is found in the literature and there is an emphasis on the bio-psycho-social functioning of an employee in relation to workload factors (Duffield *et al.* 2006: 16). An increase in workload, not only leads to increased absence from work (Unruh *et al.* 2007: 673), but also results in the decision to withdraw from professional life or change the employment profile (Szubert and Sobala 2006: 325).

Globally, the effect of increased workloads due to staff shortages is being felt acutely in both primary and secondary health care facilities and organisations (American College of Healthcare Executives 2012: 3). Nurses experience heavy workloads in health care systems worldwide. ICUs and well-qualified and skilled healthcare practitioners are becoming more indispensable for the proper functioning and operation of every hospital organisation. The average life expectancy has been extended due to the rapid demographic changes and technological progress., resulting in an increase in the number of patients hospitalised in ICU every year. Global shortages of nursing staff have triggered many debates on the working environment and the workload factors the nursing staff are exposed to, while performing their duties.

Recent research studies have focused on isolating many factors that may cause or contribute, directly or indirectly, to stress and fatigue both, psychological and physiologically, in hospital environments for nurses. However, the stress and fatigue constructs are not well defined in the literature to develop tools to measure these constructs in isolation (Aoki *et al.* 2011; Aiken *et al.* 2001; Fagin 2001). According to Duffield *et al.* (2006: 16), an excessive workload has been identified as a dominant cause of stressors and dissatisfaction among nurses in the workplace (Aiken *et al.* 2001; Fagin 2001, in Duffield *et al.* 2006). A survey conducted in Scotland found that 53.7% of 1200 nurses stated that the workload was too heavy and increased with the work demand, and 49.7% reported that the work pressure was too much and increasing (RCN 2002 in Duffield *et al.* 2006: 16). Increased workloads had a direct effect on nurse retention as nurses felt they were unable to provide the quality of care and the best and safe practices that their patients require, and this increased turnover rates.

Although methods to measure nursing workloads in ICUs have been discussed, there is a consensus in the literature that such measurement is challenging. De Cordova *et al.* (2010: 39) state that nurses' workloads do not only depend upon a specific attribute of guidance, but also on cognitive factors and the complexity and the nature of the working environments. Two major factors were identified as barriers to measure workload namely, nurses' interactions with their patients and the excessive qualitative indicators in patient care processes (Bahadori *et al.* 2014: 16). The Royal College of Nursing survey of 10,000 nurses, conducted in 2013, revealed that 62% of them contemplated resigning or leaving the nursing profession. 61% of the nurses cited *hectic work schedules* as being a hindrance to providing good quality standards of care. 83% of the nurses indicated that an increase in workload led to 5000 nurses leaving the profession in three years (RCN 2013: 1014). A multi-country, cross-sectional study conducted in the ten European countries involving 23,159 nurses working in general surgical and general medical wards reported high levels of burnout and job stress among nurses in the different countries: 42% England, 22% Finland, Belgium 25%, Germany

30%, Poland 40%, Ireland 41%, Norway 24%, Spain 29%, Netherlands 10%, and Switzerland 15%. The intention to leave the nursing profession was also higher among the nurses experiencing burnout (Heinen *et al.* 2013: 174).

An article published by The Canadian Broadcasting Centre, via the Radio Canada broadcast, reported that 40% of nurses from Canada, who participated in a study, experienced burnout and impact on well-being on a daily basis, and 25% indicated that they would not recommend relatives or friends to the respective hospitals they currently work at (CBC Radio-Canada 2013). According to a 2013 survey by the Michigan Centre for Nursing. About 42% of nurses reported that they desire to quit the nursing profession after a period of one to 10 years. (National Nurses United 2015). According to the WHO (2010: 16), India alone needs 2.4 million nurses. Caribbean nations indicated that they have a nurse patient ratio of 1.25 nurses for every 1000 people in their population. According to Malawi data, there are 17 nurses for every 100 000 people in Malawi (WHO 2010:10). These statistics indicate that there is critical shortage of nurses in the world, and yet many are contemplating leaving the profession which will intensify the nursing shortage problem and increase the workload of those who are working (Heinen *et al.* 2013: 174).

## **2.6 THE HEALTHCARE DELIVERY SYSTEM IN SAUDI ARABIA**

The healthcare delivery system in Saudi Arabia has improved and expanded dramatically during the past few years due to the country's growth and development, an increase in the population and improvements in the national health budget (Almalki, FitzGerald and Clark 2011a: 304). Hence, Saudi Arabia has advanced and developed in all healthcare disciplines, particularly in the field of nursing (Al-Dossary *et al.* 2012: 424). Nevertheless, the shortage of Saudi Arabian nurses is a cause for concern, as it significantly affects the efficiency and productivity of the Saudi Arabian healthcare system (Almalki *et al.* 2011a; Almalki 2012; Al-Aameri 2000). In response to the high

demand for health services in general, the Saudi Arabian Government has announced an expansion of these services in all regions of the country. In particular, the Ministry of Health has planned a significant increase, albeit unspecified, in the bed capacity of ICUs. This increase is in addition to the 986 beds that were made available in 2005 in major regional hospitals (Almalki *et al.* 2011b: 784). The increase, for example, in the capacity at the Riyadh Medical Complex alone, will result in a total of 140 ICU beds (Al-Harbi and Yousoff 2012: 59). The rapid expansion of the number of ICU beds in Saudi Arabia in the public tertiary regional hospitals has resulted in an increased demand for appropriately skilled nurses to provide continuous quality care, especially in the ICUs.

The Saudi Ministry of Health is responsible for strategic health planning, health policies for Saudi and non-Saudi residents and for all the health programmes in the country (Al-Dossary *et al.* 2008: 125). Healthcare services in Saudi Arabia have developed gradually, with strong support from the Saudi government, as a high priority for the development of the country. The Ministry of Health provides 63% of the total healthcare services in Saudi Arabia and is the primary provider, with a total of 218 hospitals (30489 beds) and 1905 primary healthcare (PHC) centres (Jannadi, Alshammari, Khan and Hussain 2008: 43). Based on statistics for 2016, physical resources in Saudi Arabia include 462 hospitals (70844 beds) and 2838 primary healthcare centres and hospitals which were staffed by a ratio of 24 physicians and 57 nursing and midwifery personnel per 10000 of the population (Ministry of Health 2016: 201). In Saudi Arabia, 7% of GDP was the total expenditure on healthcare services in 2016 (Ministry of Health 2016: 201).

The shortage of Saudi Arabian nurses is a cause for concern, as it greatly affects the efficiency and productivity of the Saudi Arabian healthcare system (Almalki *et al.* 2011 and Al-Aameri 2000). The government sector of Saudi Arabia has given high priority to the development of healthcare services at all levels: primary, secondary, and tertiary. During the past few decades, healthcare and health services have improved greatly in terms of quantity and

quality. Gallagher (2002: 182) has stated that, although many nations have seen sizable growth in their healthcare systems, it is apparent that Saudi Arabia has achieved, a high level of healthcare nationally. Furthermore, the healthcare services are accessible to all segments of the population.

However, several issues are posing challenges to the healthcare systems and structures, namely a shortage of Saudi health professionals, the health ministry's multiple roles, limited financial resources, changing patterns of disease, high demand resulting from free services, an absence of a national crisis management policy, poor accessibility to some healthcare facilities, lack of a national health information system, and the underutilization of the potential of electronic health strategies (Almalki *et al.* 2011: 304). Consequently, to address these challenges of the Saudi healthcare system and to improve the quality of healthcare services, the Ministry of Health has developed a national strategy for healthcare services and standards. The Council of Ministers finally approved the strategy in April 2009. The strategy focuses on diversifying funding sources, developing information systems and standards, developing the human workforce sectors, activating the supervision and the monitoring roles of the MOH over health services, and encouraging the organisations to provide health services and improve the quality of preventive, curative and rehabilitative care and distributing healthcare services equally to all regions. In order to overcome the challenges and to provide the population with up-to-date, equitable, affordable, organised and comprehensive health care, a royal de-Cree in the year of 2002 led to the establishments of the Council for Health Services, headed by the Minister of Health and including representatives of other government and private health sectors (WHO 2011: 105). Although the aims and objectives of the Council were to develop a policy for coordination and integration among all healthcare service authorities in Saudi Arabia, significant progress has yet to be achieved in this area (Alkhazem 2009: 195).

## 2.7 SHORTAGE OF CRITICAL CARE NURSES IN SAUDI ARABIA

Professional, highly specialised nurses are central to the quality of care delivered in an ICU environment. Their role includes caring for patients with complex and multiple needs and where clinical errors can be life threatening (Rice and Nelson 2005: 431). Nurses are the largest professional group working permanently in ICU, where they play a significant role in recognising clinical risks and contributing to the improvement of patients' condition (Twibell *et al.* 2008: 66). The WHO reported that there are only 40 nurses for every 10,000 of the Saudi Arabian population (WHO 2004: 105). In 2010, there was a chronic nursing shortage of 30% which has increased by the heavy migration of nurses. Globally, nursing shortage and staff turnover continue to be important issues for health care systems. According to Oulton (2006: 346), shortage of nurses illustrates “*an imbalance between demand for employment and the available supply*”. Whereas, Robbins *et al.* (2008: 25) describes turnover as “*the voluntary and involuntary permanent withdrawal from an organization*”. Many countries are concerned about these issues, including Saudi Arabia (Oulton 2006: 345). The Saudi literature linked the shortage of Saudi nurses to socio-cultural factors which influenced the prevailing negative images of nursing as a low status profession.

Saudi Arabia, like many countries of the world, is being challenged by a nursing shortage in the general and critical care areas. The overall community image, family disagreements, cultural and communal values, long working hours, mixing with members of the opposite sex, and the concern of not being a ‘marriageable’ prospect were some of the main reasons why Saudi females did not choose nursing as a career (Miligi and Selim 2013: 55).

However, the nursing needs of Saudi Arabia far exceed the supply of Saudi nurses. Despite continued efforts to increase the number of Saudi nurses by 2010, expatriate nurses still constituted 74% of the total nursing workforce in Saudi Arabia (Ministry of Health Annual Report 2010). In Saudi Arabia, nursing is a less desirable career choice for Saudi nationals in comparison to

other professions. According to Abu-Zinadah (2006), because of the nursing shortage, Saudi Arabia needs 25 years to train ICU Saudi nurses to cover 30% of the nursing labour requirements. Therefore, it is crucial to examine factors that improve nurses' job and well-being within the critical care environments. The Saudi Arabian government has committed enormous resources to improve health care, with the goal of providing free and accessible healthcare services for every Saudi national and expatriate working within the public sector (Al-Dossary *et al.* 2008: 125).

## **2.8 SAUDI ARABIAN WORKLOAD FACTORS AND WELL-BEING AMONG NURSES**

In Saudi Arabia, the statistics are not quantified due to the disproportionate numbers of expatriates versus the Saudi Arabian nurses. The 2030 vision of the country is to implement Saudisation. The Royal Monarchy within Saudi Arabia decreed that all private and public sectors of the workforce would be subjected to a policy of Saudisation by 2030 to reduce the reliance on the expatriate workforce and to reduce the unemployment rate of Saudi nationals (Al-Mahmoud *et al.* 2012: 379). However, the nursing needs of Saudi Arabia far exceed the supply of Saudi nurses. Despite continued efforts to increase the number of Saudi nurses by 2010, expatriate nurses still constituted 74% of the total nursing workforce in Saudi Arabia (Ministry of Health Annual Report 2010:45).

In Saudi Arabia, many research studies conducted in various geographical regions, namely in the city of Jeddah, Riyadh, Dammam and Hail have examined job satisfaction concepts among combined cohorts of Saudi and non-Saudi nurses working in both the private and public healthcare sectors. These studies included a variety of related variables, such as job satisfaction and organisational commitment, leadership style, hospital performance and job satisfaction, as well as burnout and intention to stay (Al-Aameri 2000; AlAhmadi 2009; Al-Dossary, Vail, and Macfarlane 2012; El-Gilany and Al-

Wehady 2001; Mitchell 2009; Omer 2005; Zaghloul, Al-Hussaini and Al-Bassam 2008).

There was a marked paucity of literature relating to job satisfaction and nurses' well-being and rates of job dissatisfaction among national Saudi Arabian nurses. Job satisfaction among nurses has long been documented as an important indicator of how nurses can improve their performance and the quality of patient care. In Saudi Arabia, several research studies have investigated job satisfaction in nursing from the perspective of expatriate nurses of different nationalities, as well as Saudi Arabian nurses in public hospitals, private hospitals, tertiary care hospitals and military hospitals. These studies included a variety of related variables, such as quality of life (QoL), organisational commitment, recruitment and retention barriers, leadership style, hospital performance, intention to stay and the work environment (Abo-Znadh 1999; Al-Aameri 2000; AlAhmadi 2009; Al-Dossary *et al.* 2012; Al-Zayyer 2003; El-Gilany and Al-Wehady 2001; Mitchell 2009; Omer 2005 and Zaghloul *et al.* 2008).

## **2.9 EVOLUTION OF WORKLOAD CONCEPT**

Given the major consequences for workers' health and safety and the sustainability of organisations, it has become highly relevant that leaders develop a deeper understanding of the concept-related workload. This concept of workload is not new to many and has been interpreted differently by many authors. The concept of workload has begun surfacing in the early 20th century, notably in Jules Amar's research on the physiology of work (Laville 2004: 39). In the fields of psychology and ergonomics, many interests were also shown in the concept, in terms of evaluating complex interfaces such as aircraft cockpits or control rooms at nuclear power plants (Weiner 1982: 953). These researchers also investigated the efforts of workers to meet their job demands and job expectations, including the intensity of such efforts. Other studies focused on workplace intensity, and the pace and repetitiveness of tasks completed or allocated to determine the impact of such

components on worker health (Teiger, Laville and Duraffourg 1973: 39). The concept of workload was defined as the intensity workers' efforts to meet the demands of their job specifications under defined physical conditions, taking into consideration their conditions and various mechanisms in their jobs (Teiger *et al.* 1973 and Tort 1974).

Researchers showed greater interest in measuring workload than defining the concept. (Hancock and Meshkati 1988:185). Traditionally, the study of workload met marked pragmatic needs and focused specifically on the limitations of individuals' physical and information-processing capacities (Leplat 1977: 195). The concept, workload was, therefore, approached from two distinct angles, namely the physical workloads and mental or psychological workloads. The scientific literature abounds in many studies on physical workload factors, which approaches the concept mainly in terms of physical task performances thresholds that can have a direct impact on workers' health and safety (Clarke, Carswell and Seales 2005; Krause *et al.* 2005).

In experimental psychology, the concept of mental workload refers to the identification of the cognitive or mental limitations that affect human performances in information processing (Leplat 2000; Morris and Leung 2006). In addition to the human factors, are the physical and mental components of workload which are the contributing factors, namely responsibility, uncertainty, time pressure and work interruptions which serve to increase the mental and physical workload (Estryn-Behar and Fouillot 1990; Martin and Gadbois 2004). Various assessment tools, such as physiological and subjective measures (Hancock and Meshkati 1988: 185) are derived from these views of workload. Physiological measures focused on activation in responses to work stress by evaluating all the parameters, for example, heart rate and blood pressure factors. Subjective measures evaluated workload factors as perceived by the workers. These measures provided data more readily and were deemed less intrusive and less costly and appeared to have greater validity and accuracy than physiological

measures (Young, Zavelina and Hooper 2008: 102). This method was used most often to assess workload experiences (Hart and Staveland 1988: 139). The following tools were most widely used:

- The National Aeronautics and Space Administration's (NASA) Task Load Index (NASA-TLX), which is a multi-dimensional tool for the assessment of subjective perceptions of workload experienced by workers. It was regarded as the benchmark tool for subjective measures (Hart and Staveland 1988; Young *et al.* 2008).
- The Subjective Workload Assessment Techniques (SWAT) evaluated three dimensions of workload, namely the time load factor, the mental effort load factor and psychological stress load factors at three levels, namely slow, medium and high (Rubio, Diaz, Martin and Puente 2004: 61).
- The Workload Profiles are an instrument that attempts to combine the advantages of secondary task performance-based procedures and standards with subjective-related techniques. The respondents are required to carry out a set of tasks which they rate according to eight workload dimensions (Rubio *et al.* 2004: 61).
- The Borg CR10 Scale (Borg 1982: 377) is used to subjectively assess physical workload (DiDomenico and Nussbaum 2008: 977).
- The Multivariate Workload Index is a tool that measures physiological parameters, such as heart rate variability, finger plethysmogram amplitude and perspiration simultaneously with subjective perception (Miyake 2001:233).
- Other tools have been designed to assess highly specific types of work, for example, the Cooper-Harper Scale (Cooper and Harper 1969) and the Bedford Scale (Roscoe and Ellis 1990) that were specifically designed and engineered for the aviation fields of work.

In summary, the term workload refers to the quantity of physical and cognitive work that workers may perform without endangering their health and safety or that of others yet remain efficient (Bouzit *et al.* 2002: 256).

The constant and rapid changes occurring in organisations, and their consequences, are the main issues of workload that is a subject of interest for researchers, and a source of concern for organisations. However, the traditional approaches which seek to measure mental workload quantitatively, remain simplistic (Theureau 2002: 485). While scientific studies investigate the intrinsic facets of the concept of workload, they remain fragmented, hence reducing the complexities of the phenomenon. In particular, the concept of mental workload refers to a quantity of information that needs to be processed at a given time. This conceptualisation overlooks the fact that it is the worker as a whole and not the parts who perform his or her job (Montmollin 1997: 42). These approaches neglect the context of the workload, the cognitive processes involved and the operators' skills in coping with the context (Montmollin 1997: 42).

According to Jamet (2006:13), how workload is approached remains ambiguous. Tricot and Chanquoy (1996: 313) state that it is sometimes associated with job demands (working conditions) and at other times, with consequences (impact of the work) (Falzon and Sauvagnac 2004: 175). In this context, the traditional concept of workload, which is divided into physical and mental components becomes obsolete. Therefore, a broader approach, encompassing the complexity of the work activity performed in a dynamic environment is needed.

Workload must be approached holistically, through activity analysis that takes into account the overall activity which is the result of a combination of factors inherent in the work situation that lead to a cost (psychological and physiological) for the individual. From this perspective, making changes in the workload implies changing the working conditions (Theureau 2002: 485). Thus, not only must the individual's overall situation and work activity be considered, but also the work environment which can affect well-being.

## **2.10 COMMON WORKLOAD FACTORS AFFECTING NURSES**

An increase in nurses' workloads has implications for nurses, patients and the organisations. The work environment of nurses has changed significantly in the past few years due to factors, such as health reforms, hospital renovations with structural changes, the shortage of nurses in the face of rapid technological advances, and patients' expectations of high-quality services with best and safe outcomes (Kwiecien *et al.* 2012: 209). However, recent reports and studies indicate a decrease in nurses' health benefits during patients' treatment, because of their high workload (Dang *et al.* 2002: 219). Therefore, nurses' work pressures and workload are not only determined by a functional framework, but also by many cognitive factors which affect them, indicating the complexity of their tasks (Jennings *et al.* 2011: 1441). De Cordova *et al.* (2010: 39) state that nurses' workload factors were not only determined through a specific package or structure of guidance but by many other factors which include cognitive factors and the complexity of nurses' work environments which are significant in the accurate estimation of nurses' workload experiences. Work pressures were considered as a critical function of time which was influenced by factors such as the level of complexity, and the number of services provided (Hendy, Liao and Milgram 1997: 39). The factors relating to process and activity had a significant effect on nurses' workload. The factors of the process components include the mismatch between the capacity of the wards, or the units and the number of patients admitted, and the factors of the activity components include assisting and mentoring the students and newly recruited staff.

## **2.11 MULTI-LEVEL HUMAN FACTORS OF WORKLOAD**

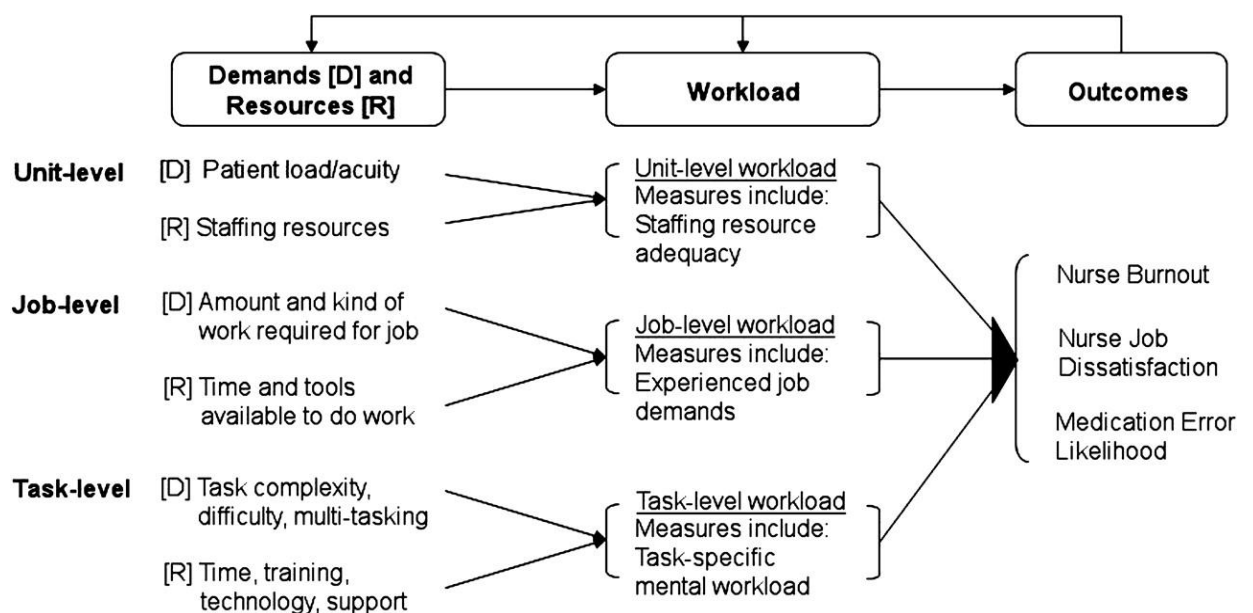
*“Workload” is a hypothetical construct which has been developed and is widely applied within the domain of human factors (HF) psychology, and various workload measurement techniques are typically used to evaluate equipment or work systems in terms of the workload experienced by people using them (Macdonald 2003).* Researchers recognise that mental workload is an important factor in determining human performance capabilities in complex

systems. It has been identified that optimising the allocation of mental workload to individuals can reduce human errors and lead to increased productivity (Xie and Salvendy 2000; Moray 1988, Gopher and Donchin 1986). Although many people understand mental workload in general terms, extensive research has been conducted to quantify mental workload. The most common definition given for *workload* is, the amount of work assigned to or is expected from workers in a specified period (Dictionary online 2005).

Carayon and Gurses (2005: 284) introduced four levels of workload measurement models, namely a) unit, b) job, c) patient and d) situation as illustrated in Figure 2.1. At the unit-level, the most common workload index is the patient-nurse ratio. At the job-level, the workload depends upon the type of job or specialty of the nurse. The main determinant of nursing workload, at the patient-level, is the clinical situation of a patient. The situation-level includes factors, such as physical working environment, lack of appropriate and adequate provision of resources and facilities, diversity of family needs, and ineffective communications between members of a multidisciplinary team, which can increase the situational workload. Moreover, each of these levels have limitations and may not be applicable to nurses' workloads. In a clinical unit, for example, various nursing tasks need to be performed by a group of nurses during a specific shift, classified as unit-level workload. The types and amount of workload of nurses is partly determined by the type of unit and speciality, such as ICU nurse versus general floor nurse, which is the job-level workload factor. When performing their tasks, nurses encounter various situations and patients, which are determinants of the situation and patient-level workloads.

The multi-level human factor framework for workload illustrates the outcomes of the demand resource factors from unit-level, job-level and task-level. Quality of care and quality of working life in health care are off-cited targets for improvement (Institute of Medicine 2005: 90). Substantive improvements in both can be achieved by understanding health care work system in conjunction with human factors design and redesign (Goldmann and Kaushal

2002: 823). The human factor framework indicates that excessive nursing workload is one of the contributors to quality of care and working life problems that has been internationally recognised as needing further study and remediation (Gosbee 2002: 352). While the nursing workload presents a challenge for the workforce sectors globally, not much attention has been given to the determining factors and the outcomes. It is critical to understanding these factors to help nursing managers and leaders to provide suitable working environments and to manage the adverse outcomes of the nursing workload. The aim of the study was to determine the various workload factors that influence the well-being of ICU nurses working in a Saudi Arabian Hospital and to develop a comprehensive healthcare managerial framework that explicates the way workload factors influence nurses' well-being from a unit level, job level and task level as indicated in Figure 2.1.



**Figure 2.1: A multi-level human factors framework of nursing workload that affects actual nursing** Source: A Multi-Level Human Factors Framework of Nursing Workload (Carayon and Gürses 2005: 284-301).

According to this multi-level human factor framework, the level of workload depends on the type of nursing job or speciality (ICU nurse versus operating room nurse). Workload measures at the job-levels are appropriate to use when comparing the workload-levels of nurses with various specialities and

sub- specialities or job titles (ICU nurses versus general ward nurses). However, workload is a complex, multi-dimensional construct, and there are several contextual factors in a nursing work environment, such as performance obstacles and facilitators, other than job title that may affect nursing.

Although unit-level measures, such as staffing adequacy, add to our appreciation of workload demands, job-level measures, such as leaving tasks undone, may provide administrators with a more accurate depiction of how nurses gauge effective workload management. It is vital to take cognisance of the impact of these performance obstacles on nursing workload which would not be apparent if a unit-level or patient-level workload measure was used. Compared to workload at the job level, the situation-level workload is temporally bound; it explains the impact of a specific performance obstacle or facilitator on nursing workload. Therefore, if the above-mentioned factors in Figure 2.1, such as environmental and physical conditions of general wards, administrative and clinical processes and standards, and other factors that increase the workload of the nurses are being overlooked, they will contribute to problems, such as sub-optimal patient care, difficulties in making correct decisions by nurses and medical team, weakened nurse-patient relationships, distorted nurse-physician relationships, and ultimately increased medical staff burnout and job dissatisfaction. For this study, the researcher focused on the job demand and resource model, through a survey, using questionnaires to identify the various workload factors related to nurses' well-being in the ICU within the Armed Forces Hospital in the Southern Region of Saudi Arabia.

## **2.12 SUMMARY OF THE CHAPTER**

The various concepts of well-being and workload factors in the healthcare sectors were highlighted. A complete framework of factors that affect the well-being of patient-care workers were explored and discussed in-depth, aligned to the study aims and objectives. The literature review contributes to the general theme of employee, specifically nurses' well-being and workload factors. This study proposed an integrated view of well-being for healthcare

workers by reviewing previous literature on the main factors influencing employee well-being. The literature review supports the notion that a combination of organizational, professional, and individual factors interacts to determine the psychological well-being of healthcare workers. In addition, personal traits significantly influence factors perceived as detrimental to well-being; thus, one may conclude that reported factors may be perceived differently, not only considering different professional categories, but also considering different individuals within the same professional category. The real challenge for organisations is not to consider employees' well-being as something fixed since a high level of complexity characterizes both work contexts and individual characteristics. Such complexity is evident in patient-care workers who face significant emotional and work demands daily in hazardous contexts and must continuously balance these work demands with those of their private lives.

Although individuals are responsible for their own wellness, healthcare organizations can play an important role in promoting worker well-being. To build a better and healthier work environment, managers need to focus their attention on creating conditions that facilitate intra-professional and inter-professional relationships; on providing healthcare workers with adequate breaks and more time to recover their energy during the workday; and on strengthening the individual employee's identification with, and involvement in, the organisation. In the next chapter the theoretical framework underpinning the study, and the rationale behind the choice of the framework will be discussed.

## **CHAPTER 3: THEORETICAL FRAMEWORK**

### **3.1 INTRODUCTION**

The theoretical framework underpinning this study and the rationale behind the choice of the framework will be discussed in this chapter. A theoretical framework is the abstract, logical structure of meaning that guided the development of a study and enables the researcher to link the findings to the body of nursing knowledge (Grove *et al.* 2015: 41). Brink (2012: 52) states that a theoretical framework is based on scientific knowledge and existing theories within the body of knowledge, in the nursing discipline and related disciplines that will be testable. According to LoBiondo-Wood and Haber (2013: 141), a theoretical framework is a frame of reference that is a basis for observations, definitions of various concepts, research designs and methods, interpretations and generalizations, providing organisation of the study and guiding the researcher in the interpretation of results and through the entire research process.

### **3.2 WORKLOAD AS A THEORETICAL CONSTRUCT**

In the context of the study, the researcher used the theoretical framework as an abstract, logical structure of the meaning that guided the development of the study and enabled the researcher to link and integrate the findings to the body of nursing knowledge (Grove *et al.* 2015: 41). The theoretical assumptions include the central theoretical statement and conceptual definitions applicable to this research study. These were based on scientific knowledge and existing theories within a testable body of knowledge in the nursing discipline and related disciplines (Brink 2012: 52). The perceptions of nurses in the intensive care units venting workload factors that affect their well-being, assisted the researcher in developing a comprehensive managerial framework that explicated these factors and its influence on well-

being, and provided guidelines to strengthen the coping skills and improve well-being in the critical care environment.

This research was based on a previous theoretical model of workplace demands, developed by Bakker and Demerouti (2014: 37). It is essential to understand the environmental factors, within the workplace, to promote the psychological well-being of nurses. This information is critical for health care systems and structures due to its potential to increase employee retention, reduce workplace distress, burnout and compassion fatigue, and enhance well-being and safety (Lowe 2013: 29). Jackson *et al.* (2007: 9) noted the many organisational and industrial challenges in the contemporary nursing workplace that increase personal vulnerability. These challenges include heavy workloads, staff shortages, an ageing workforce, bullying, and frequent organisational change and restructuring (Jackson *et al.* 2007: 9).

The model aims to postulate the joint effect of The Job Demands-Resources (JD-R) Model (Bakker and Demerouti 2014: 37-64) that is used to predict employee well-being and engagement related to workload demands and consequently organisational performance. According to Bakker and Demerouti (2014: 34-64), the Job Demands-Resources Model (JD-R model) is an occupational stress model that suggests strain is a response to an imbalance between demands on the individual and the resources which he or she has to deal with, in the workplace. The JD-R was introduced as an alternative to other models of employee well-being, such as the Demand-Control Model and Effort-Reward Imbalance Models.

One of the assumptions of the JD-R Model is that it is independent of a specific work context and work environment, and can be characterized by two dimensions, namely the job demands and job resources. Job demands are physical, psychological and social, and includes organizational characteristics of a job, requiring physical and psychological effort and energy from an employee, which in turn are related to physiological and psychological costs (Bakker and Demerouti 2014: 37). Although job demands are not necessarily

negative, they may turn into job stressors, when meeting those demands requires high effort (Bakker *et al.* 2014: 389). To build a model, based on previous work by Bakker and Demerouti, in the constructs of workload and well-being, it is necessary to gain an understanding of the different workplace demand and resource factors that contribute to nurses' well-being within a critical care environment and to enhance the understanding of a comprehensive managerial framework that will explicate the various workloads on nurses' well-being.

### **3.3 WORKLOAD IN NURSING**

The nursing workload is often characterized by the time allocated to patient care, using the nurse patient ratio and nursing acuity, nursing activities, and skills needed for patient care. There are few studies on nurses' well-being which are related to workload factors (American Nursing Association 2013: 102). Most of the studies are related to patient safety and operational issues within the workplace environment. Research has shown that nursing workload is one of the most important indicators of safety and quality of care in ICU. The employee's physical and mental health is as important as production and productivity for any organisation. Employees, who are physically and mentally healthy, increase organisational productivity by providing more effective services. Although the low level of job demands in the modern nursing environment do not have detrimental effects, in the long-term they can affect nurses' physical and mental health, ultimately, decreasing their QoL. Work environments, such as hospitals and their operating rooms have considerable effects on the employees' health and well-being because of their stressful nature. Therefore, the nurses' work pressure and workload are not only determined by a functional framework but also by many cognitive factors that may affect them, which indicates the complexity of their tasks. The nursing workload influences both, the nurses' quality of working life and quality and safety of care (Kwiecien *et al.* 2012: 209).

Nurses' workload commonly increases because of shortage of personnel and workplace demands like having to adopt more versatile roles. Two themes that are related to the versatile roles that nurses must play have emerged. The first one is colliding expectations, which is the conflict nurses face between their perceived job functions or the job specifications and what they are required to do. Providing quality nursing care depends on an adequate supply of nurses and consideration of workload factors that will affect nurses' ability to provide care.

The American Nursing Association defines nursing in functional terms as the protection, promotion, and optimization of health needs and their abilities, the prevention of illness, diseases and injuries, alleviation and prevention of suffering through the diagnosis and the prompt treatment of human responses, and advocacy in the care of individuals, families, communities, and populations (American Nursing Association 2013: 102). However, nursing work also encompasses indirect, non-patient care-related activities such as looking for people and equipment and administrative paperwork. Finkler *et al.* (2013: 577) defines nursing workload as the amount of work performed by a patient care unit. Morris *et al.* (2007:463) propose that nursing workload must include all the activities, both direct and indirect, that are carried out by the nurse. The purpose of the study was to determine the various workload factors that influence the well-being of ICU nurses within the framework of the Job Demand Resource Model to allow for accurate mapping of workload drivers in the nurses' critical care work environment.

### **3.4 WORKLOAD DRIVERS**

Workload drivers, in this study, focused on the elements of a service and its context that influence or generate nursing activity related to the well-being of critical care nurse. Workload drivers for nursing may relate to multiple areas of activity involving direct and indirect care, access to staffing resources, and regional population and health characteristics (Figure 3.1). Practical methods for studying workload among intensive care staff were reviewed and analysed

by Kwiecien, Wujtewicz, and Medrzycka-Dabrowska (2012: 209), who concluded that measurement of workload must be comprehensive and dynamic. The authors added that movements toward more experimental measures are preferred, such as physical and psychological workload (fatigue). This approach addresses the changing nature of the nursing environment, and the subsequent changes in workload that nurses are directly exposed to (Kwiecien *et al.* 2012: 209), compared to older measures that have focused merely on work intensity and volume of work.

Fagerstrom and Vainikainen's (2014: 167) cross-sectional qualitative content analysis yielded four factors from the nurses' perception of work. They are (1) organisation of work (planning schedules, meetings), (2) working conditions (telephone traffic, interruptions), (3) self-control (mental stress) and (4) cooperation with staff. Myny *et al.* (2011: 2109) discovered similar results from a literature review that examined non-direct factors influencing workload within the methods of prior research. The review suggested a systems approach to workload due to the plethora of workload drivers that exist. Myny *et al.* (2011: 2111) identify influencing variables (drivers) by level of impact, defined as the part of the hospital system that is affected: (1) hospital and ward, (2) nursing team, (3) individual nurse, (4) patient/family and (5) meta-characteristics. For this study, the researcher adapted the Job Demand Resource Model to develop a questionnaire and conduct interviews to identify the various workload factors that influence the well-being of the ICU nurses.

### **3.4.1 Organisational and environmental workload drivers**

The literature identified several workplace factors that were relevant in enabling a supportive work environment for ICU nurses. The workplace factors that were identified included relational factors, mentoring, clinical supervision, education and training, staffing levels, personal safety, structural and self-care factors (Hodges *et al.* 2008; Mealer *et al.* 2012a; Rickard *et al.* 2012; McCann 2012; McCann *et al.* 2013; Wallbank 2013).

There were many job demands and resources present in the working environment. It is important to understand which job demands significantly depleted mental and physical resources and which job resources were highly motivating for the healthcare providers. This information is useful because it assists managers and organisations to adjust and adapt jobs, training and development, and the environment, based on the factors that significantly contribute to workplace well-being. The workloads in the work processes are not only added, but they also potentiate and may incur in the event of accidents or work-related diseases. Staffing can also impair the quality of assistance and consequently the safety of the patient and the well-being of the nurses. In this study, researcher aimed to explore the following environmental workload drivers, namely staffing, relational factors, patient acuity, patient classification system, skill mix and nurse- patient ratios.

#### 3.4.1.1 Staffing

Staffing variables are one of the aspects of the clinical nurse practice environments that can affect the care outcomes, not only for patients but also for nurses and the organisations (Stone *et al.* 2003: 37). Staffing levels can be reported or calculated for an entire health care organisation or an operational level within an organisation (a specific unit, department, or division). Specific time frames (at the shift level and as a daily, weekly, or yearly average) must be identified to ensure common meaning among managers that are monitoring the daily census in the clinical environment. Examples of daily census include patient-to-nurse ratios, hours of nursing care delivered by various subtypes of personnel per patient day (PPPD), and full-time equivalent (FTE) positions worked in relation to average patient census (ADC) over a particular period. Staffing level is calculated by intensive care team leaders and charge nurses by comparing the total number of patients within a period of twenty-four hours to the total number of professional nurses taking care of patients in the unit (Sermeus *et al.* 2011: 6). In this study, the nurses responded to questions during the interview process by providing information on their unit's workload, and the number of patients and nurses involved.

Patient-to-nurse ratios, personnel per patient day (PPD) figures, or FTE and ADC measures have the potential to systematically overestimate or underestimate nurse workloads and the attention given to specific patients, concerning their needs, conditions, and clinical outcomes across units or institutions or over time (Clarke 2006: 255). Dall *et al.* (2009: 97) concluded that, when nurse staffing levels increase, risk of nosocomial complications, such as sepsis, falls, failure to rescue and length of stay, are decreased. Workload factors and the working environment were not considered. Numata *et al.* (2006: 435) concluded that nurse staffing levels did not affect hospital mortality, but noted that measuring exposure status, that is, how long patients had been in ICU and mortality rates in ICU, was a methodological challenge. Surveys that were conducted on staff shortages and the resulting increased workload have raised concerns about the quality of health care provided to patients (Aiken, Clarke, Sloane and Sochalski 2001; Haberfelde, Bedecarre and Buffum 2005; Lankshear, Sheldon and Maynard 2005). The subject of workload related to nurses' well-being has not been cited in the literature, as most healthcare organisations appear to focus on patient outcomes and patient safety. Therefore, this study is timely in exploring this subject and contributing to the literature.

#### 3.4.1.2 Relational factors

Relational factors, which referred to challenges in the work environments, was one of the key subjects retrieved in the literature search. Relational factors in the work environment, include a vast range of collegial interactions, such as fostering collaborative inter-professional relationships within the teams' environment, clear lines of communication throughout the work environment, accessible senior staff, feeling valued by the organisation and opportunities to contribute to decision-making processes (Veninga 2007; Warelow and Edward 2007; Lowe 2013; McCann *et al.* 2013; Huddleston 2014; Nowrouzi *et al.* 2015). Informal mentoring through positive role models was also necessary to inspire and build staff confidence, particularly for new staff (Warelow and

Edward 2007; Mealer *et al.* 2012b; Garcia-Dia *et al.* 2013). Researchers have empirically assessed the relationship between peer relationships at work and individual and organisational outcomes. Employees who are in effective collegial relationships were reported to be more likely to give feedback, provide emotional support, assist each other, and share information (Liden Wayne and Sparrowe 2000; Sherony and Green 2002). These forms of collegial support are in turn related to affective commitment to the organisation (Liao, Joshi and Chuang 2004:969), job satisfaction, job involvement, and job performance (Liden *et al.* 2000:407). When these behaviours occur, the additional positive consequences include the reduction of employee stress, job dissatisfaction, and increased staff turnover (Sias, Smith and Avdeyeva 2003:322). Furthermore, Wang and Walumbwa (2007:397) posit that supportive colleagues are more willing to assist their colleagues in personal affairs and to absorb extra work.

#### 3.4.1.3 Patient acuity

Human factors engineering has been applied in various fields, such as aviation, manufacturing, and healthcare (Wolf *et al.* 2006: 5). Increasing costs and challenging working conditions, with increase in work demands and shortage of resources in many fields have necessitated healthcare- related research. Therefore, it is critical for the human factors' engineers, the health care professionals, and the industrial engineers to collaborate and develop innovative ways to improve the nursing environment. To combat excessive workloads, researchers have looked ways to eliminate non-productive movements and balance hospital unit activities among the nursing staff through better planning (Punnakitikashem 2008: 321).

For more than fifty years, researchers have worked consistently to develop staffing models and methodologies to accurately indicate the number of nurses required on a daily shift to deliver good care to patients (Abdellah and Levine 1954: 11). By the 1980s, patient classification systems (PCSs) were used often to predict patient requirements for nursing care. These

requirements, or patient acuity, could then be used to manage nursing personnel resources, costs, and quality (Malloch and Conovaloff 1999: 49). This concept or approach is essentially a tug-of-war between the desire to objectively determine the required nursing work or hours, and the need to rely on the professional judgment of nurses on the amount of nursing time required by each patient. The goal of both strategies is to predict the amount of nursing care, or time, patients will require and use this information to determine staffing levels. Nurse staffing is and has always been a complex subject and many managers, to date, have not figured out this complexity within the healthcare environment. Allocating the right nurse with the appropriate skills to the right patient at the right time, requires an understanding of the individual patient's need for care, nurse characteristics, workflows, and the context of care, including organisational culture and access to resources. According to the American Nursing Association (2016: 205), experts believe patient acuity is an important component of nurse staffing allocation because acuity-informed staffing approaches have improved patient care outcomes and enhanced the nurses' job satisfaction. Patient acuity systems and processes have been around for many years, but earlier systems required extra work hours by nurses, and this produced subjective results. Nurse leaders hesitate to adjust staffing when every patient is described or classified as having 'high needs'. Patient acuity was one of the workload drivers included in the questionnaires and the interviews. Participants were asked how ICU nurses perceived the nurse-patient acuity system and what were the advantages and disadvantages of using this system related to workload within the ICUs.

#### 3.4.1.4 Patient classification system

The use of patient classification systems includes nursing workload factors other than patient census alone and ignores the variable nature of demands for nursing care which are difficult to predict. Patient classification systems (PCSs) have been widely used to determine how many nursing hours of care a patient need. According to Bezuidenhout (2014: 40), patient classification

refers to the categorisation of patients according to an assessment of their nursing care requirements. One method of patient classification, in an ICU unit, is task quantification which focuses on patient needs according to care requirements and condition. Patients are grouped or classified according to the acuity of their needs, and the degree of their dependency on nurses (Sayed and Zinhom 2016: np). Patients can also be classified by using other methods of classification, such as prototype evaluation system and the factor evaluation system (Benzuidenhout 2014: 41). The former allocates nurses according to the time required to complete a task for a specific category of patients (Malloch and Miesel 2013: 35). The latter, on the other hand, assigns nurses according to the number of nursing care elements required by a patient, namely bathing, feeding, medication administration, monitoring of vital signs, and psychosocial support (Benzuidenhout 2014: 44). In Saudi Arabia, nurses are allocated tasks according to the patient's needs and the competence of the nurse. A patient who is critically ill demands a lot of attention and may require two nurses, especially in the cardiac surgical ICU to ensure quality patient care (Intensive Care Unit Staffing Guideline 2015: 7).

According to Brennan *et al.* (2012: 155), patient acuity tools have been utilized for quantifying nursing care needs for patients since early 1960. Patients are classified in a variety of types because they have different acuity levels they are classified in a variety of types. Since patient classification systems provide detailed knowledge about patients through various patient activity indicators, they can be effectively used for assigning nurses to patients in an equitable manner. Despite legislation mandating staffing ratios, Donaldson and Shapiro (as cited in Twigg *et al.* 2013: 2254) state that studies have failed to demonstrate any significant impact on patient safety indicators and nursing well-being. A high patient turn-over rate or sudden drastic changes in patients' conditions can cause rapid and extreme fluctuations in demand for care, albeit a stable census is maintained.

Patient classification systems are used for the categorization of patients according to an initial assessment of their nursing care requirements over a specified period, usually 24 hours. The category of the direct care that each patient requires is then grouped as I, II, III, or IV which is then translated into a workload measurement of nursing care time required. Determining the appropriate type and number of caregivers and support staff needed to provide safe and effective patient care is the foundation of the workforce management system (Behner, *et al.* 1990; Mark and Burleson 1995). With the standardized descriptions of nurse-patient staffing systems, it is now possible to identify services that do not impact the outcome of patient functionality and to eliminate them as inappropriate or unaffordable. This nursing workload information can be used in staffing and scheduling decisions on a daily and long-range basis, either weekly or monthly. The primary purpose of the patient classification system is to capture meaningful nursing workload information regarding the care process so that staffing levels can vary according to the varied nursing workload.

#### 3.4.1.5 Skills mix

The term, nursing skills mix is usually defined in one of two ways, depending on whether it is viewed as a continuous or categorical variable. Two key operational definitions may apply: (a) the proportion of nurse hours per nurse type to total nursing hours (Cho *et al.* 2003; Needleman, *et al.* 2002; Seago, Williamson and Atwood 2006; Staggs and Dunton 2012; Unruh 2003; West, Patrician, and Loan 2012); and (b) the proportion of regulated or licensed staff to unregulated or unlicensed staff (Hall and Doran 2004; Hall and Doran 2007; *et al.* 2003; Hall *et al.* 2004). It is important to note that typically these metrics ought to include only those hours worked by direct care nurses in the clinical areas. Nursing skills 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 skills mix differs according to the country in which it is employed and the acuity of patients (Jacob *et al.* 2015: 421). In ICUs, 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, many organisations, for example, the Faculty of Intensive Care Medicine (FICM), and the Intensive Care Society (ICS 2013: 7) stipulate that each ICU 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 intensive care nursing. Several studies support a higher proportion of registered nurses because it has been associated with positive patient outcomes (Thompson et al. 2013; Aiken *et al.* 2016: 7; Bloom et al. 2016: 6). Owing to the unavailability of ICU nurses 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 *et al.* (2010: 109) found that, if an ICU staff skill mix is inappropriate whereby some nurses are incompetent, it will influence the role of the experienced nurse by increasing responsibility and workload and result in poor patient outcomes. Subsequently, this leads to concerns about the nurse's well-being, namely fatigue, burnout, and job dissatisfaction, and ultimately increases staff turnover (Ganz and Toren 2014: 7). Increased workload and an inappropriate staff skill mix have been associated with high staff turnover that contributes to shortage of staff and negatively affects the quality of patient care (Jacob *et al.* 2015: 424).

#### 3.4.1.6 Nurse-patient ratio

Mandated nurse-patient ratios are methods that have been proposed to improve the quality outcomes in hospitals and to keep nursing workload at a manageable level in the working environment. Some researchers believe that mandating nurse-to-patient ratios without ensuring that other work

environment characteristics and factors are considered, can be short-sighted (Smith 2002; Stone *et al.* 2003). They argue that the stakes are high, not only because of the potential for poor patient care outcomes, but also because having nurses who are overworked and overloaded may lead to even greater erosion of quality care and impact on their well-being. Nurses commonly refer to the nurse-to-patient ratio when describing their workload for a shift.

However, workload can be measured in many ways. Carayon and Gurses (2005: 284) proposed four levels of ICU nursing workload, namely unit-level, job-level, patient-level, and situation-level. Nurse-to-patient ratio is the most common unit of measure at the unit-level. The authors recommend that this measure should also consider the education and experience level of the nurse. An ICU 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 and Kerlin 2014: 206).

Governing bodies such as American Association of Critical Care Nurses (AACN) recommend a minimum nurse-to-patient ratio of 1:1 or the 1:2 in critical care units (FICM and ICS 2013: 7). Similarly, the military policy related to nursing (MSD Policy 2017: 5), recommends a nurse-to-patient ratio of 1:1 or 1:2 in all ICUs, depending on the stability of the patients. The ratio should, therefore, not exceed two (2) patients for one nurse. Owing to a shortage of nurses, such ratios are not always realistic or 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 *et al.* 2015: 18). Matlakala and Botha (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 and the nurses' well-being. Similarly, Saudi Arabia also has a higher nurse-to-patient ratio in all the critical care units within the hospital under study. This nurse-to-patient ratio is the primary cause of delays in patient care at hospitals, and high turnover of nursing staff and nurses' well-being (Haoses-Gorases *et al.* 2014: 15). There is a paucity of published research available for the implementation of nurse-to-patient ratio in ICUs in

Saudi Arabia. The researcher observed a nurse-to-patient ratio ranging from 1:3 to 1:4 within the ICU environments in Saudi Arabia and this will be validated during the interview process on the nurses' experience related to nurse-patient ratio.

### **3.4.2 Variable workload drivers**

Nursing workload measures do not guarantee efficiencies and do not adequately capture the complexity of the actual nursing workload (Beaudoin and Edgar 2003; Morris *et al.* 2007; Weydt 2009), especially as the measures relate to the working environments. Work environment variables have been the least studied aspects of clinical nursing workload. However, a few studies have reported that work environment factors, such as mental workload, pace and amount of work, nurses' intent to leave the profession and shift work are some of the variable workload drivers. Other workload drivers include support functions by the managers and colleagues and work content which have a stronger relationship to job satisfaction than do economic variable factors.

#### **3.4.2.1 Mental workload**

As the work demands become more complex, the need for measures to determine various mental workload factors increases. Several techniques and thoughts have been proposed to quantify the ability to focus on multiple complex phenomena simultaneously. Mental workload techniques can be grouped or classified into three broad measures, namely psychophysical, performance, and subjective (Owen 1992; Veltman 2002). Each measure has specific related applications and limitations in determining the mental workload which is associated with the work demands and the environment. Researchers in the aeronautics field of work, engineering, and health care industries have emphasized the psychophysiologic and performance demands of the workload, with the least focus on the subjective perception of the individual performing the actual work. Since the development of human factors research within the healthcare sectors, there has been a growing recognition and need for a personal perspective of work demands which could

provide valuable information on quality care and the well-being of nurses. Physiologic and performance measures of workload are traditionally accepted and are used in specific environments, while subjective measures have been utilised in only one identified study of note (Gregg 1993: 355). This study focused on the current state of human factors research and established the need for more nursing workload research, utilizing a human factors framework as illustrated in Figure 2.1 in Chapter 2.

#### 3.4.2.2 Pace and amount of work

According to Maslach and Leiter (1997: 55), workload refers to the balance between work demands and available time and resources. Fakir (2010:102) posits that there are many different types of work overload, including working long hours, meeting deadlines and responding to time pressures, qualitative overload, and having many separate, essentially unrelated tasks to perform. Farmer and Brownson (2003: 33) have a similar view and suggest that workload consists of three distinct components, namely task demands, effort, and performance. Task demands refer to the outcomes and task requirements that need to be met by an employee. Effort pertains to the physical and conscious mental processing required in completing the task at hand, and performance relates to the measure of workload and outcome. A simpler description is offered by Sonnentag and Bayer (2005: 393) who differentiate between day-specific workload and chronic workload. They posit that day-specific workload refers to the degree of workload present on a specific day due to unique or unusual circumstances, while chronic workload refers to a more regular, permanent level of workload.

Several studies have explored nurses' workload that is compounded by the multiple nursing tasks that are required to provide safe and efficient patient care (Clini, Vitacca and Ambrosino 1999; Reis-Miranda, De Rijk and Schaufeli 1996; Reis-Miranda, Moreno and Lapichino 1997; Weydt, 2009; Yamase, 2003). Neil (2011: 132) elaborates that the more quantifiable variables of workload include the number of admissions, patient satisfaction levels,

number and complexity of procedures, case mix, and the average age of patients. The less quantifiable variables include the institution's philosophy on nursing, the type of staffing model, for example, independent care or team nursing, the individual characteristics of the nursing practitioners, namely level of education, experience, and competence, patterns of medical treatment (Hegney, Plank and Parker 2003; Page 2004), and environmental factors (Neil 2011: 132). The workload, in general, has negatively impacted nurses' family life and their ability to provide adequate patient care (Altuntas and Baykal 2010; Bester and Engelbrecht 2009; Lagerström *et al.* 2010).

#### 3.4.2.3 Nurse work environment

The nurses' work environment encompasses the organizational characteristics that support nurses' abilities to practice autonomously and to their fullest capacity (Lake 2007: 104). Specifically, the work environment is conceptualized as certain organisational characteristics that impact nurse job satisfaction, quality of the care outcomes, and patient safety, with an emphasis on well-being (Lake 2007: 105). In this study, the term *work environment* was used to describe what some researchers have called the organisational climate, practice environment, or organizational culture (Lake and Friese 2006: 8). While a variety of labels exist to describe essentially the same concept, there are fundamental factors that transcend definitions. These factors include leadership or management style, shared decision making, professional collaboration, and cohesion (Lake and Friese 2006: 9). Overall, the work environment moulds the professional practice of nurses. When nurses feel more supported by management, better able to practice autonomously, respected by other health care professionals, and involved in the governance of the hospital, they experience more positive feelings about their jobs and this indirectly improves their well-being related to the work demands (Miller 2011: 146). With these positive feelings comes a greater sense of accomplishment, engagement, and confidence (Miller 2011: 146). Accomplished, engaged, and confident nurses are less likely to experience job dissatisfaction, ill health and are less likely to leave their jobs.

Nurse work environments, as measured by the Job Demands Resource Model, are linked with nurse job outcomes in the literature, specifically nurse well-being, job dissatisfaction, and intent to leave (Aiken *et al.* 2008; Aiken *et al.* 2002; Kelly, McHugh and Aiken, 2011; Liu *et al.* 2012). These outcomes are important because they are associated with nurse well-being and the retention and maintenance of an adequate nursing workforce (Aiken, Sochalski and Anderson 1996: 88).

#### 3.4.2.4 Nurses intent to leave

The other nurse outcomes examined in this study will build on job demand and resources and is a measure of nurses' intent to leave their jobs. Reports of intent to leave have been linked to actual nurse turnover (Lake 2007: 176), which can be costly for hospital operating budgets. The financial costs of losing a single nurse have been estimated to be equal to approximately twice the nurse's annual salary (Atencio, Cohen, and Gorenberg 2003: 262). Not all nurses plan to leave their jobs because of well-being, job dissatisfaction or increase in work demands. Some may plan on returning to school to further their education or retiring from the workforce or, in the case of Saudi Arabia, many leave to explore the First World countries, such as Canada and UK for family stability. These cases would not reflect adverse working conditions in hospitals. The premature voluntary nurse turnover which results from job demands and environmental stress is what hospitals should be concerned about. Unfortunately, job demands, workload increase, and poor working conditions are the most reported reasons for nurses' intention to leave their jobs (EstrynBehar *et al.* 2010; McCarthy, Tyrrell, and Lehane 2007; Rambur *et al.* 2003).

Like burnout and job dissatisfaction, nurse intent to leave has also been linked with the work environment and their well-being. Nurses working in healthcare environments with good working conditions and favourable staffing levels are less likely to leave their jobs (Aiken *et al.* 2002; Aiken *et al.* 2008; Kelly, McHugh and Aiken, 2011; Lin, Chiang and Chen 2011). High levels or poorly

managed patient throughput may contribute to nurses' job dissatisfaction and work demands, resulting in mental load and intent to leave. Therefore, throughput-adjusted staffing may be a better barometer of nurses' intent to leave than unadjusted staffing.

#### 3.4.2.5 Shift work

Healthcare organisations provide direct and indirect patient care around the clock which necessitates shift work. Shift work schedules and the long working hours increase the risk of short sleep duration and sleep disturbances. Scientific evidence provides strong support for the link between sleep problems and shift work. A study of a representative sample of shift workers from the Midwest found that 32% of night-shift workers and 26% of rotating-shift workers reported long-term insomnia and excessive sleepiness. Drake *et al.* (2004: 1453) measured the working hours of nurses and their errors or near errors during work. They identified that nurses had over three times the odds of making an error when working 12 or more hours, compared with 8.5-hour shifts. Similarly, Scott *et al.* (2006: 30) found that the risk for patient care errors almost doubled when critical care nursing shifts lasted longer than 12.5 hours. In addition, more than 40 hours per week increased care errors by 46%.

Nurses, in this study, usually work an 8- or 12- hour shift in a 24 hours/7-day cycle. Due to unanticipated staffing and patient census changes, it is mandatory for nurses to work overtime that is beyond their scheduled hours, resulting in health problems and burnout. In the healthcare sectors, nursing, more than any other job, requires shift work.

ICU nurses are exposed to multiple risks, including high mental workload, fatigue, stress, and exhaustion (De Cordova *et al.* 2012: 1454). This workload can lead to increased fatigue due to different shift work patterns, mandatory overtime, unforeseen shifts, and other subtasks (Esquirol *et al.* 2009: 544). Shift work can be potential problem for physical, mental, and social health,

and for job performance and well-being. Fatigue is a workplace hazard which is a serious threat to the health of nurses and patients (Silva, Rotenberg, and Fischer 2011: 1117). Fatigue is rooted in a physiological mechanism associated with sleep, sleep deprivation and Circadian rhythm. In a study of nursing shifts, the percentage of nurses reporting burnout and an intention to leave the job increased incrementally as shift length increased (Stimpfel, Aiken and Sloane 2012: 2501). Aiken, Sloane, and Stimpfel (2012: 2502) also found that the longer the shift, the greater the likelihood of adverse nurse outcomes such as medication errors, missed treatment, stress and staff burnout. Aiken *et al.* (2008: 223) found that mortality rate for surgical patients were 60% higher in poorly staffed hospitals than in hospitals with better staffing.

### **3.5 THEORETICAL FRAMEWORK THAT WILL GUIDE THE STUDY**

Henning, Gravett and Van Rensburg (2005: 25) describe theories as statements about how things are connected and why things occur the way they do. Theories and theoretical frameworks assist people to sort out the world, to make sense of it and guides one on how to behave in it. The theoretical framework used in this study demonstrates an understanding of theories and concepts that are relevant to the topic of the research. It will also relate to the broader concept of workload that may influence nurses' well-being in the ICU environment. For this study, the Job Demands-Resources (JD-R) model was adapted and various occupational health stress models, that were previously used to evaluate the impact of job stressors and job characteristics on employee health and well-being, were incorporated.

The joint effect of the JD-R model (Bakker and Demerouti 2014:37-64) is used to predict employee well-being and engagement, related to workload demands and consequently organisational performance. According to Bakker and Demerouti (2014: 34-64), the JD-R) model(Figure 3.1) is an occupational stress model that suggests strain is a response to the imbalance between demands on the individual and the various resources he or she has to cope

with in the workplace. The JD-R model was introduced by various authors as an alternative to other models of employee well-being experiences, such as the Demand-Control Model and the Effort-Reward Imbalance Model. One of the underlying assumptions of the JD-R model is that, independent of a work context, work environments can be characterized by two dimensions, namely, job demands and job resources. Job demands are physical, psychological, social, and organisational characteristics of a job, requiring physical and psychological effort and energy from an employee, which in turn are related to physiological and psychological costs (Bakker and Demerouti 2014: 37). Although job demands are not significantly negative, they may turn into job stressors when meeting those demands requires high effort (Bakker *et al.* 2014:389). The researcher, therefore, adapted the JD-R model for this study and related it to the workload and well-being of ICU nurses. This model was utilized as the theoretical framework as it postulates the joint effect (Bakker and Demerouti 2014: 37-64) that was used to predict employee well-being related to job satisfaction and employee productivity.

### Job Demand Resources Model



**Figure 3.1: Job Demand-Resources Model** (Source: Demerouti, Bakker, Nachreiner and Schaufeli 2007).

Job demands refer to those physical, social, or organisational experiences of job expectations that require sustained physical or mental effort and are associated with specific physiological and psychological costs like exhaustion (Demerouti *et al.* 2001: 501). Hakanen and Roodt (2010: 85) note that stress is experienced when the job demands exceed the employee's level of coping. Job demands do not have to be negative, but they may become stressors when demands involve great effort to maintain an expected performance level, thus causing adverse reactions, such as chronic fatigue and burnout. According to Bakker and Demerouti (2007: 309), job resources can both be a motivational factor and a buffer against job demands. When the supervisor shows appreciation and supports the employee the impact of job strain is eased because the employee changes his or her perspective of demands. Through social support, the employee can develop better coping mechanisms resulting in better performance. By emphasizing good communication and team spirit in work groups, employees can support each other without feeling insecure. All team members can benefit from each other's contribution. Greco *et al.* (2006: 42) note that supervisors in nursing wards play a significant role in creating favourable working conditions. Leaders' behaviour and attitude have a significant impact on the staff and their working conditions, which ultimately impact the quality of nursing care.

The selection of the JD-R model as a framework was based on the research aim and objectives of the study. The JD-R model focuses both on negative and positive aspects of employee's health. Moreover, it is suggested that the model can be used to improve employee's well-being and performance (Bakker and Demerouti 2007: 309). It is a heuristic model which includes two working conditions, namely job demands and job resources. The main aim of the model was to predict the employees' well-being, work engagement, and organisational outcomes regardless of profession (Bakker *et al.* 2014; Hakanen and Roodt 2010). The JD-R model (Figure 3.1) triggers two different processes, a health impairment process and a motivational process (Bakker *et al.* 2014: 389). Whereas high job demands (high workload, emotional demands) may cause exhaustion, and lead to energy loss and impaired

health among workers, the availability of job resources function as a motivational process and lead to commitment and work engagement (Bakker and Demerouti 2007; Xanthopoulou *et al.* 2007). According to Demerouti *et al.* (2001: 501), job resources represent work environments that provide resources for each employee, and refer to those physical, psychological, social, or organisational aspects of the job that may do any of the following:

- Be functional in achieving and attaining work goals and work expectations.
- Reduce job demands and the related physiological and psychological costs.
- Stimulate personal growth, learning and development.

The resources in the model represent a buffer against strain, fatigue, and burnout, and also an important buffer for a number of demanding working conditions (Bakker and Demerouti 2007: 309). The illustration of the JD-R model explains the nurse employees' well-being, regardless of occupation, and purports that working conditions can be divided into two broad categories, namely job demands and job resources (Demerouti *et al.* 2001: 499). The framework further illustrates the negative impact of job demands on a person's health and well-being. However, it has been noted, that if high job demands are accompanied with enough job resources, the outcome can be a positive one, resulting in increased staff morale, motivated staff and increased job satisfaction (Bakker and Demerouti 2007: 315).

### **3.6 HISTORY OF THE JOB DEMAND-RESOURCE(JD-R) MODEL**

Since the beginning of the 1990's, increased attention has been paid to the job demands and resources that can have psychological and/or physical effects on one's health. Based on the Job Demands-Resources (JD-R) model Bakker and Demerouti (2007:315) have linked job demands and resources to employees' work engagement and burnout. For this study, the researcher has adapted the JD-R model to explicate the workload factors within an intensive

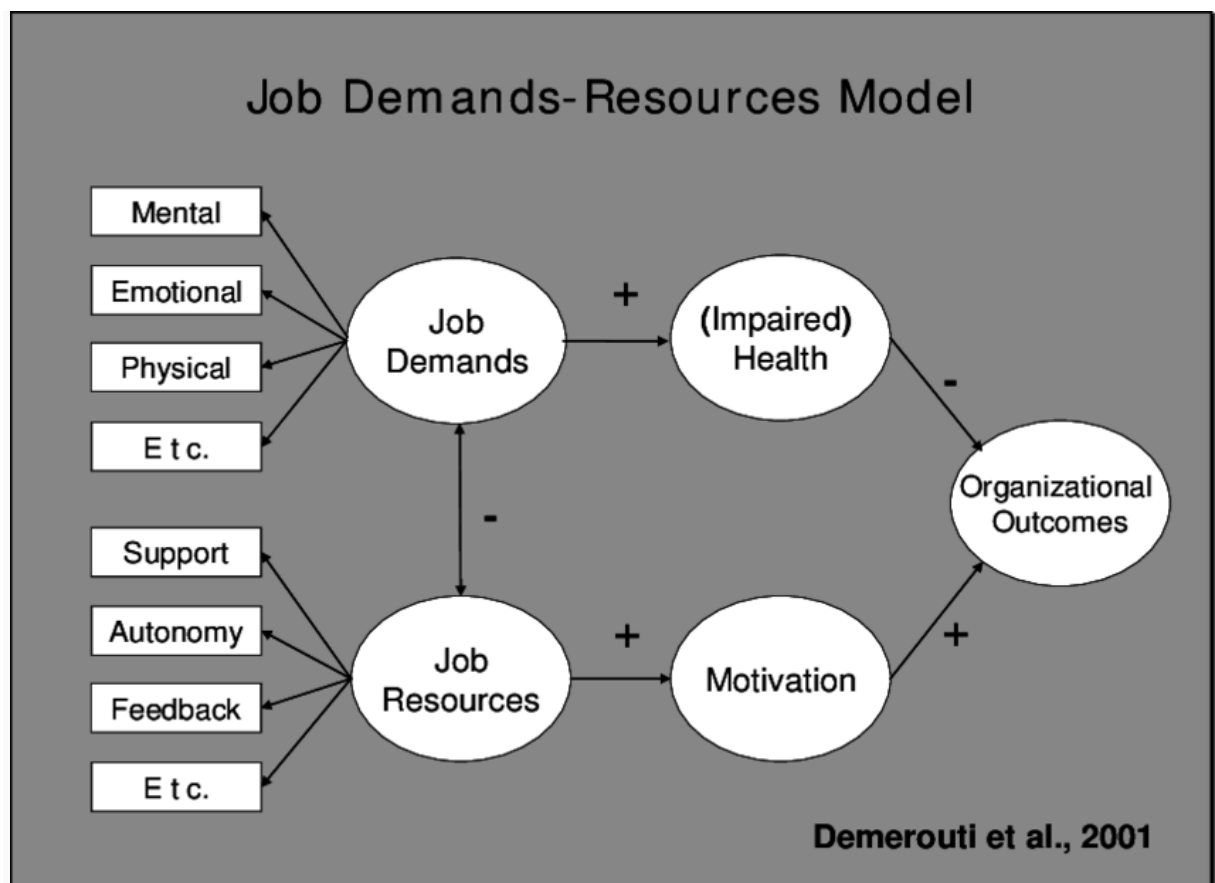
care unit, in a Saudi Arabian hospital and to explore its influence on the well-being of the critical care nurses.

One important methodological conclusion that can be drawn from such studies is that researchers often use several questionnaires to assess various job demands and resources. For example, Balducci, Schaufeli, and Fraccaroli (2011:499), have used three different scales to assess three job demands, namely workload, role conflict, and interpersonal demands. The only exceptions are the Questionnaire on the Experience and Assessment of Work (QEAW) by van Veldhoven *et al.* (2005: 28) and the Demand-Induced Strain Compensation (DISC) questionnaire by de Jonge *et al.* (2007:235), which were developed and validated in Dutch.

The QEAW by van Veldhoven *et al.* (1997: 28) was validated in a sample of more than 80,000 people in various work settings in The Netherlands. It consists of different subscales, assessing nineteen job demands and resources, namely pace and amount of work, mental load, emotional load, physical effort, comprising 122 items and a variety of outcomes, such as pleasure in the work, involvement in the organization, emotional reactions during work, and sleep quality. In this questionnaire, there are several questions on work characteristics, organisation and relationships at work, and working conditions which do not refer to specific dimensions. However, no published studies in English or Arabic have provided evidence of validity for the factor structure of the full version of the QEAW. Nonetheless, this scale has been used in numerous studies, examining the effects of job demands and resources on health and well-being (Bekker, Nijssen and Hens (2001: 207); van der Ploeg, Dorresteyn and Kleber (2003: 157) and some of the subscales display excellent psychometric properties (van Veldhoven *et al.* 1997: 38).

Workload and well-being have not been explored by researchers within the healthcare sector of Saudi Arabia. The researcher believes that the exploration of the workload factors that affected the ICU nurses will assist in

the improvement of their well-being. The study findings facilitated the development of a comprehensive managerial framework that explicates the workload factors that influenced the well-being of ICU nurses. Researchers who intend studying the effects of work conditions on employee functioning in Saudi Arabia have very few available instruments. Considering the significance of identifying workload factors that affect the physical, mental, and social well-being of nurses in a critical care environment (Kortum, Leka and Cox 2010: 14), it was essential to develop a valid instrument in the English language to assess job demands and resources. Based on some subscales included in the QEAW (van Veldhoven *et al.* 1997: 58) that assessed job demands and resources, the researcher used the J-DR model to develop a questionnaire to identify the various workload factors and its influence on ICU nurses in a Saudi Arabian hospital.



**Figure 3.2: Application of the Job-Demands Resources Model** (Source: Demerouti *et al.* 2001: 499).

### **3.7 APPLICATION AND INTEGRATION OF JOB-DEMANDS RESOURCES (J-DR) MODEL TO THE STUDY.**

Whilst research on the JD–R model has been exclusively at the individual level, there have been attempts to integrate other levels of analysis as well. The initial study on the JD–R model by Demerouti *et al.* (2001: 499) tested the assumptions of the model on the individual level, using self-report data and on the job-function level, using observer ratings for job demands and job resources, and averaged scores at the group-level for burnout. This study found similar relationships for both the individual and the group level. Moreover, individual scores on job demands and job resources, as well as their outcomes, have been used to predict team level outcomes like actual turnover (Bakker, Van Emmerik and Van Riet 2008: 309), and daily team financial turnover (Xanthopoulou *et al.* 2009b: 121). Dollard and Bakker (2010: 580) constructed the model of workplace psychosocial safety climate (PSC) which explained the origins of the job demands and resources, worker psychological health, and employee engagement. PSC refers to policies, practices, and procedures for the protection of worker psychological health and safety. Organisation-level PSC predicted change in individual psychological health problems, such as psychological distress and emotional exhaustion through its relationship with individual job demands, such as work pressure and emotional demands, and moderated the relationship between emotional demands and emotional exhaustion (Idris *et al.* 2011: 11). From a theoretical viewpoint, multi-level constructs result in a better understanding of psychological phenomena unfolding within organisations. From a practical viewpoint, knowledge gathered by following a multi-level approach can help guide the development of more effective interventions. For example, detecting similarities or differences in the meaning of performance across levels of analysis, enable organisations to employ similar or different strategies for managing performance at the individual, group and organisational level.

The present study expanded the JD-R health model by testing a common set of indicators of job demands and job resources to predict a broad concept of health, including physical, mental, and social health. This study contributes to the current research on job characteristics and employees' health by expanding the JD-R model towards a pathogenic and salutogenic path, with both negative and positive health outcomes (Leiter and Bakker 2010: 1-9). Therefore, this model is very effective to inform the broader community, who is concerned with workload and health issues, about good, health-related psychosocial working conditions. The findings of this study will not only reveal the relevance of this topic but will also indicate which issues should be addressed when implementing a managerial framework for healthcare interventions in related to workload and well-being.

### **3.8 THE VARIOUS JOB MODELS**

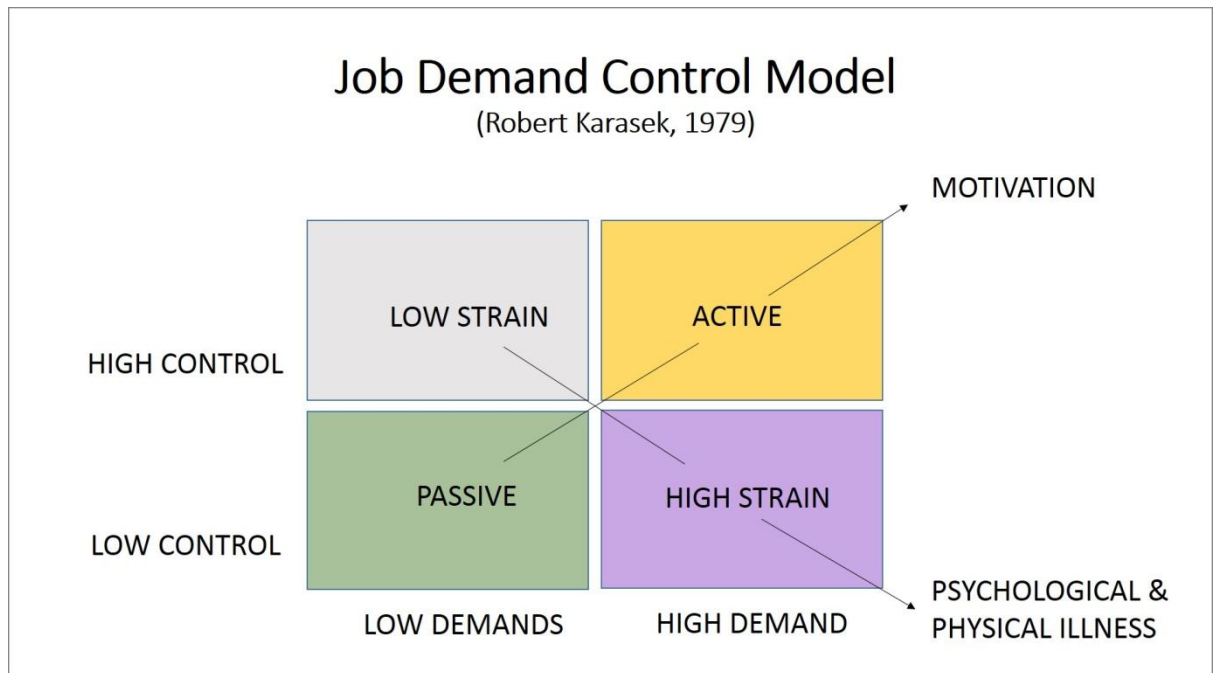
#### **3.8.1 Demand Control Model**

The Demand-Control Model focuses on the balance of job requirements and autonomy. This model, developed by Karasek (1979: 285), states that those who experience high demands at work, with little control over their work tasks, are more likely to experience stress and those who experience low demands with greater control of their work are not so stressed. For example, people who work in a busy emergency room would experience high demands from the community because they need to ensure that the triage is done in the correct way every time and within a very short time. These emergency rooms with casualties have very little control of their waiting times because they do not have the freedom or the ability to make choices about how or when the treatment will be rendered. Those who adhere to the demands-control model would expect the persons to be more stressed in such situations than someone with more overall controls of their emotions or of lesser demands.

This model is quite clear about the role of autonomy in workplace stress. A job which is highly demanding will be more stressful than one which is less demanding but how the level of controls contributed to the effects of job

demand was a novel idea in stress research at the time. Since the evolution of this theory and its popularisation, additional research has revealed more complex models on the effects of demand and control on stress levels. For example, Schaubroeck and Merritt (1997: 738) posited that greater control alleviated stress only if the individual had high self-efficacy. The demand-control model has been questioned and has improved since its development and its evolution in the late 1970's. However, it is evident that it has a great impact on organizational research on stress today.

While the effects of the demand-control model on organisational stress research are palpable, the person-environment fit model has various applications for situations in the workplace (Jex and Britt 2008: 110). The principles of the person-environment fit models indicate that when a person does not fit the environment or the environment does not fit the person, then stress becomes inevitable. For example, if a person is overqualified and highly skilled for a specific position or task or job specification, he or she may experience work stress because the job could be frustrating or boring because of mis-matched skills. Similarly, if a person lacks the skills necessary to for a specific task, he or she may become overwhelmed due to fear of lack of knowledge which results in stress. In both situations, the employee is not a suitable fit for the task and, hence experiences stress. There have been many clinical implications of this demand control model, particularly for selection reasons and for the measurement of job satisfaction of employees. Since this model focuses on individual differences, researchers have attempted to clearly identify the various personality traits, individual preferences, and skills related to job fit.



**Figure 3.3: Job Demand Control Model focussing on job requirements and autonomy** (Source: Robert Karasek 1979: 285).

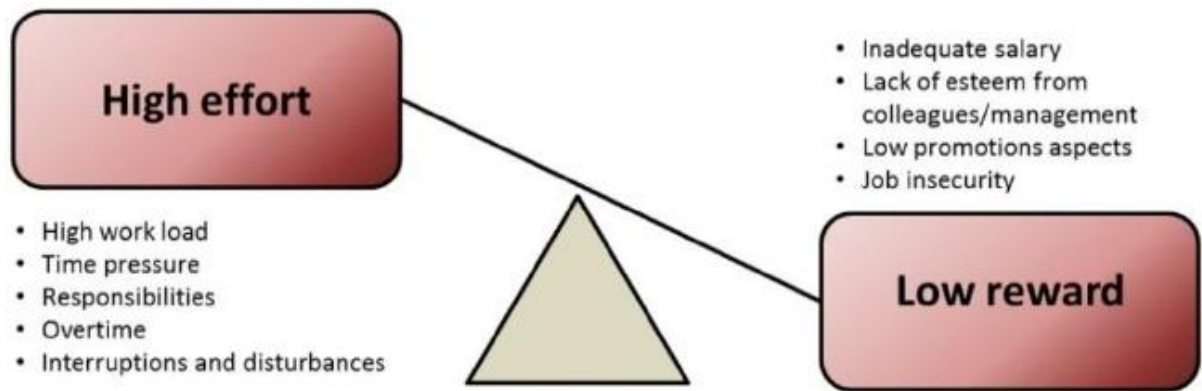
### 3.8.2 Effort-Reward Imbalance Model

Another leading model for examining psychosocial work dimensions is the Effort-Reward Imbalance Model (Siegrist 1996: 27). The Effort-Reward Imbalance (ERI) model stems from the social exchange theory of cost and gain and focuses on the reciprocity between efforts spent and adequate rewards received. Conceptually, effort is like job demand in measuring work intensity. Occupational rewards are distributed by three channels, namely salary, esteem from colleagues and management and career opportunities, including job security. The combination of high effort and low reward is considered to create psychological distress, which over time can lead to adverse health outcomes (Figure 3.4). The Effort-Reward Imbalance is a theoretical model which identifies a stressful psychosocial work environment and explains its adverse effects on stress-related health risks in the workplace (Siegrist 2002: 261).

This model explicates that failed reciprocity between the high efforts spent in the workplace and low rewards received elicit strong negative emotions and stress reactions, with adverse long-term effects on health. Rewards include salary, promotion prospects, job security, esteem, and recognition. The concept of the model explains the sociological and the social psychological basis of the model, its roots in human stress theory, and its measurement. The findings of international research studies indicate elevated risks of depression, ischemic heart disease, and other health outcomes among people exposed to this chronic stressor at work (Siegrist and Peter 1994: 130).

The founder of the ERI Model, Siegrist also argues that these types of work conditions are likely to be more frequent in blue-collar jobs which entail hard work but are low-paid and often involve limited career prospects. However, a demanding work environment might also be found among white-collar workers, who for strategic reasons voluntarily put in the extra work for future career gains (Siegrist 2002: 262). Further, these circumstances might occur, regardless of occupation, if there are limited options in the labour market or economic recession, where job efforts might be increased, but rewards, in terms of salary or promotions, are limited. Similar to high-strain work conditions, work environment characterized by high ERI is also associated with cardiovascular heart disease. ERI is also associated with strong negative emotions which affects general well-being and mental health, and results in destructive coping behaviours, such as smoking (Siegrist 1998: 190).

In addition, a psychological component, namely the coping pattern or need for control is added to the model. An advantage of Siegrist's model is that it expands the concept of control, typically used in research on Karasek's J-DR model, to include job security and upward mobility (promotion prospects). However, a limitation of Siegrist's model is that it only predicts effects of job conditions on chronic heart diseases. It does not explicitly hypothesize effects of job conditions on psychological functioning, motivation, activity, learning and coping patterns.



**Figure 3.4: The Effort-Reward Imbalance Model** (Source: Siegrist 1996: 27).

### 3.8.3 Job Characteristics Model (JCM)

In the 1960s, organisational psychologists and management theorists started to realise that a production-line approach to work was literally counter-productive. Repetitive tasks resulted in a demotivated workforce, which was not productive. Using this initial research, Hackman and Oldham (1976: 250) designed the Job Characteristics Model (JCM) which was based on the idea that the key to maintaining motivation is in the job itself. They found that mundane tasks reduced motivation and productivity and varied, or challenging tasks improved them. The JCM was universal and could be applied to any role. It identifies the following job characteristics that must be in place to achieve employee satisfaction:

- Skills variety: do tasks vary, and are they challenging? Or are they monotonous and too easy?
- Task identity: do tasks have a defined beginning, middle and end? Without this, it is hard to achieve the satisfaction of an attained goal.
- Task significance: does the employee feel that his or her role has meaning?
- Task autonomy: can individuals have a say in how they carry out their work?
- Job feedback: are employees receiving feedback on their performance?

If a job is consciously created to be varied and meaningful, with adequate two-way communication, the employees will be more engaged with their role. According to Hackman and Oldham (1976: 252), employees also have an increased sense of responsibility for their work outcomes. The model still acknowledges the role of intrinsic motivators, as proposed by Ryan and Deci (2000: 68), who state that motivation falls on a scale that ranges from 'extrinsic' (controlled) to 'intrinsic' (autonomous). However, Hackman and Oldham (1976: 250) placed more onus on human resources management to ensure that the job creation stage targets the right notes.

Variety, autonomy, and decision authority are three ways of adding challenge to a job. Job enrichment and job rotation are the two ways of adding variety and challenge. It states that there are five core job characteristics, namely skill variety, task identity, task significance, autonomy, and feedback which impact three critical psychological states related to experienced meaningfulness, experienced responsibilities for outcomes, and knowledge of the actual results. These characteristics influence work outcomes, namely job satisfaction, absenteeism, and work motivation. The five core job characteristics can be combined to form motivating potential scores (MPS) for a job, which can be used as an index of how likely a job is to affect an employee's attitudes and behaviours.

Hackman and Oldham's (1976:159) JCM proposes that high motivation is related to experiencing three psychological states whilst working:

#### 3.8.3.1 Meaningfulness of work

Labour is something that you can relate to and it does not occur just as a set of movements to be repeated. This is fundamental to intrinsic motivation, for example, that work is motivating in and of itself, as opposed to motivating one only to an end.

### 3.8.3.2 Responsibility

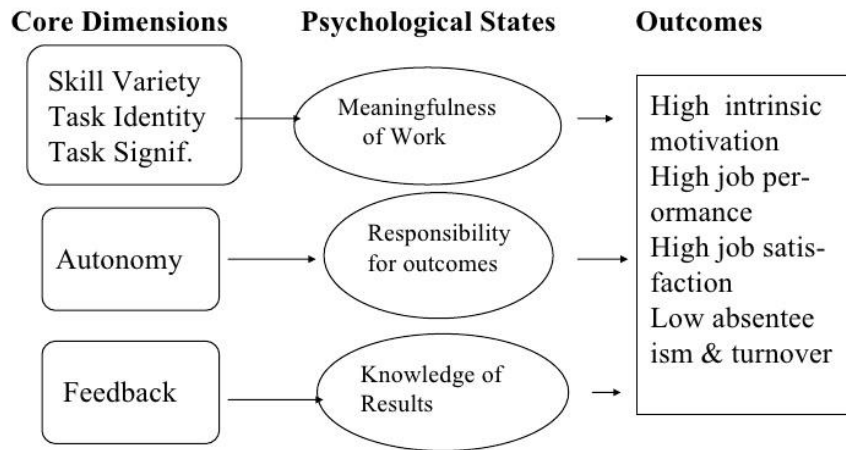
That you have been given the opportunity to be a success or failure at your job because enough freedom of action has given you. This would include the ability to make changes and incorporate the learning you gain whilst doing the job.

### 3.8.3.3 Knowledge of outcomes

Knowledge of outcomes is important for two reasons. Firstly, to provide the person knowledge on how successful their work has been which in turn enables them to learn from mistakes. Secondly, to connect people emotionally to the customer of their outputs, thus giving further purpose to the work for example one may only work on a production line.

Two common motivational methods that have developed from the job design models are job rotation and job enrichment. The former involves employees crossing over to tasks normally carried out by a colleague and is designed to break up work while creating a multi-skilled workforce. Many organisations use to fill a temporary position, which improves employee satisfaction, teaches new skills, broadens organisational knowledge, and keeps things moving. Job enrichment introduces engaging elements to the role. A good example of this is asking an experienced employee to take on some coaching, adding interest and demonstrating recognition.

## Hackman & Oldham's Job Characteristics Model



**Figure 3.5: Job Characteristic Model** (Source: Hackman and Oldman 1976: 252).

### 3.8.4 Conservation of Resources Model

Conservation of Resources theory was first published by Hobfoll in 1989, as an attempt to improve the existing stress models. Since then, COR theory has developed into one of the most frequently cited resource models (Buchwald and Hobfoll 2004: 247). The two basic elements of COR theory are (a) resources and (b) operations or impacts on these resources. Resources and impacts on resources together form the basis upon which COR theory explains and predicts human behaviour. One relatively unique aspect of COR theory is that its prediction of human behaviour extends beyond purely stressful circumstances to also include predictions of “*psychological or behavioural action when people are not confronted with stressors*” (Hobfoll 1989a: 517). This broadened scope of interest is in keeping with positive psychology's refusal to focus exclusively on pathology (Seligman and Csikszentmihalyi 2000: 5). COR theory was originally developed with the intention of advancing traditional thinking on stress. Hobfoll (1989: 514) even subtitled his first publication on COR “*a new attempt at conceptualizing*

*stress*". Claiming that most of the stress models existing at that time were tautological, Hobfoll (1989: 513) argued that the COR model "*is more directly testable, comprehensive, and parsimonious than previous approaches and that it provides a clearer direction for future research on stress and stress resistance*".

**Table 3.1: Basic Tenets of Conservation of Resources Theory** (Source: Hobfoll 1989:513)

Name	Description	Example Studies Testing Tenet
Principle 1	Resource loss is more salient than resource gain.	R. T. Lee & Ashforth (1996)
Principle 2	People must invest resources to gain resources and protect themselves from losing resources or to recover from resource loss.	Halbesleben, Harvey, & Bolino (2009); Halbesleben & Wheeler (2008); Ng & Feldman (2012); Vinokur & Schul (2002)
Corollary 1	Individuals with more resources are better positioned for resource gains. Individuals with fewer resources are more likely to experience resource losses.	Demerouti, Bakker, & Bulters (2004); Mäkikangas, Bakker, Aunola, & Demerouti (2010); Whitman, Halbesleben, & Holmes (2014)
Corollary 2	Initial resource losses lead to future resource losses.	Demerouti et al. (2004)
Corollary 3	Initial resource gains lead to future resource gains.	Hakanen, Peeters, & Perhoniemi (2011); Halbesleben & Wheeler (in press); Mäkikangas et al. (2010); Xanthopoulou, Bakker, Demerouti, & Schaufeli (2009)
Corollary 4	Lack of resources leads to defensive attempts to conserve remaining resources.	Halbesleben (2010); Halbesleben & Bowler (2007); Halbesleben & Wheeler (2011)

### 3.9 SUMMARY OF THE CHAPTER

In Chapter 3, the findings of the literature review to support the study were presented and the selection of the chosen theoretical framework which was used to guide and frame the study was discussed. Several peer reviewed ideas and findings to support and substantiate the study were presented, and comparisons with other theoretical models were made in relation to the study's objectives. The JD-R model, which purports that working conditions can be divided into two broad categories, namely job demands and job resources, was used to explain employees' well-being regardless of occupation (Demerouti *et al.* 2001: 499).

Job demands are related to the physical and psychological efforts the employees are exposed to and excessive demands may contribute to ill health. Job resources are the working conditions that enable the employee to cope with the work tasks and demands but can be negatively impacted when high job demands inhibit the build-up of such resources (Bakker and Demerouti 2007; Demerouti *et al.* 2001). However, it is not always the case that high job demands are negative. It has also been noted that if high job demands are accompanied by adequate job resources, the outcome can be a positive one, resulting in increased staff morale, motivated staff and increased job satisfaction (Bakker and Demerouti 2007: 315). In the next chapter, the research design and methodology that was used to conduct this study will be described.

## **CHAPTER 4: RESEARCH DESIGN AND METHODOLOGY**

### **4.1 INTRODUCTION**

The previous chapter reviewed the literature relevant to the study topic and described the theoretical framework that was selected to contextualise the study. This chapter focuses on the research methodology, describing the design, the procedures and tools that were employed to conduct the study. It also highlights the use of the J-DR model to guide the study. A systematic approach towards resolving an issue is the key aspect of any research as it enables the researcher to identify specific tools and methods that will assist in achieving the desired outcomes of research (Saunders *et al.* 2016; McBurney and White 2009). Bryman and Bell (2015: 424) state that a logical approach enable researchers to be aware of the aim of the study and select data instruments which are appropriate to achieve the aim.

### **4.2 RESEARCH DESIGN**

Research design is a blueprint for the conduct of a study that maximises control over factors that can interfere with the study's desired outcome (Burns and Grove 2011: 509). The methodological design adopted for this study was mixed methods approach with quantitative and qualitative components that were applied concurrently in one phase. Mixed methods research has been defined as a philosophically underpinned model of inquiry combining qualitative and quantitative models of research so that evidence may be mixed, and knowledge is increased in a more meaningful manner than either model could achieve alone (Creswell and Plano Clark 2011: 70). According to Creswell (2014: 34), mixed methods research is an approach to inquiry involving collecting both quantitative and qualitative data, integrating the two forms of data, and using distinct designs that may involve philosophical assumptions and theoretical frameworks.

Mixed methods research design was chosen for the study because one data source was insufficient to elicit responses to all the research questions. A key aspect for the definition of mixed methods research is the mixing of the two methods, namely the qualitative and the quantitative components within the study (Simons and Lathlean 2010; Maudsley 2011). Mixing refers to the process whereby the qualitative and the quantitative elements are interlinked with the aim to produce a fuller account of the research problem (Glogowska 2011; Zhang and Creswell 2013). This integration can occur at any stage of the research process, but it is vital to the rigor of the mixed methods research approach (Glogowska 2011: 251).

In combining the qualitative and quantitative data collection, mixed methods research capitalises on the strengths of both the qualitative and the quantitative research, whilst ameliorating their weaknesses to provide an integrated comprehensive understanding of the topic under investigation (Scammon *et al.* 2013; Wisdom *et al.* 2012; Andrew and Halcomb 2009). Creswell and Plano Clark (2011: 69-70) describe four basic designs available to the researcher planning to engage in mixed methods research namely, interaction, priority, timing and mixing of the quantitative and qualitative strands of the mixed methods design. The designs include convergent parallel design of the mixed methods approach (Creswell and Plano Clark 2011: 69). This approach involves collecting and analysing two independent strands of quantitative and qualitative data in a single phase, merging the results of the two strands and then looking for convergence, divergence, contradictions or relationships between the two datasets.

#### **4.3 PHILOSOPHICAL UNDERPINNING OF THE MIXED METHODS APPROACH**

The philosophical rationale that compels mixing of qualitative and quantitative models of research into a single study is pragmatism (Morgan 2007: 48). Pragmatism is the belief in doing what works best to achieve the desired result. As an underlying philosophy for inquiry, pragmatism supports

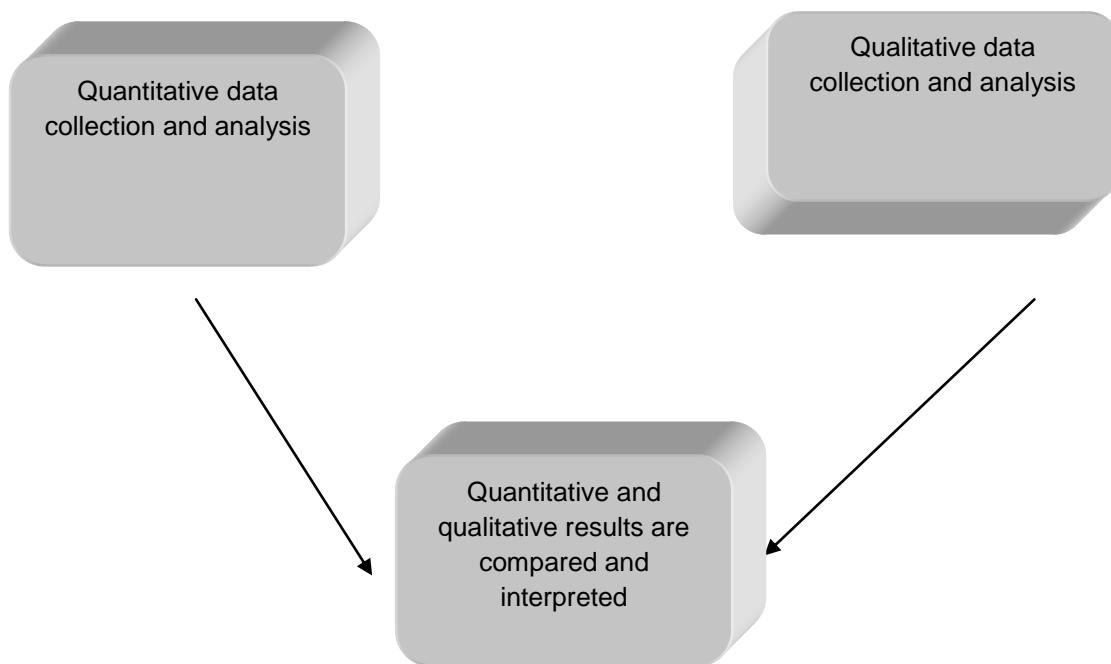
researchers in choosing between different models of inquiry, as research questions being addressed intrinsically determine which methods are best suited (Morgan 2007: 49). Pragmatism is generally referred to as the philosophical partner for the mixed methods approach. It provides a set of assumptions about knowledge and enquiry that underpins the mixed methods approach. It distinguishes the approach from purely quantitative approaches that are based on a philosophy of post-positivism and purely qualitative approaches that are based on a philosophy of interpretivism or constructivism (Johnson and Onwuegbuzie 2004; Maxcy 2003; Rallis and Rossman 2003). The pragmatic philosophy underpinning this study allowed for a systematic application of appropriate qualitative and quantitative methods to address each objective.

A philosophical approach or worldview is the lens through which one is able to see the world. A wide range of philosophical approaches can be used to underpin the mixed methods research approach (Mesel 2013: 750). Prior to using any philosophical approaches, the researcher should explore the literature around this worldview to understand how it fits with both his or her personal perceptions and the proposed project. Creswell and Plano Clark (2011: 70) advocate four different approaches in adopting the worldviews of the mixed methods approach. Firstly, a single worldview was selected to underpin the entire study. Commonly, this would either be pragmatism, a transformative emancipatory approach or the critical realisms (Creswell and Plano Clark 2011; Andrew and Halcomb 2012; Maudsley 2011; Walsh and Evans 2014; Andrew and Halcomb 2009). A pragmatic approach involves the researcher utilising what works to seek answers to the research questions (Creswell and Plano Clark 2011: 70). Pragmatism views the research problem as most significant, valuing both the subjective and objective concepts in order to reveal the answers (Creswell and Plano Clark 2011; Feilzer 2010, Andrew and Halcomb 2009). In contrast, a transformative emancipatory approach seeks to recognise cultural differences and the injustices throughout the entire research process (Creswell and Plano Clark 2011; Mertens 2003). Finally, Creswell and Plano Clark (2011: 75) assert that the worldviews can be

dependent upon the shared beliefs of a scholarly community. This perspective suggests that researchers within a given field have shared beliefs about meaningful research questions and appropriate procedures for answering these questions. Regardless of which philosophical stance is chosen for a mixed methods study, the study methods should be consistent with this philosophy, and its tenets should underpin all aspects of the research process.

#### **4.4 CONVERGENT PARALLEL MIXED METHODS APPROACH**

The convergent parallel design of the mixed methods approach was used in this study. The researcher adopted a mixed methods convergent parallel design (Creswell and Plano Clark 2011: 70) which included separate analysis of the quantitative and the qualitative data, which were collected separately (Figure 2). Within this mixed methods design, the two sets of data were weighted equally for analysis. Results of the quantitative and qualitative data were then converged for interpretation of the results for an enhanced discussion. The purpose of this design was to extract conclusions from all data sources that were valid and justifiable about the study topic. The quantitative and the qualitative data are complementary, hence providing elaboration or enhancement of results from both methods (Greene *et al.* 1989: 225). The data were then synthesized for a deeper understanding of the current topic (Creswell and Plano Clark 2011: 75). The researcher collected and analysed quantitative and qualitative data simultaneously, with equal weight. The two sets of results were then compared and interpreted as illustrated in Figure 4.1.



**Figure 4.1: Convergent parallel mixed methods design** (Source: Creswell and Plano Clark 2011).

#### **4.5 RESEARCH PARADIGM**

A paradigm directs human behaviour related to one's thinking and interpretation of activities. It also enhances philosophical ideas on which the research is based (Joubish *et al.* 2011: 2084). The four worldviews which are widely discussed in the literature are post positivism, constructivism, transformative and pragmatism. Of these, the pragmatism lends itself to mixed methods approach.

Post positivism which is closely identified with quantitative research, and constructivism which is typically used with qualitative research are not suitable for mixed methods research. Constructivism is the philosophical position whereby human beings create their own versions of reality based on their previous experiences, backgrounds, and beliefs to explain the various events that occur in life (Mathison 2005: 86). Based on this understanding, it is

assumed that each person actively seeks meaning to explain the reality in which they live.

Morgan (2007: 50) presents pragmatism as an alternative to positivism and 'metaphysical' which is based on critical theory, post positivism, and participatory approaches of thinking. Pragmatism is outcome oriented, aimed at determining the meaning of things (Johnson and Onwuegbuzie 2004: 20) or focusing on the product of the research (Biesta 2010: 95). It is characterized by an emphasis on communication and shared meaning-making to create practical solutions to social problems. It places primary importance on the research question (Tashakkori and Teddlie 2003: 61).

Pragmatism is based on the belief that theories can be both contextual and generalizable by analyzing them for transferability to another situation. The pragmatic researcher can also maintain both subjectivity in their own reflections on research and objectivity in data collection and analysis. It has been referred to as an approach rather than a paradigm (Morgan 2007: 66). According to Morgan (2007: 68), pragmatism addresses three issues within the metaphysical paradigm: 1) how to define paradigms, 2) whether those paradigms were incommensurate and 3) the extent to which metaphysical assumptions guide research in the social sciences. He argues that, rather than relying on the metaphysical paradigm's a priori limit on communication, pragmatism emphasizes creating shared meanings and joint action. This emphasis points to the underlying belief in complementarity, that is, qualitative and quantitative approaches can be combined in order to complement the advantages and disadvantages present within each other (Tashakkori and Teddlie 1998: 61). Pragmatic researchers favour working with mixed methods, both quantitative and qualitative data, because it enables them to better understand social reality.

#### **4.6 OVERVIEW OF THE HOSPITAL UNDER STUDY**

The hospital under study, known as the Military Hospital, is situated in the southern region of Saudi Arabia. It is managed and governed by the Military

Services Department of Saudi Arabia and funded by the government. The hospital has a bed capacity of one thousand beds which includes a total of ninety-three beds allocated to ICUs. This comprises Medical-Surgical ICU with 20 beds, Surgical ICU with 14 beds, Cardiac ICU with 14 beds, General ICU with 14 beds, Coronary Care Unit with 10 beds, Paediatric ICU with 8 beds and Gynaecology ICU with, 11 beds, as indicated in the Table 4.1 below, with an average unit's occupancy of 100% on a daily basis. The hospital is accredited by the Joint Commission International (JCI) Body. Sustaining safe patient care delivery is critical in this hospital, particularly in the ICUs (JCI 2013: 10). The Clinical Director of Anaesthesiology and his team of experts manage the ICUs.

The patients who are ventilated are managed and cared for by the nurses but the monitors and the ventilators are managed by members of the respiratory care unit who are technicians. The patients treated in the Kingdom of Saudi Arabia ICUs include medical, such as chronic airway diseases and acute cases of myocardial infarctions, cardiac surgical patients and children and adults with trauma, such as burns and accident injuries.

#### **4.7 POPULATION**

The term population refers to the entire group of people (N) who meet the criteria for inclusion (Brink 2012: 123). In this study, the target population were ICU nurses (N=200) working in the ICUs at the Saudi Arabian hospital. The sample size of a qualitative study cannot be predetermined. It is dependent on the availability of nurses who meet the inclusion criteria and give voluntary consent. Population also refers to all the elements of the target population namely, individuals, objects or substances which meet specific inclusion criteria in the study (Grove, Burns and Gray 2013: 44). The population comprised all critical care nurses working in the various ICUs within the Military Hospital in Saudi Arabia. There are approximately 1800 nurses currently working in the Military hospital. Of these, 220 were Saudi Arabian nationals with the remaining nurses comprising predominantly foreign

nationals. Out of the total population of 1800, the 200 nurses working in the various ICUs comprised the total population of the current study. All 200 met the inclusion criteria namely, males and females of all nationalities, with two years' experience in an ICU environment and who have been employed within this environment for more than two years.

There were no restrictions with respect to overall demographic characteristics of nurses, such as age, gender, religion, or educational qualifications, namely related to Bachelors, Diploma or Masters. The main criteria for inclusion in the study were: that the nurses: needed to be qualified, with a valid Saudi Council Registration to practice in this environment as a Registered Nurse, currently working in any of the hospitals and available at the time of the study. The population for this study also comprised all the ICUs within the Military hospital in Saudi Arabia. Burns and Grove (2009: 243) describe several concepts of sampling theory and only the elements that are relevant for sampling in quantitative designs will be considered for the quantitative part and those relevant for a qualitative design will be considered for the qualitative part of the study. These included population elements, sampling criteria, sampling errors, sample frames and sampling plan.

#### **4.8 SAMPLING PROCESS**

Sampling is the process of selecting a portion of the population that represents the entire population so that inferences about the population can be made (Polit and Beck 2012: 339).

##### **4.8.1 Sampling of participants for the qualitative phase: Semi-structured individual interviews**

A purposive, non-probability sampling strategy was used to recruit nurses to participate in the semi-structured interviews. Purposive sampling is a qualitative sampling strategy which is used to select participants who have experience of the phenomenon under study (Burns and Grove 2011: 580). In the qualitative and quantitative phases of the study, consenting registered

nurses, with a current and valid Saudi Council Registration, who were able to speak English, were included in the study. The researcher invited the nurses (n=20) from the different ICUs in the hospital to participate. Nurses who met the criteria were provided with information on the research and invited to participate. Nursing staff who were not involved in direct patient care, and the non-clinical staff were excluded from the study. Participants who were selected were knowledgeable about the phenomenon being explored. In the qualitative phase of the study, the target population comprised all the clinical managers, and in the quantitative phase, the target population comprised nursing staff in direct contact with the patients. The number of nurses that were interviewed one-on-one was (n=20), guided by data saturation.

#### **4.8.2 Sampling of participants for the quantitative phase: Survey questionnaires**

The quantitative phase of the study included nursing staff in direct contact with the patients in all the ICUs of the hospital under study. The total population of nurses working in the hospital is 1800 of which 200 who were working in the ICUs. The minimum sample size was based on the G\* Power analysis calculation given 95% confidence interval, 5% confidence level and 1800 population size. In consultation with a statistician, the sample comprised 200 ICU nurses. The purpose of sampling was to include participants who are perceived to be of theoretical interest. Whilst both quantitative and qualitative research select a sample to address the research question, sampling methods which best fit their overall philosophy are preferred (Teddle and Tashakkori 2009: 75). Purposive convenience sampling was utilised for this study. It was based on the researcher's judgment of the ICU nurses' knowledge and experience of the various workload factors which would enable them to answer the research questions. The researcher obtained the advice of an expert statistician on population and sampling.

#### **4.8.3 Inclusion criteria**

- Participants who have statutory registration in Saudi Arabia and their own country of origin.
- Participants who are permanently employed by the Military Hospital for a period of at least two years or longer.
- Participants who understand English.

#### **4.8.4 Exclusion criteria**

- The ICU clerks and other administrative staff.
- Part-time nursing agency staff.
- Nursing staffs who are working in the ICUs for less than three months.
- Student nurses on internship and on secondment from the universities.
- Participants who do not understand English.

### **4.9 DATA COLLECTION TOOLS**

#### **4.9.1 Quantitative: Survey questionnaires**

A questionnaire was developed and adapted from the J-DR model and was validated prior to the quantitative phase of the study (Bakker and Demerouti 2014: 64). A structured questionnaire (Appendix 8) was used to collect data and focused on eliciting nurses' perceptions on the experience of workload and its influence on their well-being within the ICU environment. The questionnaire was designed to answer the study aim. The content was based on the current evidence base discussed in Chapter 2.

The questionnaire used a six-point Likert scale to measure participants' responses to questions relating to the elements of the JD-R model which was adapted for this study.

The questionnaire comprised four sections namely, Sections A, B, C, and D. It included questions related to:

- Demographics, such as participant position level, gender, and education level.
- Nurses' job experiences in their current units related to support services, working relationships with the multidisciplinary teams, career development, staffing skills and governance within the ICU environments.
- Job satisfaction within the ICUs.
- Additional work conditions influencing nurses' workload, namely complexity of patients' care, work-related stressors and patients' dependency.

The questionnaire comprised closed-ended and one open-ended question.

#### **4.9.2 Qualitative: Semi-structured individual interview**

A guide was used to determine the demographic details of the participants (Appendix 7a). The semi-structured interview guide consisted of open-ended questions (Appendix 7b). The guide assisted the interviewer to keep the interview focused and to ensure that all the areas that the researcher intended to cover were addressed. The semi-structured nature of the interviews allowed the participants to discuss their experiences freely and to discuss issues that they were comfortable with. This ensured that they were not pressurised and that they were relaxed during the interview. The main feature of an interview is to facilitate the sharing of perspectives, stories and experiences of the participant, regarding social phenomena observed by the interviewer (Boeije 2010: 75). For this study, the social phenomena were related to the ICU nurses' experiences on work-related factors and their well-being, within this critical care environment.

#### **4.10 DATA COLLECTION PROCESS**

Two data collection tools that are typically used in mixed methods convergent parallel design, namely interviews and surveys were used in this study. The aim of using both tools was to increase the validity of the findings and ensure

a thorough understanding of concepts related to workload factors and its influence of nurses' well-being in the ICU environment.

#### **4.10.1 Quantitative: Survey questionnaires**

The participants were given a questionnaire, with four sections, A, B, C, D (Appendix 8), and a letter of information describing the study and providing instructions on completing the questionnaires. The participants were also given an informed consent form. This form included an explanation of the management of all interview materials, confidentiality issues and anonymity procedures for participants, and the option to withdraw at any time. Once informed consent was obtained, all participants were handed the questionnaires in sealed envelopes and on completion returned to the researcher for safe-keeping. Permission to conduct this research at the Military hospital was granted prior to the study. The management of the hospital requested the voluntary participation of all staff.

The main advantage of self-administered questionnaires is that they are easily distributed to many participants and are completed during the participants' own time. According to Welman *et al.* (2005: 257), this method ensures a high response rate, compared to other methods. The participants were requested to return the completed questionnaires, within two weeks from the time of distribution, to the nursing administration department of the Military hospital. The Heads of Department of the ICUs received hand-delivered letter, in advance, from the human resources department and the nursing administration department of the hospital, briefing them about the survey for the present study and requesting them to participate. These protocols facilitated a manual, mediated collection of the research data.

The instrument was available to the sampling frame for two weeks until an appropriate sample size was met. The data collection was completed timeously due to the advocacy of the heads of departments of the ICUs. The researcher was aware of the possibility of a low response rate, which was

considered when determining the size of the sample. The aim was to receive an average of over 90% response to the questionnaires. To avoid the problem of a low response rate, the researcher increased the sample size of 200 by an additional sample of five percent.

#### **4.10.2 Qualitative: Semi-structured individual interview**

Data were collected in the qualitative phase, using individual face-to-face, in-depth semi-structured interviews with the participants (Appendix 7b). All the participants signed an informed consent form which included an explanation of the management of all interview materials, confidentiality issues and anonymity procedures for participants, and the option to withdraw at any time. The various ICUs within the organisation and the participants were coded to ensure anonymity. Once informed consent was obtained, all interviews were scheduled to suit each participant and to accommodate the operational needs of the health service. A private room at the study site was used to conduct the interviews. This was a suitable environment that assured participants of their comfort and privacy that facilitated them to talk freely. The duration of interview sessions was approximately 25 to 30 minutes.

Interviews, as methods of data collection, are known to capture the unique experiences and special stories of the interviewees and produce data as words (Grove, Burns and Gray 2013: 271). An interview schedule was used to guide the semi-structured interviews in this study and most of the questions were open-ended. The total of eleven interview questions were designed to address the research questions to all participants. Interview questions focussed on workload factors, work demands, organisational structures and physical and physiological well-being related to nurses' experiences in the ICUs.

The interviews were recorded using audiotapes to provide an unobtrusive and accurate record of the participant's comments. The number of the interviews was guided by data saturation. The researcher aimed to achieve a minimum

total of 20 interviews with this sample. Based on the data saturation, the researcher decided to interview more participants to achieve data saturation (Creswell 2014: 297).

Probing was done for some questions, depending on the information received from the participants, to allow clarity and in-depth information and to exclude ambiguity. This assisted the researcher to ensure that all the data required were gathered, which facilitated analysis. The researcher used reflection during the interviews and then repeated what the participant said and confirmed what she understood the participants meant to convey. This technique assisted the researcher in confirming that she understood the response correctly, as it was intended by the participants. This is one simple method of confirming the accuracy of qualitative data. No interviewee was coerced to answer any specific question or to provide information that she/he felt uncomfortable sharing with the interviewer. All interviews were later transcribed by the researcher with the permission of the participants.

#### **4.11 PRE-TESTING OF THE DATA COLLECTION TOOLS**

A pre-test was conducted before the commencement of the main study to establish reliability and validity of data collection instruments. The pre-test was also used to identify whether there is a need to refine the methodology or the data collection processes. It was conducted in the same setting as the main study, using the same data collection and analysis techniques. The pre-test was conducted with ten homogeneous respondents from the nurses working outside the ICUs to determine the clarity of questions, the effectiveness of instructions, the average time required to complete the questionnaires and data collection methods. The pilot study participants were asked to comment on the applicability and validity of the questionnaires to the healthcare sector in the Saudi Arabian context.

According to Sekaran (2003: 138-141), the purpose of a pilot study is to refine the questionnaire to ensure there is no ambiguity or bias. For this study, ten homogeneous respondents, who were not part of the sample respondents,

participated in this study and were randomly selected to test the questionnaire. The responses of the ten pilot respondents were captured to form a dataset by a qualified statistician. This was then subjected to the Cronbach Coefficient Alpha Test to determine the reliability of the questionnaire. The feedback obtained in the pilot test was used to amend the questionnaire so that ambiguities were eliminated. The services of a statistician were used to test the consistency of the questionnaires.

#### **4.12 DATA COLLECTION PROCESS**

Data collection was conducted in two phases. Phase 1 began with the qualitative study and sought to assess how the ICU nurses perceived the influence of workload factors on their well-being within the critical care environment. This phase also aimed to develop a comprehensive managerial framework that explicates the workload factors and its influence on ICU nurses. In Phase 2, a quantitative study was conducted which explored the experiences of the ICU nurses who were directly involved on the ward level with clinical patient care. The researcher conducted both phases of the research study on her own, in separate phases.

##### **4.12.1 Qualitative data collection: Phase 1**

Data collection in the qualitative phase consisted of using one-on-one semi-structured interviews with the participants (Appendices 7a and 7b). The main aim of such interviews was to facilitate sharing of the interviewees' perspectives and experiences of the workload and its influence on their well-being, within the ICU environments. All the participants who agreed to participate in the study signed an informed consent form. Informed consent included an explanation of the management of all interview materials, confidentiality issues and anonymity procedures for participants, and the option to withdraw at any time. The various ICUs and participants were coded to ensure anonymity.

A semi-structured interview is described by Liamputtong and Ezzy (2006: 56) as a form of in-depth interview which aims to explore the complexity and nature of meanings and interpretations that cannot be examined using positivist methodologies. Semi-structured interviews, also known as non-standardised or qualitative, tend to be flexible, allowing the interviewees to shape the direction of the interviews. This might require adjusting the emphasis of the research as a result of significant issues emerging during the interviews (Saunders *et.al.* 2009: 80). Although the researcher can direct the conversation asking predetermined questions on the intended topic, further questions can be posed as the need arises. Rubin and Rubin (2005: 20) provide a guidance to develop interview questions and procedures during the data collection process. For this phase of the study, the questions were formulated using the adapted JD-R model from the survey.

The duration of the interviews, in this phase of the study, were approximately 25 to 30 minutes. The allotted time allowed the researcher not only to ask the predetermined questions, but also to obtain rich, detailed information as the nurses expressed their experiences about the workload factors that influenced their well-being. The researcher started each interview with a general introduction and information guide and explained the purpose of the study and how it would benefit the individual and the organisation as a whole to minimise inaccuracies in the interview data.

The interviewer was able to guide the interview in the required direction. She obtained all the information required by probing and requesting clarity. This method is more relaxed and comfortable for the respondents but needs to be contained and focused. It gives the interviewees freedom to respond in their own words and to provide as much detail as they wish, and to offer illustrations and explanations. The researcher, with her experience and skills as an ICU nurse and manager, was able to conduct and control the semi-structured interviews.

These interviews allowed the ICU nurses to share their personal views and experiences without fear of intimidation by the rest of the group. They were also able to share information that was personal, sensitive, or confidential. The interviews were recorded and transcribed verbatim by the researcher, with the permission of the participants.

#### **4.12.2 Quantitative data collection: Phase 2**

Structured questionnaires were used to collect data in this quantitative phase (Appendix 8). The themes that emerged from the qualitative phase of the study were used in developing the questionnaire. Questionnaires are one of the most widely used survey tools in data collection techniques. The standard questionnaires are designed to reduce the error that can be attributed to the interviewer, by scripting the question format and order, and defining in detail how the interviewer is to proceed through the questionnaire. As each person was required to respond to the same set of questions, it provided an efficient way of collecting responses from a sample. A survey was found to be appropriate for this study because it was the most effective technique for the research for this diverse culture. The main advantage of self-administered questionnaires is that they are easily distributed to many participants and are completed during the participants' free time. According to Welman, Kruger and Mitchell (2005: 110), this method ensures a high response rate compared to other methods.

The questionnaire used a six-point Likert scale to measure participants' responses, including the adapted Job Demand Resource Model questionnaires and the Well-being Questionnaires that were underpinned by literature. The six-point Likert scale has been shown to reach the upper limits of the scale's reliability (Allen and Seaman 2007: 64-65). Demographic data were also included in the questionnaire.

The questionnaire comprised closed-ended and only one open-ended question and was checked and validated by an expert statistician. The

questionnaires were delivered personally and by email to the various ICUs via the heads of departments within the Armed Forces Hospital. The participants received a composite document which included a covering letter, a biographical section, and the questionnaire. The covering letter outlined the reason for the study and instructions on completing the questionnaire. Prior to data collection the voluntary nature of the study was made clear and written consent of all participants be obtained following an explanation of the study purpose. The respondents were asked to return the completed questionnaires within two weeks. Most participants could complete the questionnaire immediately after the information session and the remaining ones were collected within the stipulated period of two weeks. Collected data was stored in a locked cabinet, without any names of participants on these documents. Participants were informed of their right to withdraw from the study at any time and that deciding not to participate in the study would not affect their employment status.

#### **4.13 DATA STORAGE**

An efficient storage system enables easy accessibility and irretrievability of the various formats of collected data (Boeije 2010: 75). The researcher ensured that all the ethical principles for conducting field research were followed during and after the study. Therefore, the hard copies of the collected data were stored in a locked cabinet in the nursing administration office and the electronic copies were stored in a system with protected password, allowing access only to the researcher.

The researcher used both the voice recorder and field notes to collect and store data. The voice recorder was used to record the interviews with the participants to ensure that their verbatim message was captured for verification. Field notes were used to support the recorded information and to record non-verbal cues. The participants were advised, during the information sharing session and before the commencement of each interview, that the interviews would be recorded and field notes will be taken.

#### **4.14 DATA ANALYSIS**

Data analysis involves the drawing of meaning from raw data and involves multi-methods that can be applied sequentially (Patton 2002: 533). This approach is referred to as methodological triangulation which includes various steps namely data preparation and qualitative data analysis (Patton 2002: 533). The study consisted of two data sets, namely the qualitative data and the quantitative data, both of which needed to be analysed and interpreted in order to conclude study findings.

##### **4.14.1 Qualitative data analysis**

Qualitative data analysis was used in the first phase of the study. To perform data analysis using the qualitative methods involved dismantling, segmenting and reassembling data to create more meaningful and draw inferences (Boeije 2010: 90). The research aims and questions were used to guide the analysis of data. This translation process from raw data finding and field notes, requires interpretation of empirical data (Milne and Adler 1999: 237). The approach that was adopted for qualitative data analysis was an inductive approach. An inductive approach has its roots in social science and seeks to interpret data to address a problem or answer questions that are raised at the outset of the research (Thomas 2003: 2). To satisfy the research objectives, the data analysis process commenced during the data collection period. After each interview, the researcher reviewed how participant responses would help the study to answer the research questions. The researcher personally transcribed each interview within 48 hours of conducting the interviews. The voice-recorded responses were listened to repeatedly for transcription purposes. The transcription was again verified against the recording. Information from the field notes were compared to that on the audiotape to make sure that all data had been captured correctly.

#### **4.14.2 Steps in data analysis**

The analysis of the interview data involves a systematic approach for discovering and categorising the ideas conveyed by the interviewee (Thomas 2003: 3). The first step in data analysis is the data-coding process. According to Thomas (2003: 3), the process of data analysis is described as a complex action of moving back and forth between data and concepts and as well as between description and interpretation. It is almost impossible to interpret data unless one codes them. Codes define categories, pooling a wealth of material into some order and structure. Coding is the process of dividing data into parts by using a classification system. Different approaches may be followed regarding data analysis. In this research the Teschs' approach was adopted to analyse the interviews. Tesch (1992: 141) proposes eight steps to consider in data analysis:

**Step 1:** The researcher ought to read the entire transcript carefully to obtain a sense of the whole and to jot down some ideas.

**Step 2:** The researcher selects one case, asks "what is this about?" and thinks about the underlying meaning in the information. The researcher's thoughts can be written in the margin.

**Step 3:** A list is made of all the themes or topics. Similar themes or topics are clustered together.

**Step 4:** The researcher applies the list of themes or topics to the data. The themes or topics are abbreviated as codes, which are written next to the appropriate segments of the transcripts. The researcher tries out this preliminary organising scheme to see whether new categories and codes emerge.

**Step 5:** The researcher finds the most descriptive wording for the themes or topics and categorises them. Lines are drawn between categories to show the relationships.

**Step 6:** The researcher makes a final decision on the abbreviation for each category and arranges the codes in alphabetical order.

**Step 7:** The data belonging to each category is assembled and a preliminary analysis is performed.

**Step 8:** The researcher recodes existing material if necessary (De Vos 1998: 343-344).

#### **4.14.3 Quantitative data analysis**

The responses to the closed-ended questions were captured to form a data set and thereafter, analysed using the version 25.0 of the SPSS. Descriptive statistics, in the form of tables and graphs, were used to present the data graphically. Inferential statistics were applied to test for significant trends in the data. These included Pearson's correlation, t-tests, ANOVA and chi-square tests. Where the conditions are not met for the application of these tests, non-parametric equivalent tests, or exact tests, where applicable, were used. Throughout, a p-value of 0.05 was used to indicate significance. Furthermore, the validity of results will depend on the correct and appropriate use of statistical tests such that assumptions are not violated.

#### **4.15 MIXING OF DATA FROM THE TWO STRANDS (QUALITATIVE AND QUANTITATIVE)**

The researcher merged data after the analysis stage to compare results as the study design was convergent. Quantitative and qualitative data were collected concurrently. The two data sets were analysed independently, using analytic approaches suited for each strand. The results of the two data sets were then compared (Creswell 2015: 160). It was to specify which dimensions should be used to compare the results from the two data sets. In the current study, the workload demands as described in the JD-R Model were used to guide the comparison of the quantitative and qualitative results and the model

was used to guide the presentation of the comparison. Further analysis included triangulation and transformation of the data sets and interpreting how the merged results answered the research questions and led to the achievement of the study's objectives (Creswell 2015: 165).

#### **4.16 TRIANGULATION**

All the data gathered during the study were triangulated and the results of the triangulation are presented in Chapter 5. Triangulation is defined as a process and/or outcome which involves the combination and comparison of multiple data sources, data collection and or analysis procedures, research methods and inferences that occur at the end of the study (Teddlie and Tashakkori 2009: 32-33). Triangulation was used to add richness to the study and to substantiate selected aspects of the text. Triangulation techniques attempt to map out, or to explain more fully the richness and the complexity of human behaviour by studying it from more than one angle, thus making use of both qualitative and quantitative data (Neuman 2003: 109).

Bergman (2008: 22-23) argues that triangulation does not refer to mixing of quantitative and qualitative data but checking the validity of an interpretation. This check is based on a single source of data by recourse to at least one further source that is of a strategically different type. The researcher used the process of triangulation with an idea that drawing data from sources that have different potential threats to validity would possibly reduce the chances of reaching false conclusions (Bergman 2008: 23). Different forms of triangulation can be distinguished (Bergman 2008: 22-27): triangulation as validity checking, indefinite triangulation and triangulation as seeking complementary information. In the current study, data from the observations during the interview process were triangulated with the one-on-one interview in order to achieve two purposes in line with Bergman's stipulations which are triangulation as validity checking and triangulation as seeking complementary information.

#### **4.17 DATA INTERPRETATION**

Once data analysis has been completed it is important that the researcher develops inferences and meta-inferences by interpreting the study's findings; looking across the quantitative and the qualitative results and assessing how the information addresses the mixed methods question in the study (Creswell and Plano Clark 2011: 212). The inferences included conclusions or interpretations drawn from each strand, whilst the meta inferences were drawn across the quantitative and qualitative strands.

#### **4.18 TRUSTWORTHINESS AND RESEARCH RIGOUR**

The researcher ensured the rigour for both qualitative and quantitative methodologies as the two strands were incorporated in the mixed methods design. The most important steps in mixed methods studies are the incorporation of results from the study's qualitative and quantitative strands into a coherent conceptual framework that provides an effective answer to the research question (Teddlie and Tashakkori 2009: 286).

##### **4.18.1 Trustworthiness: Qualitative data**

As qualitative research has an element of subjectivity, and is open to criticism, it is important that the study and the findings provide evidence of validity and reliability (Polit and Beck 2012: 174). Research rigour in qualitative research is associated with openness, relevance, epistemological and methodological congruence, scrupulous adherence to a philosophical perspective, thoroughness in collecting data and consideration of all the data during the analysis process and the researcher's self-understanding (Burns and Grove 2009: 54). In this study, procedural rigour was ensured through precise documentation of all the steps and processes of the study and how the decisions will be reached. The researcher used a voice recorder to ensure that data was accurately recorded. Verbatim translation of data included non-verbal cues displayed by the study's participants which were noted during the interviews. The techniques to ensure trustworthiness followed Lincoln and

Guba's (1985 cited in Loh 2013: 5) recommendations using the criteria of credibility, dependability, conformability, and generalizability.

#### **4.18.2 Credibility**

Credibility refers to confidence in the accuracy of the data and the interpretation of them (Polit and Beck 2012: 175). Lincoln and Guba (1985 cited in Shenton 2004: 64) argue that ensuring credibility is one of most important factors in establishing trustworthiness. In this study, the researcher ensured credibility of data by recording all the interviews with the study participants and using their direct quotations and narratives during data reporting. To establish confidence in the truth of the findings, during report writing, voice recordings were replayed repeatedly to ensure that all the information was transcribed. Credibility was also ensured by transcribing the recorded interviews verbatim. In addition, the researcher remained neutral during the interviews to ensure that the participants' responses were not influenced. Prolonged engagement was maintained with the participants by staying in the field of study until data saturation was reached (Polit and Beck 2012: 584). The researchers spend sufficient time with the participants during the data collection stage, which increased the level of trust between the researcher and the participants.

#### **4.18.3 Dependability**

According to Brink *et al.* (2014: 172), dependability is the provision of evidence that if the study were repeated with the same or similar participants, in the same or similar context, its findings would be similar. Dependability refers to the stability or reliability of data over time and conditions (Polit and Beck 2012: 175). Dependability is reliant on credibility. In this study, the reliability of the data collected during the qualitative phase was ensured through triangulation of the data methods, in which the researcher overlapped the different data methods to ensure trustworthiness. Thick and dense description of the research methodology, used to conduct the study and dense description of sample characteristics, context of the study, data

collection methods and data analysis processes were detailed, with literature support, as evidence of dependability. Although the researcher coded the interviews herself, the data and analyses were checked for discrepancies by the research supervisors who acted as independent coders, which ensured dependability.

#### **4.18.4 Confirmability**

According to Lincoln and Guba (1985 cited in Loh 2013: 5) confirmability refers to the degree to which the researcher can demonstrate neutrality of the research interpretations. The data must reflect the voice of the participants and not the researcher's biases or perception (Brink *et al.* 2014: 173). In this study, the researcher documented the procedure check and rechecked the data throughout the study. Authenticity refers to the extent to which the researcher fairly and faithfully shows a range of different realities (Botma, Greeff, Mulaudzi and Wright 2016: 234).

#### **4.18.5 Generalisability**

The ability to generalise the findings of the study were ensured through the criteria of thick description as stated by Lincoln and Guba (1985 cited in Shenton 2004: 69), being an in-depth study of the actual situation investigated and the context. Data were collected and analysed in sufficient detail to provide a baseline understanding for subsequent work to be undertaken, for comparison with other similar studies, and for generalising to the larger population. The researcher further ensured trustworthiness of the qualitative data by efforts to confirm that the findings accurately reflected the experiences and viewpoints of participants, rather than the researcher's perceptions (Polit and Beck 2014: 78). The richness of the qualitative findings was used to build a quantitative tool.

#### **4.18.6 Research rigour: Quantitative data**

The research rigour in the quantitative phase of the study was ensured through validity and reliability of the methods used for data collection and data analysis. Validity and reliability of the study refer to its trustworthiness and are both concerned with quality of research (Gerrish and Lacey 2006: 139).

##### **4.18.6.1 Validity**

Validity is a crucial factor in the development, selection and application of an instrument. De Vos *et al.* (2011: 96) refer to validity as the degree to which the questionnaire or instrument measures the actual questions and the accuracy of questions. Terre Blanche, Durrheim and Painter (2006: 90) further explain that validity determines the extent to which the findings and conclusions of the study are sound. The validity of the research instrument means to measure the truth or accuracy of scientific findings.

In this study, the questionnaire was validated by face, content, construct, and criterion validity. External validity refers to the extent to which results of a study can be generalised beyond the sample (Polit and Beck 2014: 378). Purposive sampling was used to represent the total study population for the results to be generalizable. Internal validity refers to the conclusions made in the study, accurately reflecting what is being studied (Polit and Beck 2014: 381). The researcher conducted a pre-test on a neutral population with the same characteristics as the study population to assess the instrument and make amendments if necessary.

##### **4.18.6.2 Reliability**

Polit and Beck (2012: 452) describe reliability as the accuracy and consistency of information obtained by a study which is often associated with the methods used to measure the research variables. Reliability was ensured by inviting the nurse managers and the head nurses to provide input into the

data collection instruments and conducting a pre-test at the hospital under study.

#### **4.19 ETHICAL CONSIDERATIONS**

Burns and Grove (2009: 184) highlight that nursing research does not only require expertise and diligence in the research process but also honesty and integrity, thus the importance of conducting research ethically. Ethics clearance was obtained from the DUT's Institutional Research Ethics Committee (IREC) (Appendix 1). Permission was sought and granted by the Clinical Director of Anaesthesia, Intensive Care Unit and Operating Room (Appendices 2a and 2b), the Assistant Hospital Director for Medical and Technical Affairs (Appendices 3a and 3b), the Hospital Director Armed Forces Hospital Southern Region (Appendices 4a and 4b).

A letter of information, which outlined the details of the study was given to each participant (Appendices 5a and 5b). Informed consent to participate in the study was obtained from the participants before questionnaire completion and confidentiality of the data obtained was maintained (Appendix 6). The research adhered to the confidentiality preferences of the participants and the organisation. The nature of the study was purely descriptive, using surveys. No experimentation or intervention took place.

The Belmont Report (1979: 1797-1807) outlines three basic principles relevant to the ethics of research involving human subjects, namely respect of persons, beneficence, and justice. In conducting this research, the researcher ensured that she understood and familiarised herself with the regulations associated with the field of the study. The protection of the rights of the participants was extremely important. Cooper and Schindler (2006: 102) argue that research must be designed so that a respondent does not suffer physical harm, discomfort, pain, embarrassment, or loss of privacy. Informed consent, confidentiality, anonymity and the participant's right to privacy are some of the measures that were used to ensure that the participants were

treated with respect that the research benefitted them and that they were treated fairly. According to McCauley (2003:1), social research is a dynamic process that often involves an intrusion into people's lives and this largely depends on the establishment of a successful relationship between the researcher and respondents.

#### **4.19.1 Informed consent**

Burns and Grove (2011: 259-266) describe informing participants as being the transfer of information from the researcher to the potential participant, and consent refers to the participant's agreement to participate in the study. Burns and Grove (2011: 206) state that the prospective participant should have sufficient understanding of the information given to them by the researcher and the researcher must also understand the type of information needed from the participant. The researcher must also be cognisant of the fact that participants have a right to refuse. Informed consent was obtained from all the participants after the researcher informed the participants of the purpose of the study. Participation was voluntary and anonymity and confidentiality were maintained throughout the study. Participants were informed that they could withdraw from the study at any time, should they so wish. Although there were no unforeseen risks anticipated in this study, participants were informed that the interviews and survey could not be traced back to them. They were assured that the data will be confidential as the questionnaires and interview guides would not be used to identify them, and that all research data would be destroyed after two years. Following the full disclosure of information regarding the study, participants were asked to voluntarily sign a written consent form to participate in the study. The researcher witnessed the signing and countersigned as witness. The documentation was reviewed by the researcher, using a checklist, after permission was obtained from the employer.

#### **4.19.2 Confidentiality and anonymity**

Confidentiality refers to the researcher's responsibility to ensure that the information gathered is not disclosed to any other person and anonymity refers to the protection of the identity of the contributors of this information (Burns and Grove 2011: 246). Confidentiality was maintained by keeping the consent form separate from the questionnaire so that it could not be used to identify the participants. The researcher ensured confidentiality by restricting access to the data. Electronic data were kept in a password protected computer and only the researcher and the supervisors had access to the data. The completed and returned questionnaires were kept in a safe drawer under lock and key in the researcher's office. No information that disclosed the identity of participants appeared on the questionnaire. The right to autonomy and confidentiality were maintained in data handling to ensure that there is no untoward association of individuals with data. The information gathered was treated with strictest of confidentiality and was used for the purpose of the research study only. Anonymity was ensured throughout the study. The questionnaires required no names of respondents. Only the department and designation of the managers were required for data analysis purpose. All participants were asked to complete the questionnaire anonymously and to place the completed questionnaire in a sealed envelope, provided for the return to the researcher, and drop it in the sealed box available in the nursing administration department.

All interviews were conducted in privacy. The top sheet was linked to the interview sheet with the participant's number, but only the researcher had access to this information which was kept under lock and key. The nature of the study has no potential to expose the participants to any physical harm. However, the researcher constantly remained alert to any potential risk. All data collection sheets were transported from the ICUs in sealed envelopes. The data sheets and audio tapes were stored in a locked cupboard and removed only when the researcher needed to work with them. On completion of the study, the sheets with the participants' details was disposed of as per

institutional policy. Hard copies were kept in a lockable cupboard and electronic data was kept in a password protected computer and will be deleted after 5 years. Hard copies will be shredded after 5 years. The voice recordings will be deleted and the recycle bin information will be emptied.

#### **4.19.3 Beneficence and non-maleficence**

The principle of beneficence and non-maleficence obligates the researcher to act for the benefit of others and, therefore, the researcher must ensure that no harm comes to the participants (Burns and Grove 2011: 233). Beneficence means maximising good outcomes for participants and minimising harm (Holloway and Wheeler 2010: 52). Non-maleficence means avoiding or minimising unnecessary harm or risk. This is related to beneficence and the balancing of risks towards the participant. The principle beneficence means doing good, acts of kindness or goodness, and avoiding harm. To adhere to this principle, the researcher needs to secure the well-being of the participants, be it physical, psychological, emotional, spiritual, economic, social, or legal (Brink, van der Walt and Van Rensburg 2012: 36). The nature of the study, its importance and how it is going to be conducted must be explained to the key contacts and the potential participants. The information about the purpose of this study, the process of data collection and analysis and how the results would be disseminated was discussed with the participants. The participants were given an opportunity to ask questions about the research procedure and the purpose before giving consent to be part of the research study. The researcher ensured that interviews were conducted in privacy. Participants were assured there will be no harm in participating in this study and that they were allowed to withdraw at any time of the data collection period, with no penalty on withdrawal.

#### **4.19.4 Justice**

Justice in research refers to the right to fair selection and treatment of participants (Polit and Beck 2012: 155). Participants were selected, based on the criteria enhancing the achievement of the research objectives, not as per

researcher's personal preferences, and all participants had similar treatment (Brink, van der Walt and van Rensburg 2012: 36; Burns and Grove 2011: 233). Selection criteria for prospective participants were based on formal inclusion and exclusion criteria. Participation in the study was voluntary. All participants were treated the same, and asked the same questions, and every participant's opinion was regarded as being of equal importance.

#### **4.19.5 Respect**

Respect refers to the participant's right to self-determination, which may be violated by deceiving participants, threatening them, or giving them excessive reward to obtain compliance (Burns and Grove 2011: 233). Participants were informed of their right to participate in the study. Participants were treated with respect, during all the interaction of data collection processes. They were not promised any rewards for participation in the study. The researcher returned to the participants with the final findings to confirm that the resultant report was an accurate and complete reflection of their perceptions related to workload experiences and its influences on their well-being in the ICUs.

#### **4.20 SUMMARY OF THE CHAPTER**

This chapter focused on the research methodology. The researcher provided a detailed description regarding the sampling techniques, data collection procedures, and data analysis. Importantly, the efforts of the researcher to promote ethical considerations of the study have also been outlined in this chapter. This chapter formed the background for the next chapter where findings of the study are presented.

## **CHAPTER 5: PRESENTATION OF FINDINGS (PHASE 1: QUALITATIVE DATA COLLECTION)**

### **5.1 INTRODUCTION**

In Chapter 4, the research methodology was discussed. This chapter presents the findings of the study for both the qualitative and quantitative strands of the study. The qualitative and quantitative data sets aimed to achieve the first two objectives of the study namely, to determine the workload factors that influenced ICU nurses' well-being in a Saudi Arabian Hospital and exploring their experiences regarding work-related factors at participating ICU units. The aim of the study was to develop a comprehensive healthcare managerial framework that explicates how work-related factors influenced the nurses' well-being.

The following research questions had to be answered to achieve these objectives:

- What are the work-related factors that influence ICU nurses' well-being in a Saudi Arabian hospital?
- What are nurses' experiences regarding work-related factors in a Saudi Arabian Hospital?

This chapter presents research findings derived from the data collected on the study topic by employing qualitative and quantitative approaches. The mixing and merging of the two data sets will be discussed in the next chapter.

### **5.2 SAMPLE REALISATION**

The study units, number of interviews and participants, are discussed in the ensuing sections. All the intensive care units in the Armed Forces Hospital, Southern Region were included in the study. The participants were coded in numbers from number one to number twenty (No.1 to No.20) for the interview process. Coding for the qualitative phase of the data collection included

categorising respondents according to the nursing units that they worked in. These units are part of the General hospital and part of an established Military hospital group managed by the Military of Saudi Arabia and regulated by the by-laws of the Medical Directorate Services. In the qualitative phase of the data collection process, a total of 20 participants were interviewed (Table 5.1).

**Table 5.1: Total number of participants from various ICUs during the Qualitative phase**

UNITS	TOTAL PARTICIPANTS
General ICU	4
Paediatric ICU	2
Coronary Care Unit	2
Cardiac ICU	5
Neonatal ICU	4
High Dependency Obstetrics Unit	3
	<b>20</b>

The number of interviews conducted during the qualitative phase of the study in each study site was guided by data saturation. A total of 20 interviews were conducted over a period of two weeks (Appendix 7b).

### **5.3 PRESENTATION OF THE FINDINGS**

The presentation of the results for both the phases of the study is guided by the JD-R model principles. Presentation of the participants' demographic data and the findings of the qualitative phase of the study, will be followed by the findings of the quantitative phase of the study. Findings of the qualitative data indicate participants' perceptions of work-related factors influencing their well-being within their ICU environment. These findings were related to the work-related factors nurses experienced within their ICU environment and were aligned with the objectives of the study.

### **5.3.1 Demographic data of the participants**

A total of 20 participants were interviewed from the various ICU units within the Armed Forces Hospital, Southern Region under study. These participants were all nursing staff, working in the various ICUs of the sample hospitals. Seventeen of the participants were female and three (3) were male. Nine (9) of the participants were between the ages of 41 and 50 years, seven (7) were between the ages of 31 and 40 years, three (3) were between the ages of 21 and 30, and one (1) was above the age of 50. The experience levels measured in the years of service in the nursing profession, ranged as follows: fourteen participants had between 5-10 years of experience and six (6) between 11-20 years. The designations of participants were ICU nurses who were involved in direct patient care. The participants were selected across all ICU specialisations including adult and paediatric and neonatal ICUs, to gain a better understanding of the experience of the work- related factors that influence nurses' well-being, in a wider context. It will also inform recommendations for the development of a comprehensive managerial framework that explicates work- related factors on nurses' well-being within the ICU environment. The demographic data of the interviewed participants is depicted in Table 5.2.

**Table 5.2: Demographic data of the interviewed participants (P) (n=20)**

<b>P</b>	<b>Age in years</b>	<b>Gender</b>	<b>Highest Level of Education</b>	<b>Employment Status</b>	<b>Units Allocated</b>	<b>Country of Origin</b>	<b>Experience in Current Position</b>
1	41-50	Female	Degree	Contract Programme	Adult General ICU	Philippines	9 years and 10 months
2	41-50	Female	Degree/Diploma	Contract Programme	Adult General ICU	South Africa	3 years
3	31-40	Female	Degree	Contract Programme	Paediatric ICU	Saudi Arabia	12 years
4	31-40	Female	Degree	Contract Programme	Paediatric ICU	Philippines	10 years and 1 month
5	31-40	Male	Diploma	Contract Programme	Adult General ICU	Malaysia	5 years and 1 month
6	41-50	Female	Diploma	Contract Programme	Adult General ICU	India	8 years and 1 month
7	31-40	Female	Diploma	Contract Programme	Coronary Care Unit	India	10 years and 10 months
8	31-40	Female	Diploma/Post Basic Diploma	Contract Programme	Coronary Care Unit	South Africa	9 years
9	41-50	Male	Diploma	Contract Programme	Cardiac ICU	Jordan	10 years and 6 months
10	31-40	Female	Diploma	Contract Programme	Cardiac ICU	India	3 years and 10 months
11	21-30	Male	Degree	Contract Programme	Cardiac ICU	Philippines	3 years and 1 month
12	41-50	Female	Degree/Masters	Contract Programme	Neonatal ICU	Philippines	19 years and 9 months
13	31-40	Female	Diploma	Contract Programme	Neonatal ICU	India	14 years
14	41-50	Female	Diploma	Contract Programme	Neonatal ICU	India	17 years
15	41-50	Female	Degree	Contract Programme	Neonatal ICU	Egyptian	14 years and 4 months
16	41-50	Female	Degree/Masters	Contract Programme	High Dependency Unit: Obstetrics	India	13 years and 3 months
17	41-50	Female	Degree	Contract Programme	High Dependency Unit: Obstetrics	Philippines	9 years and 9 months
18	21-30	Female	Degree	Contract Programme	Cardiac ICU	Saudi Arabia	3 years and 1 month
19	21-30	Female	Diploma	Contract Programme	Cardiac ICU	Saudi Arabia	3 years
20	Above 50	Female	Degree	Contract Programme	High Dependency Unit: Obstetrics	British	5 years and 7 months

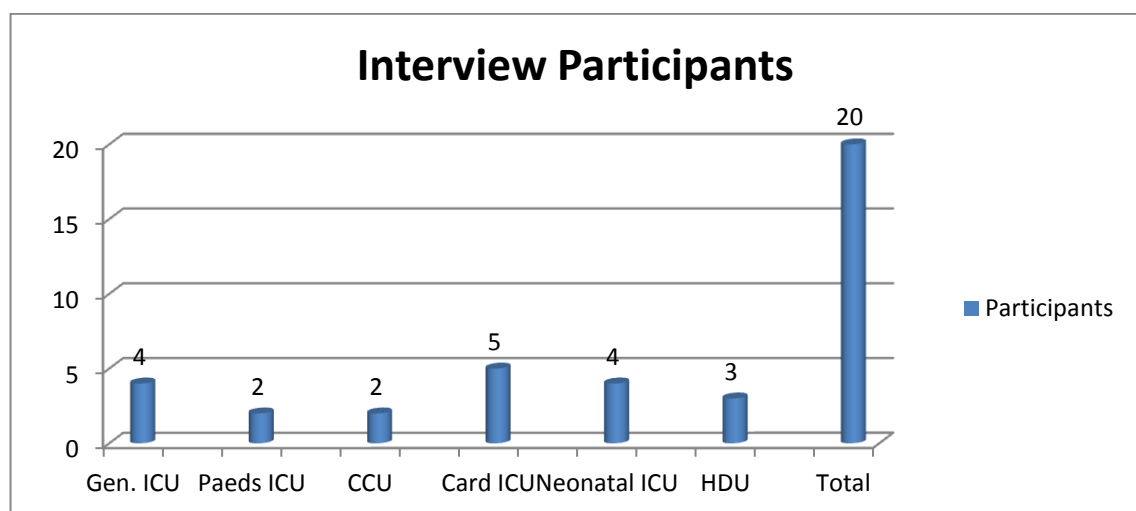
**Table 5.3: Nursing qualifications of the interviewed participants (P) (n=20)**

<b>P</b>	<b>Registered Nurse: Bachelors BSC</b>	<b>Licensed Practical Nurse: Diploma</b>	<b>Masters Nursing Science: MSC</b>	<b>Doctorate in Nursing: PhD</b>	<b>Post Basic: ICU</b>
1	X				
2		X			
3	X				
4	X				
5		X			
6		X			
7		X			
8		X			
9		X			
10		X			
11	X				
12	X		X		
13		X			
14		X			
15	X				
16	X		X		
17	X				
18	X				
19		X			
20	X				

### **5.3.2 Areas of specialisation in the qualitative phase**

The participants who met the inclusion criteria from the interviews were from the various ICUs, namely adult ICUs, the Paediatrics ICU (PICU) and Neonatal ICU (NICU). The results of the study indicated that four (4) participants were from the NICU, four (4) from the general ICU, two (2) from the PICU, two (2) from CCU, five (5) from CICU and three (3) from obstetrics and gynaecology (HDU). The areas of specialisation, in various ICUs, of the participants that were interviewed are illustrated in Figure 5.1.

The interview participants' qualifications also formed part of the demographics n=20. Fifty percent (50%) of the participants were working in the ICU with a Licensed Practical Nurses (LPN) which equates to a Diploma in Nursing Science and the other fifty percent (50%) was in possession of a Registered Nurse License (RGN) which equates to a Nursing degree. In the analysis, 10 participants possess a Diploma and ten (10) a Nursing Degree. Over and above these qualifications, two (2) of the participants possessed other qualifications not related to nursing science and this included a Postgraduate in Management and a Masters in Business Administration. The data clearly shows that the total of 20 nurses who participated in the interviews did not possess any qualification in ICU but have years of clinical experience in this specialised field of nursing critically ill patients. The qualifications of the participants are illustrated in Table 5.3.



**Figure 5.1: Areas of specialisation (n=20)**

## 5.4 THEMES AND SUBTHEMES

Seven (7) major themes emerged during the analysis of the findings. The sub-themes are presented against each major theme in Table 5.4. Major themes include the following:

- 1) Shift work and impact on work life.
- 2) Human resources concerns.

- 3) Cultural barriers to communication.
- 4) Factors influencing staff turnover in the ICUs.
- 5) Group cohesion in the workplace.
- 6) Emotional exhaustion factors in the workplace.
- 7) Safety and security concerns in the workplace.

**Table 5.4: Themes and sub-themes that emerged from the Interviews**

<b>Major themes</b>	<b>Sub-themes</b>
<b>Theme 1: Shift work and its impact on work life.</b>	1.1 Psychological concerns of shift work.
	1.2 Physical concerns of shift work.
	1.3 Workplace productivity related to shift work.
	1.4 Moral distress issues resulting from shift work.
	1.5 Occupational exposure during shift allocation.
<b>Theme 2: Human resource concerns.</b>	2.1 Nurse-patient ratios during work allocation.
	2.2 Patient allocation in the ICU work environment.
	2.3 Shortage of skilled labour ICU work environment.
	2.4 Shortage of medical and surgical supplies in the ICU work environment.
	2.5 Budgetary constraints and its effect on ICU functioning.
<b>Theme 3: Cultural barriers to communication.</b>	3.1 Language barriers and its effect on communication.
	3.2 Multicultural diversity of staff and its impact on communication.
	3.3 Support systems to assist with staff communication challenges.
<b>Theme 4: Factors influencing staff turnover in the ICUs.</b>	4.1 Staff attrition and its influence on staff turnover.
	4.2 Staff absenteeism and its impact on staff turnover.
	4.3 Staff job satisfaction and its influence on staff turnover.
	4.4 Staff Retention and its impact on staff turnover.
<b>Theme 5: Group cohesion in the workplace.</b>	5.1 Decision making and team building in the workplace.
	5.2 Psychosocial barriers to teamwork in the workplace.
	5.3 Human respect and value systems in the workplace.
	5.4 Teamwork and teambuilding in the workplace.
<b>Theme 6: Emotional exhaustion factors in the workplace.</b>	6.1 Sleep deprivation and its influence on emotional exhaustion.
	6.2 Fatigue and distress and their influence on emotional exhaustion.
	6.3 Work life balance and its influence on emotional exhaustion.
<b>Theme 7: Safety and security concerns in the workplace.</b>	7.1 Fear of working environment and its influence on safety and security.
	7.2 Physical and verbal abuse of staff and their influence on employee safety.
	7.3 Lack of respect and human dignity and its influence on safety and security.

In the presentation of the findings, the themes and sub-themes are supported with verbatim statements from the participants to substantiate their relevance in the results. All ICU nursing staff were interviewed in English as this is the spoken language at work. Excerpts of interviews that have been included in this chapter to support the themes are from the original transcripts of interviews. The only alterations have been the inclusion of punctuation such as full stops, commas, question marks to make the participants' quotes more understandable and logical. This approach was used by the researcher to present the participants' descriptions accurately while maintaining integrity of the data.

## **5.5 PRESENTATION OF FINDINGS WITH THEMES AND SUB THEMES**

### **5.5.1 Major theme 1: Shift work and its impact on work life**

When participants were asked to rate their QoL in relation to psychological and emotional well-being after 12-hour shifts, some of the participants expressed their unconscious prejudices towards the current scheduling process. The long working hours and the unsociable hours of 12-hour shifts with the mix of day and night duties, disrupted their sleeping patterns, and indirectly affected their social life. They overtly expressed their concerns regarding the scheduling of shifts, with a mixture of a weekday and night, which added to their imbalance in social life. It also affected their physiological coping skills with only one day off, then another 12 hours to work. They also shared their own personal experiences of long working hours which affected their work performance and contributed to the decreased productivity and job satisfaction. Participants strongly verbalised that long working hours contributed to their occupational exposure, as they had to stand on their feet for long hours, resulting in physical and emotional exhaustion.

The four sub-themes that emerged under this major theme during the interview were:

Sub-theme 1.1: Psychological concerns of shift work.

Sub-theme 1.2: Physical concerns of shift work.

Sub-theme 1.3: Workplace productivity related to shift work.

Sub-theme 1.4: Moral distress issues resulting from shift work.

Sub-theme 1.5: Occupational exposure during shift allocation.

### **Sub-theme 1.1: Psychological concerns of shift work**

During probing, the participants were asked how they rated their QoL in relation to physiological and emotional well-being after a 12-hour shift. There were mixed responses to this question as participants articulated their own viewpoints as per their perceptions, and expressed the following sentiments regarding mental exhaustion regarding 12-hour shifts, as stated in the following excerpts:

*“Quality of life can be rated one as the least and ten as the maximum and after twelve hours shift, I will rate it to 5. Five because you will be exhausted after the long working hours and this affects you, physically and emotionally.”* (Participant 1, Female, CICU).

*“They are a bit of long shifts that we do work. As nurses we prefer 6-hour shifts with split shifts to avoid getting exhausted. From a psychological and emotional perspective, we are lacking the family part of life, some of us are mothers and wives and these shift schedules can have a negative impact on us as a family and our relationship with our families.”* (Participant 2, Female, General ICU).

### **Sub-theme 1.2: Physical concerns of shift work**

Long working hours distracts nurse's attention which will further affect safety of the patients and the well-being of the staff. However, these long working hours were expressed as not only affecting their physical, mental health, family and social life but also affected patients' safety and the organisation's reputation. Work schedules are particularly important to Generation X employees as they value the ability to control their time. This group of nurses, who had less experience and have been in the profession for less than three years, faced difficulty with the long working hours and expressed their

dissatisfaction with shift work. They required time schedules well in advance so that they could plan how to spend their social and family time. Changing work schedules caused disruptions in their lives which contributed to increased rates of absenteeism, sick leave, and intentions to leave the organisation.

Some of the participants expressed their dissatisfaction on the length of shifts and the mixing of day and night shifts. The participants expressed their dissatisfaction about working day and night within the same week or the same month. This type of scheduling resulted in the participants being affected emotionally and also created an unhealthy lifestyle, contributing to a dysfunctional social and family life. Such scheduling also disrupted their sleep patterns and physiological responses of their body adjusting after different shifts. There was a small number of the interviewees who did not object to the length of shifts and the mixing of schedules between day and night. The following excerpts are evidence of participants concerns:

*“The mixed shifts of day and night schedules are not healthy for my body and my social life and my family and friends. I have no time to rest properly and this disrupt my body mind and soul.”* (Participant 2, Female, General ICU).

*“A twelve-hour shift will be very tiring for us..... And sometimes it will not be like only twelve hours, sometimes they will have to exceed the 12 hours due to the demands of the job to stay late and see to ill patients. The long handovers .....keeps us late in the unit and affects us because we are tired or these long hours especially night shift.”* (Participant 4, Female, PICU).

*“The twelve hours from the start of the duty until the end of the shift does cause strain on us as nurses, sometimes..... you need to travel earlier to come on duty on time and after the endorsement it will take time because every patient needs handover. When you finish the shift you have to return to your accommodation by bus as women are not allowed to drive and at times the transportation is delayed and this delays our sleep time and we get*

*physically exhausted waiting bus stop after long day of work.”* (Participant 9, Male, CCU).

### **Sub-theme 1.3: Work-place productivity related to shift work**

ICU nurses are expected to maintain optimal work performance and fatigue can threaten their well-being. Long working hours dramatically affect the health of employees negatively which result in poor performance and decreased work productivity. These outcomes are usually exposed in the form of absenteeism, impaired interpersonal relationships, stress, developing thoughts of quitting the job, lack of commitment and low morale towards the organization and working environment.

Some of the participants stated that the long working hours caused fatigue which resulted in low work performance and decreased productivity. The high demands of the work and the shortage of staff were the main factors expressed in relation to work productivity. Overall, the long working hours were key in decreasing work performance. Participants 1 and 16 expressed that their low work productivity was related to work dissatisfaction and perceived long working hours as a key factor that affected work productivity, as stated in the following excerpts:

*“Because you will be exhausted from a 12-hour shift and this affects us nurses, physically and emotionally which then impacts on our productivity. But sometimes, I can say that the satisfaction for work does exist. We feel that when there is no work satisfaction then this affects the work performance and we not happy to come to work and function effectively”* (Participant 1, Female, CICU).

*“The long hours are very stressful for us nurses. 12 hours tends to distract our mind and we cannot focus or concentrate, and this interferes with task outcomes and performances. We cannot focus at times because we too tired*

*to complete our clinical work and this impacts negatively on work performance and the ability to interact with our family” (Participant 16, Female, HDU).*

*“Psychologically staff are drained out sometimes. If they get critically ill patients for the long shifts their workload becomes more and with shortage of staff no help, we get exhausted. We are not getting proper break times and rest time due to demands of the patients and families and doctors and these factors affects our work performances...” (Participant 16, Female, HDU).*

#### **Sub-theme 1.4: Moral distress issues resulting from shift work**

The majority of the participants expressed their concerns about long working hours impacting on their ability to focus and their moral distress. In their opinion, if working hours are 8 hours and 6 hours, they will be more productive, and their concentration levels will improve, and they will be able to balance both family and work life and devote adequate time for family and social life. Some of the participants expressed that long working hours created a sense of dissatisfaction with the job, provoking them to quit. They also believed that long working hours made them less productive and affected their physical well-being.

Some of the participants made recommendations for management to look at minimizing the working hours by reducing it from 12 hours to 6 hours and to be more flexible using split shifts. Others stated that they cope as the shift work did not affect their productivity and they did not experience any form of moral distress. Participants 7 and 8 shared similar views on moral distress. The key factor was shortage of staff which contributed to job strain and resulted in moral distress in the workplace as stated in the following excerpts:

*“First and foremost, shortage of staff added to the decrease productivity and moral distress in the ICU. When there is less staff meaning the nurse patient ratios were 1:3 then the workload increased, and the demands increased and This added more strain on the work and resulted in poor work productivity due*

*to frustration of the job. This contributed to the moral distress and feeling of not wanting to work in this environment. Secondly, long hours that the staff are working. This makes us tired and we cannot cope with the distress and we become frustrated to give off our best.” (Participant 7, Female, CCU).*

*“As we are new in the ICU in the beginning it is very hard to adapt in a foreign country and find it difficult to cope in this environment and with the challenging situations. Being in a unit for twelve hours and we have lots of work and tasks to complete within this time frame of the schedule we sometimes are very busy, so could not manage to complete our work-related tasks. When we finish the shift and go home, we become distressed because did not finish all the task and we are physically tired or emotionally restless from the unit.” (Participant 8, Female, CCU).*

#### **Sub-theme 1.5: Occupational exposure during shift allocation**

Long working hours increased the risk of occupational exposure in the workplace which resulted in nurses expressing their fear of making errors or near misses during care processes and practices. They believed that not practicing safe medicine may impact on patient safety and consequently affect their health and well-being. Some of the participants indicated that the long working hours caused fatigue, emotional and physical fatigue which resulted in sick leave or sleep deprivation which in turn affected their work performance and their ability to concentrate on work tasks. This is supported by the following excerpts:

*“Sometimes it will affect the patient care and the nurses’ health. Some of the nurses are affected when the staffing is not according to the standards for the ICU as 1:1 we take care of 2 to 3 patients sometimes and this makes us not to feel safe in the ICU area. This impacts negatively on us wanting to stay with the organisation and renew our contracts. Some of the nurses, they will ...start to take sick leave and be absent from work due to no work satisfaction and fatigue. Sometimes even it is not real causes of illness it is just mental fatigue.*

*Some of the nurse will then resign because of these factors.” (Participant 9, Male, CCU).*

*“I think some of the factors that can affect the environment is the high workload and lack of support. Occupational stress in the intensive care unit are the physical environment factors where the structure of our unit is overcrowded due to high occupancy and this increases the rate of infection which impacts on health of the staff and the quality of patient care.... The shortage of staff which usually goes with the staff burnout and this increases the number of sick leave due to high apathy of patients.” (Participant 12, Female, NICU).*

### **5.5.2 Major theme 2: Human resources concerns**

The findings revealed that pressure is increasing within the hospital work environment. Nurses expressed great concerns regarding staffing and other resources such as supplies that was creating a barrier between the job and the outcomes related to safe patient care. Many of the participants expressed that the age factor and years of experience was contributing to job strain and inability to cope with workload. The more experienced and long service ICU nurses who had more than 5 years' experience working within the organisation believed that the age of staff affected the internal functioning of the work environment. The younger nurses between the ages of 21-30 struggled to cope with the culture and the high volumes of work within the ICUs. Another human resources factor was the number of nurses between the ages of 51-60, who were considered to be the experienced and skilled group, were beginning to retire or leave the profession, resulting in a problem of supply meeting the demand. The issue was further compounded by a shift towards employing a millennial workforce, whose priorities are quite different from their predecessors.

Some of participants expressed the view that the management needs to employ more skilled and experienced staff to overcome work-related stress. Some compared other healthcare organizations within Saudi Arabia that are

already doing this by offering training, development and advancement, and competitive benefits packages, including tuition reimbursement. The other factor articulated by the participants was the balance between the human and physical resources. Participants were very expressive about maintaining an appropriate mix between the different types of health promoters and caregivers to ensure the system's success. The five sub-themes that emerged under this major theme during the interview were:

Sub-theme 2.1: Nurse-patient ratios during work allocation.

Sub-theme 2.2: Patient Allocation in the ICU work environment.

Sub-theme 2.3: Shortage of skilled labour ICU work environment.

Sub-theme 2.4: Shortage of medical and surgical supplies in the ICU environment.

Sub-theme 2.5: Budgetary constraints and its effect on ICU functioning

### **Sub-theme 2.1: Nurse-patient ratios during work allocation**

While nurse-patient ratios are primarily seen as a patient safety issue, most of the participants expressed that better staffing levels can reduce occupational injuries and the emotional toll of burnout. They expressed concerns about nurse-patient ratio in the various ICUs and feared the association of patient safety and emotional exhaustion. The nurse-patient ratio was a direct determinant of the effects of psychological, mental, and emotional health and nurse productivity in the workplace.

The most relevant factor related to nurse-patient ratios were directed to improved work environments and reduced ratios of patients which were associated with increased care quality, staff satisfaction and well-being of participants in all the ICU environments. Deficits in quality of care in hospital was a common problem expressed by participants. Improvement of work environments and nurse-patient ratios were some of the recommendations to improve quality of care and patient/nurse satisfaction and nurses' work productivity and well-being. Participants 3, 4 and 15 shared the same experiences as stated in the following excerpts:

*“To have more manpower to fill in all the gaps, the nurses will be able do their own work. ... To have other co-workers like physiotherapist and allied workers in the ICU will also alleviate the workload on the nurses so that we can focus the patient care and not on other allied workers’ job tasks” (Participant 3, Female, PICU).*

*“Some consequences during the working shift is related to incomplete tasks due to not enough time to complete the clinical tasks. We forget something during the day, and it will affect us that much with the patients. Sometimes because of the stress of the job and nurse patient ratio for example instead of 1:1 we take 3 patients and at times the increase in the work tasks you tend to forget some of these care processes to be delivered to the patient.” (Participant 4, Female, PICU).*

*“Increased staff patient ratio is another factor that affects our productivity in the ICU. Too many sick patients to give off our best and this affects our mental state and the patient quality care outcomes. Unsteady supply of necessary items, language barrier and multi-cultural things does impact on our work satisfaction which increases the frustration in the unit. Then, high level care of the babies with less experienced staff adds strain on the more experienced staff because we have to mentor them and care for our allocated patients.” (Participant 15, Female, NICU).*

## **Sub-theme 2.2: Patient allocation in the ICU work environment**

The ICU nursing plays an essential role in the achievement of positive healthcare outcomes. The allocation of nurses to patients should be done in relation to skills, competency, years of experience and qualifications to maintain a standard of care and best and safe practices. ICU nurses have not only technical skills but also the knowledge and the critical thinking skills where they can apply these skills and knowledge to patient-centred care.

Some of the participants indicated that to overcome their work-related problems there should be more staff and more teamwork within the job environment. There was a poor relationship among doctors and nurses and the job strain increased due to a poor working environment. The overall experiences by the participants were related to nurse-patient ratio and the allocation system which was not justified. Most of the participants verbalised concerns about unfair allocation by their supervisors and expressed that there should be an even distribution of the workload. The perception was that supervisor should adopt a team-based model which will ameliorate workplace stress, low job satisfaction and lack of adequate skilled manpower in the face of pressing needs. Participants further expressed concerns related to the newly employed nurses and indicated that the allocation system was adding more strain. Their concerns were that in addition to their allocated quota or ratio of patients they still had to mentor the new nurses as stated in the following excerpts:

*“My suggestion is we need to train more junior nurses to become more confident in their skills and competency and to coordinate with the patients and the staff itself. Better nurse-patient ratios, more skilled nurses are the key to healthy and productive work environment. And also, we need to deal with the doctors which is not easy for example we have three ICUs so we should have enough doctors to cover it, to support each other and to respect the nurses.”* (Participant 5, Male, ICU).

*“Sometimes doctors are asking to change the staff allocations because of less experienced staff. Doctors demand the older staff to do their rounds and do not want newly employed nurses. Sometimes, the demands become exhausting and this is exacerbated by patient demands. The shortage of medical supplies adds to the work stress as at that time of needs some supply for that patient is not available. These are some of the things that we mostly find challenging in the ICU...”* (Participant 14, Female, NICU).

*"Especially if we are also busy helping our colleagues with other patients because if the patient is calling us and we have to attend to other patients this causes patients and the families to shout and demand then complain about the care by the nurses. We take more than one patient in the shift and sometimes taking 2 patients of which one is ventilated it becomes very hard and stressful and not safe for us and the patients."* (Participant 15, Female, NICU).

### **Sub-theme 2.3: Shortage of skilled labour in the ICU work environment**

The healthcare industry is plagued by a lack of qualified skilled ICU nurses and many hospitals are experiencing the effects on healthcare in Saudi Arabia. The scarcity of qualified health personnel, including nurses, is being highlighted as one of the biggest obstacles to achieving health system effectiveness. Nurses are the main professional component of the 'front line' staff in most health systems, and their contribution is recognised as essential to meeting development goals and delivering safe and effective care. The Saudi nursing schools are unable to produce more qualified ICU nurses due to the nursing profession not being perceived as an attractive profession, due to social stigma perceptions of the community and lack of skills and expertise to conduct the ICU programs. With Saudisation, this was creating operational issues and affecting the standards of care in the ICUs. A specified level of education and educational support must be provided within the ICU for all levels of its nursing staff. Nursing knowledge and skills must be maintained at an appropriate level to ensure high quality care for a complex case mix of critically ill patients.

Some of the participants expressed their concerns about the newly employed staff and the shortage of skills and competency. They expressed that the newly employed staff were unable to think critically and apply their knowledge and skills to the clinical areas. Some of the participants expressed lack of skills and the gap between knowledge, theory, and practice due to the high

turnover of patients and staff. They also expressed concerns that there was no time to mentor new staff in the units as stated the following excerpts:

*“I would suggest that the organisation undergo a lot of training programs for the indigents and give them adequate time to be orientated in the critical care environments. To avoid a short period of time to train and mentor the nurses, so that we can have people that are skilled and enough staff in the units. I will suggest that they have put the specialised staff and the support staff because what actually takes time is you doing both the work of the specialised staff as a nurse and doing the work of support staff which is related to non-nursing tasks.”* (Participant 20, Female, CCU).

*“Just another thing I would like to mention is the fact that when we look at the kind of staff that gets recruited these days, a lot of them are very young and they are unskilled..... And when they come into the ICUs or the critical care area, it puts a lot of load emotionally and physically on the rest of the staff because they have to monitor the staff and mentor the nurses as well to focus on their allocated patients.”* (Participant 8, Female, CCU).

#### **Sub-theme 2.4: Shortage of Medical and Surgical Supplies in the ICU environment**

Nurses faced many challenges regarding shortage of stock. These shortages added to their job dissatisfaction and created frustration as they were unable to complete their tasks within the unit. Participants expressed the shortage of supplies as obstacles which prevented them from practicing nursing care processes and procedures effectively and efficiently. Most of the participants expressed their concerns about the shortage of intravenous lines and medication and, in their opinion, these factors contributed to the increase in the infection rate and sepsis in the ICU environment. The shortage of medication and other biomedical and surgical products significantly affected patient care and increased nurses' frustration which affected them emotionally and disrupted the workflow in the various units. The shortage of equipment

and no access to laboratory services was affecting patient care negatively. Participants expressed that when the equipment was broken or not available it took time to repair or to order a new one, and this delayed commencement of treatment as stated in the following excerpts:

*“Then the other thing we are facing is the lack of supplies. Sometimes we don’t have enough supplies, when we are working in a critical area to render quality patient care. For example, we need to do some blood tests.... If there is no tubes, it will take a lot of time to send the samples to the lab and it will delay the patient care because no results to treat the patients and by the time we get results patient’s condition has changed for the worst”. (Participant 7, Female, CCU).*

*Shortage of stock and medical supplies is a very critical subject in the ICU...And obviously it’s frustrating if you don’t have the stock, if you don’t have the equipment working, how do you finish your tasks? So, it is frustrating and also you are angered by the fact that no one takes responsibility for their own actions.” (Participant 8, Female, CCU).*

### **Sub-theme 2.5: Budgetary constraints and its effect on ICU functioning**

Concerns related to budgetary constraints were expressed by some the participants in relation to their remuneration as they felt that their salaries were not competitive and there were no special allowances for ICU nurses. Some of the participants expressed that competitive salaries were required if the leadership wanted to retain staff and attract skilled ICU nurses. Other concerns were related to shortage of supplies, which appeared to be a frustrating stumbling block to effective care functioning in the ICUs. Some of the participants did not raise any concerns about budget constraints and this could be related to many reasons, namely they did not understand the budgetary process, or never was involved in the budgetary process in their units, whilst some nurses felt that salary was personal and did not want to discuss this issue as stated in the following excerpts:

*“I would suggest that the organisation undergo a lot of training of the indigents and give time, not a short period of time to train, so that we can have people that are skilled and competent and enough staff and not waste money to recruit staff that are not skilled. Also, to pay the ICU staff better salaries and ICU allowances to retain staff. We are specialised nurses and we get no allowance for our skills of experts. There is high turnover, and this should be a factor that should be adopted by management positively to compensate staff better.”* (Participant 20, Female, CCU).

*“The comment I want to make is if it will be possible for the organisation to introduce a well-being programme, and better working conditions with competitive salaries it will help in the retention of staff.”* (Participant 19, Female, CCU).

### **5.5.3 Major theme 3: Cultural barriers and communication**

The Kingdom of Saudi Arabia is a highly conservative nation that adheres to the code of morality based on Islamic traditions. This code is imposed not only on the native Saudi population, but on foreigners residing in the Kingdom as well. Since Saudi Arabia has a shortage of nursing staff, it depends on expatriate nurses from foreign countries, mainly the Philippines, India, Malaysia, and South Africa. Nurses from these countries are non-Arabic speaking, resulting in difficulties in communication between nurses and patients as well as between nurses and medical staff from other nationalities.

In Saudi Arabia, international nurses' language may differ from that of the local Saudi patients for which they care, jeopardising their ability to communicate effectively. The possibility of passing the wrong message increases when the nurse and the patient speak different languages. The three sub-themes that emerged under this major theme during the interview were:

Sub-theme 3.1: Language barriers and its effect on communication.

Sub-theme 3.2: Multicultural diversity of staff and its impact on communication.

Sub-theme 3.3: Support systems to assist with staff communication challenges.

### **Sub-theme 3.1: Language barriers and communication**

Some of the ICU nurses raised language barriers and communication as a work-related factor that influenced their well-being and created barriers in the working environment. Their experiences were causally related to the differences in language between healthcare providers and patients. The consequences of language barriers ranged from miscommunication with its drawbacks on health outcomes to inefficient use or lack of access to healthcare services. The most common factor that was raised by the participants was the language which created a sense of insecurity and affected relationship-building with patients and Arabic-speaking doctors. The participants did not feel comfortable with the patients due to lack of understanding and this provoked the family members to use this language barrier to be towards the ICU nurses and to disrespect the expatriates as stated in the following excerpts:

*"Because of the different nationalities and the various spoken languages some staff experience difficulty in the communication. Some are very good with the Arabic language and is able to converse effectively between some of them but the alternate is challenging for others where they're not able to communicate on the same level and that can be, in terms of patient care related issues it can have a negative impact. Patients and families cannot speak English and this creates that language barrier"* (Participant 2, Female, ICU).

*"We do struggle sometimes from the doctors due to language and communication and the diverse cultures. Aside from that..... probably the culture, the people in the kingdom because they speak Arabic only and no English... we have sometimes difficulty of understanding or sometimes difficulty understanding the cultures aside from the language, so we have to adopt more... patience... And staffing issue, I think it's all over. I cannot think of anything else."* (Participant 1, Female, CICU).

### **Sub-theme 3.2: Multicultural diversity of staff and its impact on communication**

The culture of Saudi Arabia is dominated by the values and virtues of Islam. Its increasing multicultural population of healthcare workers poses a significant challenge in providing individualized and holistic care to their patients. The uniqueness of Saudi culture and the large number of expatriate nurses who have a limited knowledge of Saudi culture exacerbate the problem of providing culturally competent care.

Some of the participants expressed multicultural factors as a frequently identified challenge in the work environment. This challenge was associated with insufficient cultural knowledge, attitudes and beliefs about health and sickness, language barriers, lack of availability of interpreters and lack of institutional support. These factors not only impacted on the values, beliefs, and behaviours of patients, they underpinned ideas around the provision of care and influenced the expectations that nurses have of each other in the ICU. Some of the participants shared their experiences about patient care and believed that to serve the unique and diverse needs of patients, it is imperative that ICU nurses understand the importance of cultural differences by valuing, incorporating, and examining their own health-related values and beliefs and those of their health care organizations, for only then can they support the principle of respect for persons and the ideal of transcultural care as stated in the following excerpts:

*“For example, for communication, it will affect the staff emotionally... She will feel no one respects her in the workplace. Especially during the work environments if there’s another language and she is only speaking her language and they’re not speaking her language, so it will affect her and creates sense of isolation. Her feelings are expressed as she doesn’t want to work in this place again.” (Participant 18, Female, HDU).*

*“I would say, we would first and foremost secure the safety of our staff... You know, improve safety and get more security. Also, when things happen to our staff, that management need to deal with that immediately and effectively, not that the staff will feel that they are being victimised because no action is being taken when a patient or a relative attacks them. The culture, the Saudi culture and rules and regulations restrict us, especially females, so much that you fear your job.” (Participant 8, Female, CCU).*

### **Sub-theme 3.3: Support systems to assist with staff communication challenges**

Supportive supervision is a way to foster performance, productivity, motivation, and retention of health workforce. Supportive supervision has been shown to improve health workers’ satisfaction, motivation, performance, retention, and may also enhance competence and patient outcomes. Ongoing support is needed for health workers in the frontline of service delivery to perform to their full potential and deliver quality patient care.

Some of the participants indicated that they received adequate support within the environment in relation to patient and staff decision-making and the challenges experienced in the ICUs. Some stated they did not get the support and received more support from middle management than their own supervisors at unit level. Overall, the support factor was evident in most of the ICUs from their managers and supervisors as stated in the following excerpts:

*“Yes ma'am, of course.... I get lots of support from the seniors. Even working as a charge nurse, sometimes I'm working on weekends were I take charge and I do get the support from my managers. I have good support from my seniors and even my head nurse, the supervisors and everything....”* (Participant 7, Female, CCU).

*“We were very short staffed, and we were struggling a few months ago to actually bring our staff on duty as overtime or extra duties to come and work. I will send a motivation letter to my immediate supervisor and we arrange that the staff could actually have overtime or time back.....this was supported by the team leaders and my manager....”* (Participant 9, Male, CCU).

*“Not all the times staff are being supported. They feel sometimes they're not being supported, and all their concerns not addressed it has not been identified ad supported by the leaders.”* (Participant 14, Female, NICU).

#### **5.5.4 Major theme 4: Factors influencing staff turnover**

Turnover has a cyclic nature and remains a challenging issue. An organisation should identify whether turnover is voluntary or involuntary. If the organisation has high rates of involuntary turnover, then careful examination of recruitment, selection, training, and motivation strategies are important. Nurse retention is a global problem across all specialities but is exacerbated in critical care areas where elevated nurse–patient ratios and the use of advance technologies require greater numbers of highly educated and specialized nurses impacting costs and quality of patient care.

Some of the participants expressed their feeling of being overworked and indicated that the shortage of staff contributed to their emotional exhaustion and their intention to leave the organisation. Some expressed their dissatisfaction with the shortage of stock and the general environment and predominantly the cultural barriers that impacted on their work due to lack of

respect from the patients and families. The most common factor that was causing the intention to leave was the communication elements and poor working relationship with the doctors within the ICU environment. Doctors were seen to be disrespectful and unappreciative towards the nurses and they adopted a blame culture.

The four sub-themes that emerged under this major theme during the interview were:

Sub-theme 4.1: Staff attrition and its influence on staff turnover.

Sub-theme 4.2: Staff absenteeism and its impact on staff turnover.

Sub-theme 4.3: Staff job satisfaction and its influence on turnover.

Sub-theme 4.4: Staff retention in relation to staff turnover.

#### **Sub-theme 4.1: Staff attrition and its influence on staff turnover**

Employers generally consider attrition a loss of valuable employees and talent. However, there is more to attrition than a shrinking workforce. As employees leave an organization, they take with them much-needed skills and qualifications that they developed during their tenure. There was a small number of staff that contributed to staff attrition. Some of the participants expressed their feeling of being in a foreign country and missing their families and wanted to reunite with their families. Some of the participants expressed the dissatisfaction due to many factors, namely staff shortage and security issues that contributed to their leaving the workplace and finding jobs elsewhere. Some expressed that staff leaving were very skilled and new staff added stress to the current job situations. Their concerns were not losing employees with poor performance records but losing the skilled ICU nurses which affected the nurses' morale, their engagement and productivity as stated in the following excerpts:

*"From a psychological and emotional perspective, they are lacking that family part of their life that forces them to want to leave the job and the workload is too much..., some of them are mothers, so that can have a negative impact on*

*them. It depends on the nationality of the staff. Some of them go on vacation and do not return to the job and some only go on vacation like once a year instead of twice a year. So, they wait a whole year to see their families.”* (Participant 2, Female, ICU).

*“Sometimes you will be stressed when you are working and have social problems like missing kid...so sometimes we cannot focus that much with the patient care when mother is sick or husband sick... And some other problems also outside the job that affects us, and we want to go home.... actually, we have to leave it from work, but it will sometimes affect also with our focus at work.”* (Participant 4, Female, PICU).

#### **Sub-theme 4.2: Staff absenteeism and its impact on staff turnover**

Some of the participants indicated that absenteeism was a concern in the ICUs and there were many contributing factors. The factors that impacted on staff turnover were related to excessive workload, delay in daily routine and treatment, job satisfaction, shortage of manpower and complaints from the community. Participants expressed that absenteeism had the tendency to reduce spirits and the morale of nurses, especially the newly employed nurses, and this impacted the work output. Participants further expressed that absenteeism directly affected the production and productivity which indirectly affected the standards of care in the units. It caused high turnover and replacement of staff which is costly and time consuming. Many formalities must be followed to maintain to replace a person which hinders productivity and service delivery to a great extent as stated in the following excerpts:

*“We are very short staffed and was struggling a few months ago to actually bring our staff for overtime and extra duties to come and work and I sent a motivation letter to my immediate supervisor and we arranged that the staff could actually have overtime or time back to rest. This factor of being over worked and taking more than 1 patient in the ICU really burns out the staff out mentally and emotionally and physically.... And this increase emotional*

*exhaustion and results in absent from the job because they cannot cope....”*  
(Participant 8, Female, CCU).

*“First and foremost, it worries you when staff continuously are absent from work as this puts strain on other staff because no extra staff to cover the shifts. Even when you are home on your off time you still worry about what’s happening at work such as is your patient okay, did you do everything that you supposed to be doing, were you able to finish with the tasks, are you going to be called from home to the work to say that you missed the medication or that you did not finish your documentation... So that, I think consistently worries you and it keeps our minds busy that you can't even rest. The other thing is fear... this the reason nurses tend to not be interested to work and absent from duty due to fear of the job getting warning letters”*  
(Participant 9, Male, CCU).

#### **Sub-theme 4.3: Staff job satisfaction and its influence on turnover**

Some of the ICU nurses expressed their concerns about work overload and nursing shortages which interfered with the provision of quality patient care and had a negative impact on their well-being and dissatisfaction with the job. Many of their concerns were related to work overload and staff shortage as the main causes of job dissatisfaction. Some of the participants related job dissatisfaction to the culture but many associated the culture with adaption. Some of the participants expressed the need for employee well-being programs and teambuilding programs to improve staff satisfaction which will improve job satisfaction as stated in the following excerpts:

*“The things that I think can help to retain our staff would be, give every unit a budget such as increases and bonus or incentives..... Let them have something that they can reward the staff with at the end of a shift or a month. With the shortage of staff and having to work under stressful conditions I think this reward and recognition will benefit them and retain them in the critical care units. Social outings that can be arranged by the hospital, by units, make*

*that money available for those kinds of activities, so that staff can actually go out and relax and take their mind off work. The workload is too much and this type of social outing can help to emotionally relieve the nurses' minds... So, just those few things will help.” (Participant 8, Female, CCU).*

*“Due to high apathy and high workload we've become more emotionally and physically drained plus the fact that we are away from our family and we have no one to talk to when we arrive in our accommodations .No job satisfaction due to all the challenges such as shortage of staff low salary no increases and no security for us a foreigners and no respect. Yes, we want good working conditions and will stay but no respect from patients, doctors and management then we will leave due to no job satisfaction.” (Participant 11, Male, ICU).*

#### **Sub-theme 4.4: Staff retention in relation to staff turnover**

To reduce staff turnover, managers need to focus on the retention of staff. Understanding the factors that influence staff retention is one of the strategies to keep nurses in the same work environment. Some of the participants expressed their job dissatisfaction which was related to staffing shortages, security issues, supplies shortages, cultural and language barriers that contributed to the high turnover in the ICUs. Some of the participants made recommendations for staff retention which included competitive salaries, safety for the nurses, some recreation activities and more skilled staff to alleviate emotional exhaustion, as stated in the following excerpts:

*“I would suggest that the organisation undergo a lot of training of the indigents and give them time to acquire skills through mentorship programs, not a short period of time to train, so that we can have people that are skilled and enough staff. For the meantime I will suggest that they have to place the specialised staff separately from the support staff because what actually takes time is nurses doing both the work of the specialised staff as a nurse and doing the*

*work of support staff which is non nursing duties.” (Participant 20, Female, CCU).*

*“Supporting the staff by giving them some benefits like allowances better salaries, if they work extra times, by giving them the time back, making them feel they are psychologically and emotionally supporting the staff.” (Participant 16, Female, HDU).*

#### **5.5.5 Major theme 5: Group cohesion in the workplace**

Team interdependence, autonomy, team tenure, resource availability, task importance, and communication richness are generally expected to have a positive relationship with team cohesion. Nurse experience less competition and their self-esteem is less affected by the composition of their teams. Professionally trained ICU nurses with a weak individual self-concept are likely to perceive their teams as more cohesive than trained nurses with a strong individual self-concept. Some of the participants expressed their views about lack of teamwork among their colleagues, doctors, and the multidisciplinary teams. In their opinion, they believed that they spend majority of their time performing non-nursing tasks in other areas such as physiotherapy and following up on laboratory results which took them away from the patients’ bed side. The increase in the workload and the communication also contributed to lack of teamwork within the various ICUs. Nurses had no time to reflect and discuss their challenges as a team due to high work demands. Some of the participants expressed some strategies to improve the retention rates of nurses in the ICU and recommended that management need to focus on building a cohesive workforce by utilising the strengths and skill sets that characterise different generations of nurses, and should create working conditions in which nurses across all generations feel supported and safe within the organisation.

The four sub-themes that emerged under this major theme during the interview were:

Sub-theme 5.1: Decision making and team building in the workplace.

Sub-theme 5.2: Psychological barriers to teamwork in the workplace.

Sub-theme 5.3: Human respect and value system in the workplace.

Sub-theme 5.4: Teamwork and team building in the workplace.

### **Sub-theme 5.1: Decision making and team building in the workplace**

Some of the participants expressed lack of teamwork and poor decision making within the multidisciplinary teams. Some participants indicated that they were involved in the decision-making process and got sufficient support from their supervisors, whilst other participants felt they had no support. Participants believed that teams are a way to enlist employee participation and capitalize on possibilities for improved patient safety, increased productivity, better decisions, and process innovation. Some of the participants expressed that the problem with decision making and team work was also related to the diverse culture and the language barriers as this caused group teams working with same nationality such as the Indians worked with Indians and the Filipino worked with Filipino and this made them feel more comfortable, speaking the same language and sharing the same values within the ICU environment. Some expressed their concerns with this type of group cohesion with same nationality as these professional allegiances lead to tensions when different professional groups have different expectations about how things should be done as stated in the following excerpts:

*“Yes, I am involved in decision making with my seniors.... In my duty tasks for me the important thing is group work. I am involved in the allocation of staff to make decisions about nurse patient ratio...I will make group work for example this side one group, group B, this side group A.”* (Participant 18, Female, HDU).

*“Yes, I am making decisions ... with delegations according to the patient priority and patients’ criteria, we have to explain to the supervisors to allocate the bed. Because the critical care patients, sometimes they’re boarding in the ER to elaborate more than 8 hours we have to prioritise the cases to receive the ER patients as emergencies.” (Participant 16, Female, HDU).*

*“Yes, I am involved but sometimes for my work hours and my shift schedules, I will not be involved because I work two weeks night, two weeks day. During the day I will be totally involved but during the night I will be away from the decision-making process.” (Participant 15, Female, NICU).*

### **Sub-theme 5.2: Psychological barriers to teamwork in the workplace**

Psychological barriers, such as professional silos and hierarchies, and organisational barriers such as geographically distributed teams, can increase communication failures and result negative effects on the patient and staff well-being. While good communication fosters teamwork, poor communication creates a toxic work atmosphere. Staff members who will not communicate or are unaware of the proper communication channels to use within the team, can cause breakdowns that inhibit team development. Some of the participants expressed their concerns that poor communication due to language barriers was contributing to psychological barriers in the workplace. This factor was very prominent among foreign nurses and the doctors and the patients who are all Arabic-speaking. Such barriers instilled fear, in the foreign nationals, of not being respected because they could not understand the patient and their families. This is evident in the following excerpts:

*“Psychologically staff are drained out sometimes. If they get high level care babies and these babies becomes sick due to their unstable care, then their workload become more and they’re getting exhausted. Nurses are not getting proper break time, and all these affects their quality of patient care and their own quality of their health and well-being. There is no time to talk to colleagues everyone is too busy. (Participant 14, Female, NICU).*

*“Conflict in the workplace, especially with our colleagues. And you know, trust issues are a very worrying issue in the unit. You don’t trust anybody because you feel that you know, they are not there to protect you, you are always on your own, especially when things happen at the bedside, that you are the one that gets blamed. So, you can’t trust the next person. And, obviously fear. Fear of our environment.”* (Participant 8, Female, CCU).

### **Sub-theme 5.3: Human respect and value system in the workplace**

Respecting other cultures and traditions and refraining from cultural imposition are important for many healthcare workers in multinational teams. However, ethical issues may arise when other cultural values conflict with one’s own moral convictions. Distrust is an obstacle to effective teamwork and providing adequate health care. Cultural bias can be a factor that stands in the way of achieving a cohesive team in a multicultural setting. Effective communication and willingness, combined with cultural competence, can move persons from distrust to trust and respect. Lack of social respect between health professionals of different nationalities can result in feelings of intimidation and unfairness, leading to disempowerment.

Some of the participants expressed their concerns about lack of respect and values from the patients and their families including the multidisciplinary teams. The environment has become one of distrust for the nurses because they are foreigners and are blamed for everything that goes wrong in the Unit. The participants expressed their concerns about the mistrust issues and strongly believed that this factor creates a very unhealthy working environment and tends to lead to disrespect by the doctors towards the nurses as stated in the following excerpts:

*“The way doctors will deal and talk sometimes with the nurses. This is not good. They have no respect for us as nurses and shout at the nurses. The new staff get scared and this instils fear in them and they want to leave... the new nurses the doctors do not want them to care for the patients and they*

*demand that the nurses that are long time in the unit only care for the patients Although the new nurses are skilled the doctors are very disrespectful to them.” (Participant 3, Female, PICU).*

*“Lack of security is a great concern in the closed units of the ICUs. There are some security issues in our ICU especially in the critical areas because as we studied and learned that the critical care, there are high risks areas. But as the unit is opened everybody is going in and out and there is no sterility when they come inside to the intensive care units the families refuse to hand wash and when we as nurses educate them, they become rude and arrogant. And also, no strong security system to control the relatives during the visiting time or non-visiting hours. This is not safe, and the patients’ visitors have no respect for us as foreigners and sometimes attack the nurses physically.” (Participant 7, Female, CCU).*

#### **Sub-theme 5.4: Teamwork and team building in the workplace**

The need for effective teams is increasing due to increasing co-morbidities and increasing complexity of specialization of care. Understanding the culture of the workplace and its impact on team dynamics and functioning will make a team member a good team player. Some of the participants expressed that teamwork was the key to a good working environment, and this will increase the morale of the staff which will in turn retain the ICU skilled staff. Participants expressed their perceptions of the workplace which, in their view, needs to be more supportive to produce job satisfaction and retention in the various ICUs. Other factors, in their opinion, that will contribute to the teamwork and team building in the various units included improving the interpersonal relationships and the environmental uncertainty, social climate, and burnout which were directly related to social networks and a supportive workplace. Improvement of these critical factors will also prevent job dissatisfaction as stated in the following excerpts:

*“The only thing that we have to work with, is teamwork, we have to do a team work due to shortage of staff. And we need to have more seniors both nurses and doctors on the floor to support us nurses in case of emergencies to cope with such situations.”* (Participant 10, Female, HDU).

*“At least I think they will get to know the concerns of the nurses through the team building... and of the staff working with them. I think if they will build this programme they will be closer to the staffs and they will listen more. They will understand the staff and the work stress and staff will appreciate their support and understanding.”* (Participant 3, Female, PICU).

*“We believe we need to work as team because we have good standards and processes to improve patient care and to improve staff satisfaction while working together as a team... Especially we are far from our family in foreign country, so we need to support each other in the unit.”* (Participant 6, Female, ICU).

#### **5.5.6 Major theme 6: Emotional exhaustion factors in the workplace**

Health care institutions, and patients will benefit the most from a healthy and rested nurse because her efficiency and productivity will be increased, the number of work-related mistakes will be reduced, sick leave will be rare and shorter, and burnout will not occur. By focusing on well-being strategies, not only emotional exhaustion factors among nurses will be reduced but also the quality of their work will be significantly improved. Some of the participants expressed their concerns about being exhausted after long shifts. They also stated that they had trouble concentrating and felt unmotivated to work in stressful situations, which resulted in conflicts with patients and co-workers. Their emotional concerns were related to workplace cultural factors, language barriers and errors in judgement. The participants also expressed their feeling of being incapable of carrying out tasks correctly, diminished productivity, a decline in motivation, poor job performance, and insensitivity to other people's needs.

The three sub-themes that emerged under this major theme were:

Sub-theme 6.1: Sleep deprivation and its impact on emotional exhaustion.

Sub-theme 6.2: Fatigue and distress and their influence on emotional exhaustion.

Sub-theme 6.3: Work life balance and its influence on emotional exhaustion.

### **Sub-theme 6.1: Sleep deprivation and its impact on emotional exhaustion**

Some of the participants expressed their dissatisfaction with the long working hours. They experienced sleep disturbances due to many factors, namely tasks not completed due to workload demands which increased their fears of being called out from their days off. Participants also believed that a fixed schedule and adapting day and night shifts and schedules could reduce stress. Some of the participants expressed their dissatisfaction with uncertain work schedules that presented a challenge for organizing their work, social and personal activities. According to the nursing staff assessment, related to their working conditions and their environment in the ICU, they expressed their concerns about inadequate staff supplies and insecurity when performing their duties. Some of the participants were hesitant to express the exhaustion experienced due to the workplace environment and fear of the unknown, related to their contracts. The exhaustion of the long workdays and inadequate hours of sleep contributed to the signs and symptoms of physical exhaustion. Participants expressed these factors as follows:

*“...first and foremost, it worries you. Even when you are home you still worry about what’s happening at work, is your patient okay, did you do everything that you supposed to be doing, did you or were you able to finish with the tasks, are you going to be called from work to say that you missed the medication or that you did not finish your documentation? So that, I think consistently worries you and it keeps our mind busy that you can’t even rest and no sleep because you feel restless”* (Participant 8, Female, CCU).

*“For the 12-hour shifts, it is exhausting that even if we are going home after the shift we will not be concentrating on our self. We will not be resting or sleeping, we will not eat enough. The routine of sleeping, going to duty, sleeping, going to duty, becomes monotonous. It’s like a pattern...and our families would be affected also. We will not be having time to be with them because we too tired after long shifts.”* (Participant 19, Female, CCU).

### **Sub-theme 6.2: Fatigue and distress and their influence on emotional exhaustion**

Exhaustion was inversely associated with hardiness, self-esteem, resilience, and QoL. Some of the participants expressed that nurses’ everyday practice predisposes them to being “wounded by their work,” as they routinely deal with their patients’ suffering, trauma, serious illness, and death in the critical care units. Coping with these traumatic situations, especially struggling to cope with death and dying, with no support caused emotional stress. They attributed their fatigue and distress to an overwhelming sense of tiredness, lack of energy, and exhaustion which was associated with impaired physical and cognitive functioning. The inability to focus was a common problem, related to high workload and demands from the patients due to shortage of staff, predominantly. Participants expressed these factors as follows:

*“As I shred my feelings, we need to have teamwork in the ICU in order to face such challenges because we get many challenges in ICU as it is a critical care area. We ... sometimes have new diagnostic procedures and no staff that are skilled for these procedures and this causes strain on us and we cannot cope we get tired because of too much work and no balance.”* (Participant 10, Female, HDU).

*“Psychologically staff are drained out sometimes. If they get sick babies and, if a patient becomes sick and condition changes then their workload become more and they’re getting exhausted, they are not getting proper break time*

*and all that affects their quality of the work and their own quality of their well-being as well as patient care also.” (Participant 14, Female, NICU).*

### **Sub-theme 6.3: Work-life balance and its influence on emotional exhaustion**

Some of the participants struggled to respond to this question because many of them were foreigners and had no family living with them. However, they expressed that the long working hours and no recreation after work or on their off days disrupted their work-life balance. Some of the participants expressed that they had to stay positive, but when they felt emotional dissonance their work-life balance was negatively influenced which in turn impacted on their work commitments.

Participants articulated that their work-life balance was primarily affected by personal factors, namely having no energy after long working hours, minimum personal control and poor coping skills due to being overworked from the high work demands. Family members, who stayed in with critically ill patients, had demanding attitudes which increased the nurses’ mental exhaustion. They also indicated that there were personality issues, related to different cultural backgrounds and the lack of understanding because of language barriers which increased their emotional exhaustion. These factors are cited by participants, as follows:

*“Due to high apathy we’ve become more emotionally and physically drained plus the fact that we are away from our family we have no one to talk to when we arrive in our accommodations.” (Participant 12, Female, NICU).*

*“Actually, when I am going home after my shift, I will be so frustrated from the workload, from the supplies, looking for the supplies to attend to the work. And I will be overcrowded in my mind because I have many things I must be worried about and this includes both of what I will be doing first and what will be delayed according to the situation, it is a critical situation also. This upsets*

*me and cannot spend time with my family get tired and want to sleep.”*  
(Participant 14, Female, NICU).

#### **5.5.7 Major theme 7: Safety and security concerns in the workplace**

Nurses are the primary caregivers in hospitals and are more likely to encounter violence because of the amount of time spent in direct patient care. Violence against nurses may impair their job performance after the incident and instil fear in them. It will also reduce their job satisfaction and may compel nurses to leave their job due to lack of security and a feeling of being unsafe in the work environment.

Some of the participants expressed security issues during the interviews. They did not feel safe in this environment and were dissatisfied with the security in the units. Some of the participants strongly verbalised that management should investigate this factor as their biggest fear was that they were foreigners and fear was unexplained. Nurses, in the current work, perceived that the shortage of nursing staff and security personnel were the main causes of violence against them. From the interviews, it was clear that violence against nurses is a serious public health problem and an improvement in the security provided in hospitals may help to alleviate this issue. It was also recommended by the participants that the community awareness of this problem needs to be improved by employing strategies to change the attitude of patients and the community and protection of nurses by management.

The three sub-themes that emerged under this major theme during the interview were:

Sub-theme 7.1. Fear of working environment and its influence on safety and security.

Sub-theme 7.2: Physical and verbal abuse of staff and their influence on employee safety.

Sub-theme 7.3: Lack of respect and human dignity and its influence on safety and security.

### **Sub-theme 7.1: Fear of working environment and its influence on safety and security**

Some participants expressed the fear of the environment which was related to the patients' demands and lack of security in the units. This created a sense of fear mainly due to shortage of staff. When patients or families required assistance there was inadequate staffing which resulted in verbal abuse of the nurses. The impact of nurse-patient ratios being 1:2 and sometimes 1:3 resulted in an increase in the fear to work in this environment. It was interesting to note that none of the Saudi staff who were interviewed expressed any fears in the workplace. They expressed many factors related to exhaustion and workload, but none experienced any violence or safety issues in the workplace. Participants fears are evident in the following excerpts:

*"I would say, we would first and foremost secure the safety of our staff. You know, improve safety, and get more security. Also, when things happen to our staff, that management need to deal with that immediately and effectively, not that the staff will feel that you know, they are being victimised because no action is being taken when a patient or a relative attacks them.."* (Participant 8, Male, CCU).

*"Sometimes if it's related to security issues and it will be scary. Especially with the female patients. For us male nurses, it's too difficult to handle them, we always need a female witness with you or security to do our patient care. Patients can accuse us of bad stuff then we get terminated."* (Participant 9, Male, CCU).

### **Sub-theme 7.2: Physical and verbal abuse of staff and their influence on employee safety**

Some of the participants expressed their concerns on verbal abuse from doctors, patients, and their families. The impact of the violence and abuse resulted in low staff morale, legal issues, and high worker turnover. The high turnover was related to job burnout, job dissatisfaction and was expressed as a negative reaction to constant occupational stressors. The desire to leave the job was always an emotional decision, however, due to financial constraints the nurses expressed their need to stay and work as their countries are economically not stable. According to the participants, management did not support them regarding security issues which could be solved if management addressed their concerns. The following excerpts indicate participants' experiences:

*"Especially with the fact that there's a lot of violence like patient relatives, abuse, verbal abuse and physical abuse. To explain.... just the other day one of our nurses was attacked by a patient, she was hit with a fist on her head and I had to bring her into the office and talk to her because she was emotionally upset and fearful ... she didn't want to look after that patient again, which means she feared this patient."* (Participant 10, Female, HDU).

*"I would say, we should first and foremost secure the safety of our staff in the organisation. You know, improve safety, get more security and protect our nurses from the violence in the workplace. Also, when such incidents happen to our staff, that management needs to deal with that immediately and effectively, not that the staff will feel that you know, they are being victimised because no action is being taken when a patient or a relative attacks them..."* (Participant 8, Female, CCU).

### **Sub-theme 7.3: Lack of respect and human dignity and its influence on safety and security**

The sub-theme on lack of human dignity was very closely related to the security issues, the cultural barriers, and the behaviour of the multidisciplinary teams. The participants expressed lack of trust as a factor that impacted directly on their human dignity and created an unhealthy working environment. Some of the participants articulated that the work ethic and respect for foreigners, which are fundamental in creating a good working environment, need urgent attention by the management. t. The participants expressed lack of respect from the doctors, who felt they were superior to nurses. The leadership and management of the hospital also disrespected them, and they did not have any moral and emotional support which was very upsetting and stressful. They stated these issues as follows:

*“Supporting the staff by giving them some respect as foreigners and if they work extra times or hours must give them the time back or pay the staff on time and not withhold the overtime by the finance department to delay the payment and making them feel that they are psychologically supporting the staff.”* (Participant 16, Female, HDU).

*“Staff motivation and the staff satisfaction and staff respects is important for the well-being of the nurses... especially doctors to respect the nurses. If we do this then maybe this will help the staff to stay in the workplace. The staff will not resign and go elsewhere... Plus the respect to the staff will result in the nurses not being frustrated in the place, maybe we will meet more than our expectations.”* (Participant 15, Female, NICU).

## **5.6 SUMMARY OF THE CHAPTER**

The qualitative data were collected through interviews which were conducted with 20 participants from the various ICUs. The data was captured using a digital recorder then transcribed on a word document as researcher and participant responses. Participants' responses to each question were

summarised. The participants were coded from number 1 to 20. The interview data were used to extract themes. The researcher identified seven major themes and sub-themes for each of the seven themes which were presented in section 5.6. The major themes were shift work and its impact on work life, human resource concerns, cultural barriers to communication, factors influencing staff turnover, group cohesion in the workplace, emotional exhaustion factors in the workplace and safety and security concerns in the workplace. The demographic factors and the responses from the interview questions were also captured and illustrated in table form according to the categories. The next chapter presents the quantitative data collection with the assistance of a qualified statistician

## **CHAPTER 6: PRESENTATION OF FINDINGS (PHASE 2: QUANTITATIVE DATA COLLECTION)**

### **6.1 INTRODUCTION**

This chapter presents the findings from the data analysis of the quantitative strand of the study. The aim of this strand was to achieve the first objective of the study which was to determine the workload factors and their influence on the well-being of ICU nurses working in a Saudi Arabian Hospital. These findings provided the evidence required to develop a comprehensive healthcare managerial framework that will explicate how workload factors influence the nurses' well-being.

Firstly, graphical and descriptive statistics were calculated. and presented in bar graphs and frequency tables were using SPSS, version 25 to gain an overview of the perceptions of respondents with respect to workload factors that affect nurses' well-being. The descriptive statistics also included the mean, mode, median and standard deviation. These statistics confirmed the results of the graphical statistics and frequency tables.

The researcher tested whether the data came from a normal distribution of participants or not and this was done using the Kolmogorov Smirnov test. Once this was established the researcher, with the assistance of a statistician, proceeded to use the permitted tests. For example, the parametric tests such as the independent sample t-tests were used to check for differences between the mean scores of the males and females. The Mann Whitney U-test to check for significant differences between the males and females with respect to workload factors that affect nurse's well-being could have been utilised, if the data on these variables were found via the Kolmogorov Smirnov test, to be non-normal in nature.

The factor analysis was done with promax rotation to reduce a set of items into natural groupings of similar items which account for the great variation in the data. Further hypotheses could have been tested by using the Kruskal Wallis test, if the data were abnormal, to check for differences or variations between the groups. Validity and reliability were maintained, for the questions that had the same scales. A value of 0.7 or higher was deemed to conclude a good internal consistency and reliability amongst the questions.

## **6.2 ANALYTIC PROCEDURE**

The researcher examined the descriptive statistics such as the mean, median and mode to gain insight into the newly created variables. Moreover, if there is a need to test for significant relationships between these variables, the Pearson correlation test could have been used. This depended g on the nature of the data to assess if a relationship exists between the two variables, namely workload and wellness and team effectiveness.

Tests used in the analysis were:

- Descriptive statistics including means and standard deviations, where applicable. Frequencies are represented in tables or graphs.
- Chi-square goodness-of-fit-test: A univariate test, used on a categorical variable to test whether any of the response options are selected significantly more/less often than the others. Under the null hypothesis, it is assumed that all responses were equally selected.
- Regression analysis: Linear Regression estimates the coefficients of the linear equation, involving one or more independent variables that best predict the value of the dependent variable.
- Kruskal Wallis – alternative to ANOVA. A test for several independent samples that compares two or more groups of cases in one variable.
- One sample t-test: Tests whether a mean score is significantly different from a scalar value.
- Mann-Whitney–alternative to Independent samples t-test: a test that compares two independent groups of cases.

### 6.3 PRESENTATION OF DATA

Data collected from the respondents were collated and analysed for presentation in this section. The research findings are presented in the same sequence as that of the questionnaires (Appendix 7). The research findings are presented in the form of figures and tables and are followed by a discussion of the information presented.

### 6.4 SECTION A: DEMOGRAPHIC DATA ANALYSIS

Gender distribution of the respondents was divided into two groups, namely gender and age. Statistical analysis was carried out.

#### 6.4.1 Gender

Table 6.1, illustrates that of the total number of participants, n=19 (9.5%) were males and n=181 (90.5%) were females.

**Table 6.1: Gender**

	Frequency	Percent
Male	19	9.5
Female	181	90.5
Total	200	100.0

#### 6.4.2 Age

Table 6.2, shows that the age of the respondents ranged from 21 to above 50, with the majority of the respondents n=107 (53.5%) within age 31-40. Table 6.2 also reflects that the majority of the respondents are mature adults ranging from 31 years to above 50 years. The average age of the group is the 31-40 years n=107 (53.5%), followed by 21-30 years n=69 (34.5%) and >50 years n=1 (5%).

**Table 6.2: Age**

	Frequency	Percent
21-30	69	34.5
31-40	107	53.5
41-50	23	11.5
>50	1	.5
Total	200	100.0

#### **6.4.3 Highest level of education**

According to Table 6.3, regarding the highest qualification obtained, over half of the respondents, n=111 (55.5%) obtained a degree n=111 (55.5%) and n=88 (44.0%) obtained a diploma. The results show that a significant number of respondents have a degree or diploma in nursing science, n=199 (99.5%). Only one respondent, n=1 (2.5%) attained a post- basic ICU qualification. This indicates that, within this organisation, ICU nurses have not completed their postgraduate studies, but have acquired the skills and competencies to fulfil the job expectations from an ICU perspective and did not possess the critical thinking skills for the specialised units. Overall, the statistics indicate that the organisation has many experienced nurses who work in the ICUs. This alludes to ICU nurses being skilled professionals who can work to achieve organisation goals and strategies for improvement and organisational success. However, it appeared that their experience was more relevant to the organisation than their academic qualification.

**Table 6.3: Highest level of education**

	Frequency	Percent
Standard 10 or equivalent	1	.5
Diploma	88	44.0
Degree/postgrad Degree	111	55.5
Total	200	100.0

#### **6.4.4 Period of employment**

According to Table 6.4, the modal tenure is between 3-7 years. The majority of the respondents are loyal to the organisation and have spent more than 5 years within this organisation. This can be interpreted as commitment and loyalty to the organisation and a good working environment related to length of stay greater than 5 years. The results also indicate that the average life span within the health care of expatriates was 3 years and this can be interpreted as their contractual agreement with the organisation. Nurses are given a 2-year contract as most of the nurses tend to get international experience which enables them to migrate to the freer western region, where there is a high demand for ICU skills and experience. Shortage of ICU nurses has become a global problem and countries are becoming more competitive in recruiting and attracting this speciality. Staff within this organisation do not feel secure with their jobs due to Saudisation as the Saudi Government has a 2030 vision to minimise the entry of foreign nurses in the Kingdom of Saudi Arabia, focusing on developing their own nurses and train more nurses within their academic organisations.

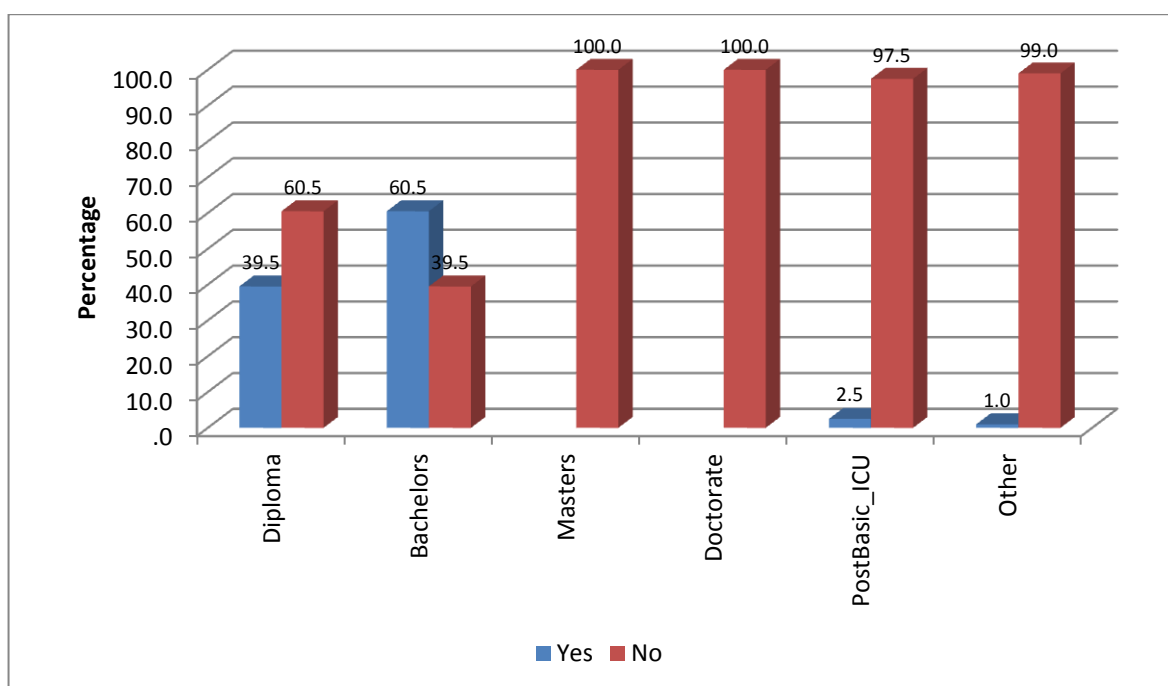
**Table 6.4: Period of employment**

<b>Period of employment</b>	<b>Frequency</b>	<b>Percent</b>
3.00	12	6.0
3.08	5	2.5
3.17	5	2.5
3.25	12	6.0
3.33	9	4.5
3.42	8	4.0
3.50	6	3.0
3.58	3	1.5
3.67	5	2.5
3.75	10	5.0
3.83	10	5.0
3.92	7	3.5
4.00	2	1.0
4.08	5	2.5
4.17	5	2.5
4.25	4	2.0
4.33	3	1.5
4.42	5	2.5
4.50	2	1.0
4.58	3	1.5
4.67	2	1.0
4.75	4	2.0
4.83	1	.5
5.00	4	2.0
5.08	1	.5
5.17	4	2.0
5.25	3	1.5
5.33	1	.5
5.50	3	1.5
5.58	1	.5
5.75	3	1.5
5.83	1	.5
6.00	3	1.5
6.42	2	1.0
6.50	3	1.5

6.58	3	1.5
<b>Period of employment</b>	<b>Frequency</b>	<b>Percent</b>
6.75	1	.5
7.00	2	1.0
7.42	1	.5
8.00	2	1.0
8.33	1	.5
8.50	2	1.0
8.58	2	1.0
9.08	1	.5
9.17	1	.5
9.33	1	.5
9.42	1	.5
9.58	1	.5
9.75	1	.5
9.83	2	1.0
10.00	2	1.0
10.08	2	1.0
10.17	1	.5
10.25	1	.5
10.33	2	1.0
10.58	2	1.0
10.83	1	.5
10.92	2	1.0
11.17	1	.5
11.58	1	.5
12.00	2	1.0
13.00	3	1.5
13.08	1	.5
Total	200	100.0

### 6.4.5 Nursing qualifications

According to Figure 6.1, the highest qualification obtained is a degree, n=111 (60.5%), followed by those with a diploma, n=88 (39.5%). The results show that most of the respondents have a degree or diploma in nursing science and only n=5 (2.5%) have a post- basic ICU qualification as their specialty. This indicates that, within this organisation, very few of the ICU nurses have completed their postgraduate studies but acquired skills and competencies to meet with the job expectations. Overall, the statistics indicate that the organisation has a large number of experienced nurses who work in the ICUs. However, majority of the ICU nurses lack the critical thinking skills that are necessary for an ICU qualified nurse. This is evident from the results that only n=5 (2.5%) of the sample possess a post-basic ICU qualification which highlights the fact that the organisation is very dependent on the nurses' experiences in comparison to the academic qualification for critical care nursing sciences.



**Figure 6.1: Nursing Qualifications**

#### 6.4.6 Unit where allocated

According to Table 6.5, the majority of respondents are from two units, namely the ICU n=70 (35.0%) and NICU n=70 (35.0%). This can be attributed to the bed capacity of these two (2) units. The NICU has a total of 80 beds and occupancy of 100%, the level of care varies and most often the nurse patient ratio is 1:1 with the critical babies, and the number of staff for the total unit can vary according to the acuity of the patients. The ICU has a total of 26 beds and patients are critically ill fully ventilated and nurse patient ratio also varies and most often 1: and this factor demands more nursing staff to care for the patients. The bed capacity in the other units cannot be compared because of lower bed capacity compared to the sample from the NICU and the ICU which had a higher staffing database as per Table 6.5.

**Table 6.5: Unit where allocated**

	Frequency	Percent
ICU	70	35.0
PICU	10	5.0
NICU	70	35.0
HDV	9	4.5
CICU	21	10.5
CCU	20	10.0
Total	200	100.0

#### 6.4.7 Country of origin

According to Table 6.6, the respondents are predominantly Indian nationals n=141 (70.5%), followed by Filipinos, n=44 (22.0%). The results indicate that the majority of staff in the critical care areas are Indians and Filipinos, in comparison to Saudi ICU nurses, who comprise only 2.0% . This is of great concern for the future of Saudi Arabia with the Saudisation programme and the country's 2030 vision to reduce the employment of foreign nurses. The future of Saudi Arabia to sustain quality care in the critical care areas will

need to focus on implementing post-basic courses for critical care nursing science for Saudi nurses.

**Table 6.6: Country of origin**

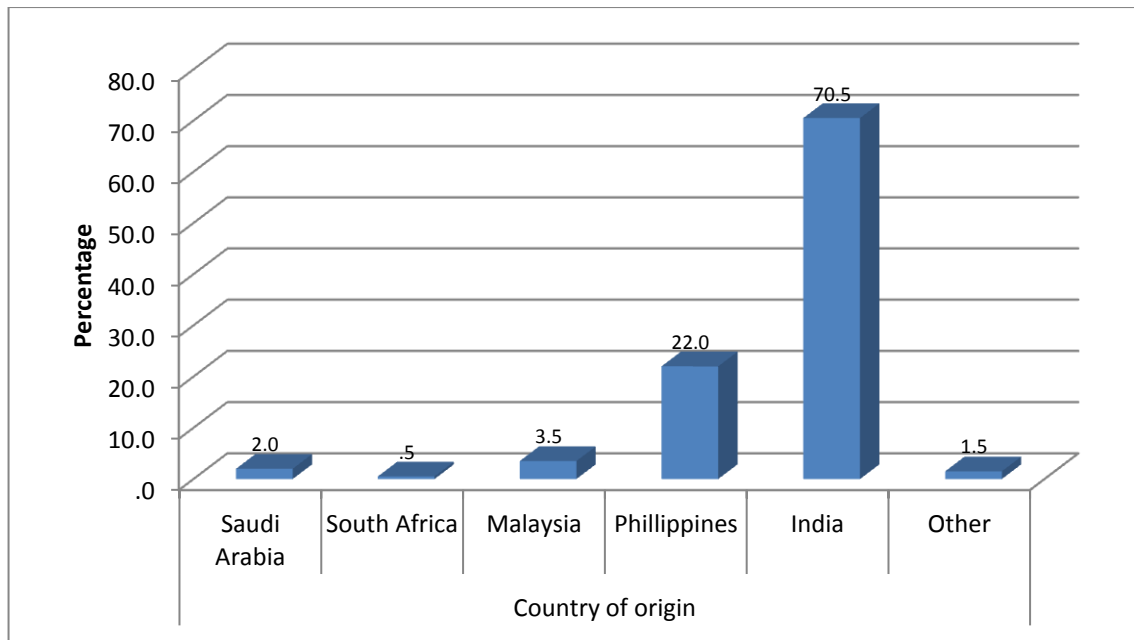
	Frequency	Percent
Saudi Arabia	4	2.0
South Africa	1	.5
Malaysia	7	3.5
Philippines	44	22.0
India	141	70.5
Other	3	1.5
Total	200	100.0

#### **6.4.8 Other country of origin**

According to Table 6.7, the results for nurses from other countries of origin are insignificant, n=2 (1.0%) of Egyptians and n=1 (5%) Sudanese. The organisation does not issue working visas for the Arab countries as they perceive Western, Indian, and Filipino nurses to be more skilled within this critical care environment. South African nurses in the ICU were also a small percentage (.5%) which is indicative of the cost factor. The South African nurses were classified as western and their salaries were the same as the British. Affordability and budgets were always a concern from an operational decision perspective.

**Table 6.7: Other country of origin**

	Frequency	Percent
Egypt	197	98.5
Sudan	2	1.0
Total	1	.5
	200	100.0



**Figure 6.2: Nationality distribution**

## 6.5 SUMMARY: SECTION A

The findings in the demographic section overall shows that 70.0% of the sample came equally from the various ICUs, whilst there were more females (90.5%) than males (9.5%). It is also seen that the modal age group was 31-40 years (53.5%) followed by 21-30 years (34.5%). The modal education group was degree and post grad degree (55.5%) followed by Diploma (44.0%). We also find that there were 60.5% were registered nurses with Bachelors followed by Licensed Practitioner Nurse: Diploma (39.5%). There were 35% of the respondents in the ICU and an equal percent in the NICU. The modal country of origin was India (70.5%) followed by Philippines (22.5%). The organisation has a high percentage of expatriates and highly skilled nurse's majority with bachelors qualification.

## 6.6 SECTION B: QUESTIONS ABOUT PARTICIPANTS' JOB IN THE CURRENT UNIT DATA ANALYSIS

### 6.6.1 Adequacy of support services

The overall responses for this question reflect that n=101 (50.5%) agreed and n=20 (10.1%) of the respondents disagreed. Just over half the respondents, n= 109 (54.5%) agreed/strongly agreed that there were adequate support services such as porters and housekeeping. These services allowed them to spend time with their patients. Only n=42 (21.0%) slightly agreed with this statement as per Table 6.8.

**Table 6.8: Adequacy of support services**

		Frequency	Percent
Valid	Strongly disagree	16	8.0
	Disagree	20	10.0
	Slightly disagree	12	6.0
	Slightly agree	42	21.0
	Agree	101	50.5
	Strongly agree	8	4.0
	Total	199	99.5
Missing	System	1	.5
Total		200	100.0

### 6.6.2 Working relationship with physicians and nurses

The majority of respondents agreed with this question. n= 133 (66.5%) and n=44 (22.0%) strongly agreed. The results reveal that n=177 (88.5%) of the respondents collectively agree that they have a good working relationship with physicians and nurses, indicative of a collegial work relationship in the workplace as per Table 6.9.

**Table 6.9: Working relationship with physicians and nurses**

	<b>Frequency</b>	<b>Percent</b>
Strongly disagree	6	3.0
Disagree	2	1.0
Slightly disagree	1	.5
Slightly agree	14	7.0
Agree	133	66.5
Strongly agree	44	22.0
Total	200	100.0

### **6.6.3 The Head Nurse/Nurse Manager support**

The results show that most of the respondents agreed, n=96 (48.0%) and strongly agreed, n=54 (27.0%) that the Head Nurse/Nurse Manager is supportive of the nurses. This constitutes n=150 (75.0%), highlighting the effectiveness of the support given by the Head Nurse/Nurse Manager and notably an encouraging aspect of the research as per Table 6.10. Thus, the relationship between a dynamic, interactive environment and nursing leadership appears to be a positive one.

**Table 6.10: Head Nurse/Nurse Manager support**

	<b>Frequency</b>	<b>Percent</b>
Strongly disagree	13	6.5
Disagree	7	3.5
Slightly disagree	10	5.0
Slightly agree	20	10.0
Agree	96	48.0
Strongly agree	54	27.0
Total	200	100.0

### **6.6.4 Availability of staff development or continuing education programmes**

The results show that most of the respondents, n=173 (86.5%) of the respondents collectively agreed that there is an active staff development or continuing education programme available. whilst n=111 (55.5%) and n=26

(13.5%) that disagreed and strongly disagreed, respectively that there were opportunities for career promotion as per Table 6.11. This is a noteworthy aspect of the research in that there are opportunities for staff development and promotional opportunities. These results are significant as the organisation needs to focus on improving their present approach to continuing education programmes. This approach will allow leaders to adopt ongoing development programs for ICU nurses. Staff development will represent a change within the organization, and information about support at the organizational level for the change effort is important.

**Table 6.11: Availability of staff development or continuing education programmes**

		<b>Frequency</b>	<b>Percent</b>
Valid	Strongly disagree	2	1.0
	Disagree	2	1.0
	Slightly disagree	6	3.0
	Slightly agree	16	8.0
	Agree	111	55.5
	Strongly agree	62	31.0
	Total	199	99.5
Missing	System	1	.5
Total		200	100.0

#### **6.6.5 Availability of opportunities for career promotion**

Over half of the respondents agreed that opportunities for career promotion existed within their units of the organisation, n=100 (50.5%) and n=27 (13.0%) of the respondents who strongly agreed. Thus, the majority of respondents, a total of 63.0% agreed that career opportunities are available. It is noteworthy that only n=19 (9.5%) of the respondents strongly disagreed and disagreed that the organisation supported career promotion as per Table 6.12.

**Table 6.12: Availability of opportunities for career promotion**

	<b>Frequency</b>	<b>Percent</b>
Strongly disagree	14	7.0
Disagree	5	2.5
Slightly disagree	14	7.0
Slightly agree	39	19.5
Agree	101	50.5
Strongly agree	27	13.5
Total	200	100.0

### **6.6.6 Opportunities for participating in policy development**

The results indicate that a significant number of respondents, n=140 (70.0%) together agreed/strongly agreed that there are opportunities for them to participate in policy development, whilst only n=39, which is 19.5% slightly agreed. The respondents who disagreed/strongly disagreed n=21 (10.5%) could be indicative of the military structure of the organisation as per Table 6.13.

**Table 6.13: Opportunities for participating in policy development**

	<b>Frequency</b>	<b>Percent</b>
Strongly disagree	6	3.0
Disagree	9	4.5
Slightly disagree	6	3.0
Slightly agree	39	19.5
Agree	118	59.0
Strongly agree	22	11.0
Total	200	100.0

### **6.6.7 Use mistakes by supervisors as learning opportunities, not criticism**

Majority of the respondents, n=108 (54.0%) agreed whilst n=15 (7.5%) strongly agreed that supervisors use mistakes as learning opportunities, not criticism, and n=36 (18.0%) slightly agreed with this perception. This too is remarkable in the sense that staff are allowed to make mistakes within an

environment of growth. From the analysis, n=159 (82.0%) of the respondents collectively slightly agreed/agreed/strongly agreed that supervisors use mistakes as learning opportunities. This contributes to effective service delivery as per Table 6.14.

**Table 6.14: Use mistakes by supervisors as learning opportunities, not criticism**

		<b>Frequency</b>	<b>Percent</b>
Valid	Strongly disagree	10	5.0
	Disagree	18	9.0
	Slightly disagree	12	6.0
	Slightly agree	36	18.0
	Agree	108	54.0
	Strongly agree	15	7.5
	Total	199	99.5
Missing	System	1	.5
Total		200	100.0

#### **6.6.8 Adequate time and opportunity to discuss patient care problems with other nurses**

Most of the respondents agreed with this factor, as evident in Table 6.15. Over half of the respondents, n=113 (56.5%) agreed n=39 (19.5%) slightly agreed and n=14 (7.0%) strongly agreed that they were able to discuss patient problems with other nurses as per Table 6.15. The number of respondents who disagreed/strongly disagreed with this factor is insignificant, n=5 (2.5%) and n=14 (7.0%), respectively.

**Table 6.15: Adequate time and opportunity to discuss patient care problems with other nurses**

		<b>Frequency</b>	<b>Percent</b>
Valid	Strongly disagree	5	2.5
	Disagree	14	7.0
	Slightly disagree	15	7.5
	Slightly agree	39	19.5
	Agree	113	56.5
	Strongly agree	14	7.0
	Total	200	100.0

#### **6.6.9 Adequate number of registered nurses to provide quality patient care**

A significant number of respondents slightly agreed, n=36 (18.0%), strongly agreed, n=18 (9.0%) and agreed, n=79 (39.5%) that there are enough registered nurses to provide quality patient care. Whilst n=67 (33.0%) of the respondents believed that there are not enough nurses to provide quality patient care as per Table 6.16..

**Table 6.16: Adequate number of registered nurses to provide quality patient care**

	<b>Frequency</b>	<b>Percent</b>
Strongly disagree	16	8.0
Disagree	32	16.0
Slightly disagree	19	9.5
Slightly agree	36	18.0
Agree	79	39.5
Strongly agree	18	9.0
Total	200	100.0

#### **6.6.10 The Head Nurse or Nurse Manager is a good manager and leader to the ICU nurses**

The results show that most of the respondents n=98 (49.0%) agreed and strongly agreed n=52 (26.0%) that the Head Nurse or Nurse Manager is a good manager and leader of the ICU nurses as per Table 6.17.

**Table 6.17: The Head Nurse or Nurse Manager is a good manager and leader of the ICU nurses**

	<b>Frequency</b>	<b>Percent</b>
Strongly disagree	11	5.5
Disagree	6	3.0
Slightly disagree	16	8.0
Slightly agree	17	8.5
Agree	98	49.0
Strongly agree	52	26.0
Total	200	100.0

#### **6.6.11 Visibility and accessibility of the Director of Nursing**

The results show that n=96 (48.0%) of the respondents agreed and n=47 (23.5% strongly agreed on this factor. These results add up to a total n=143 (71.5%) of respondents who agreed/ strongly agreed that the Director of Nursing was highly visible and accessible to staff. This can be interpreted as the nursing director is very clinical and spends 71.0% of the time in the clinical environment and is not office bound, indicative that the visibility of the nursing director contributes to positive leadership and effective management support as per Table 6.18.

**Table 6.18: Visibility and accessibility of the Director of Nursing**

	<b>Frequency</b>	<b>Percent</b>
Strongly disagree	12	6.0
Disagree	9	4.5
Slightly disagree	10	5.0
Slightly agree	26	13.0
Agree	96	48.0
Strongly agree	47	23.5
Total	200	100.0

#### **6.6.12 Adequacy of staff to get the work done**

The results indicate that a total n=116 (60.0%) of the respondents agreed there is enough staff to get the work done. Respondents that slightly agreed, n=41 (20.5%) of the sample and those who agreed, n=75 (37.5%) of the sample as per Table 6.19.

**Table.6.19: Adequacy of staff to get the work done**

	<b>Frequency</b>	<b>Percent</b>
Strongly disagree	23	11.5
Disagree	25	12.5
Slightly disagree	17	8.5
Slightly agree	41	20.5
Agree	75	37.5
Strongly agree	19	9.5
Total,	200	100.0

#### **6.6.13 Praise and recognition are given for a job well done**

The results show that most of the respondents, n=101 (50.5%) collectively agreed/strongly agreed/slightly agreed that praise and recognition are given for a job well done. This is an area that requires attention where credit must be given for a job well done and staff need to be uplifted with good encouragement when they perform their duties as per Table 6.20.

**Table 6.20: Praise and recognition are given for a job well done**

	Frequency	Percent
Strongly disagree	27	13.5
Disagree	20	10.0
Slightly disagree	11	5.5
Slightly agree	41	20.5
Agree	85	42.5
Strongly agree	16	8.0
Total	200	100.0

#### **6.6.14 Expectation of high standards of nursing care from the nursing quality administration**

The results reveal that n=142 (71.0%) of the sample together agreed and strongly agreed that there is an expectation of high standards of nursing care from the nursing quality administration. With growing concern about quality and care, the attention to the need for improvement of care, quality improvement (QI) has become an administrative mandate and it is evident from the respondents that this administration focuses on high standards of nursing care as per Table 6.21.

**Table 6.21: Expectation of high standards of nursing care from the nursing quality administration**

	Frequency	Percent
Strongly disagree	10	5.0
Disagree	8	4.0
Slightly disagree	6	3.0
Slightly agree	34	17.0
Agree	119	59.5
Strongly agree	23	11.5
Total	200	100.0

#### **6.6.15 Presence of good teamwork between nurses and physicians**

The results show that over half of the respondents agreed n=113 (56.5%), n=46 (23%) slightly agreed and n=21 (10.5%) strongly agreed. Thus, most of the respondents, n=170 (85.0%) collectively agreed/strongly agreed/slightly agreed that good teamwork between nurses and physicians is present. An insignificant number of respondents, n=20 (10.0%) slightly disagreed/strongly disagreed as per Table 6.22.

**Table 6.22: Presence of good teamwork between nurses and physicians**

	<b>Frequency</b>	<b>Percent</b>
Strongly disagree	2	1.0
Disagree	11	5.5
Slightly disagree	7	3.5
Slightly agree	46	23.0
Agree	113	56.5
Strongly agree	21	10.5
Total	200	100.0

#### **6.6.16 Opportunities for professional development**

The total response to agree was n=100 (50.0%) of the sample with n=36 (18.0%) strongly agreeing with this statement. This result is significant in that that in total 68.0% of respondents agreed/ strongly agreed that there are opportunities for professional development as per Table 6.23.

**Table.6.23: Opportunities for professional development**

	Frequency	Percent
Strongly disagree	6	3.0
Disagree	13	6.5
Slightly disagree	11	5.5
Slightly agree	34	17.0
Agree	100	50.0
Strongly agree	36	18.0
Total	200	100.0

**6.6.17 Clear philosophy of nursing relating to patient care and standards**

The results show that the response was agree n=128 (64.0%) followed by slightly agree n=36 (18.0%). It is evident from the results that the majority of respondents believed that the organisation had a clear philosophy related to patient care and standards. By understanding their nursing philosophy, this helps nurses to think more critically and reflect on how their own values influence their practice and way of being. The nurses who understand their nursing philosophy will display the core phenomena of interest to the profession and discipline and practices related to person, environment, and health to patient care standards as per Table 6.24.

**Table 6.24: Clear philosophy of nursing relating to patient care and standards**

	Frequency	Percent
Strongly disagree	4	2.0
Disagree	7	3.5
Slightly disagree	2	1.0
Slightly agree	36	18.0
Agree	128	64.0
Strongly agree	23	11.5
Total	200	100.0

**6.6.18 Nurses are clinically competent**

The results showed significant agreement on this factor. Overall, the respondents n=182 (91.0%) agreed that the various ICU nurses were competent to render critical care to the patients within this environment. The majority, n=21 (60.5%) agreed, n=35 (17.5%) strongly agreed and n=26 (13.0%) slightly agreed. An insignificant number of respondents strongly disagreed with this factor on competence as per Table 6.25. This could be due to the organisation's recruitment process whereby all prospective candidates are screened prior to employment and only the most skilled and competent nurses that meet with the selection criteria are recruited to work in the ICUs.

**Table 6.25: Nurses are clinically competent**

		Frequency	Percent
Valid	Strongly disagree	3	1.5
	Disagree	8	4.0
	Slightly disagree	4	2.0
	Slightly agree	26	13.0
	Agree	121	60.5
	Strongly agree	35	17.5
	Total	197	98.5
Missing	System	3	1.5
Total		200	100.0

#### **6.6.19 The Head Nurse backs decisions made by nursing staff, even if the decision conflicts with a physician**

The results show that n=94 (47.0%) agree, n=34 (17.0%) slightly agree and n=30 (15.0%) strongly agree that the head nurse backs decisions made by nursing staff, even if the decision is in conflict with a physician. This shows significant agreement on this factor, a total n=158 (79.0%). This is indicative that the nursing staff stand with much conviction and believe in themselves as per Table 6.26.

**Table 6.26: The Head Nurse backs decisions made by nursing staff, even if the decision conflicts with a physician**

		Frequency	Percent
Valid	Strongly disagree	13	6.5
	Disagree	13	6.5
	Slightly disagree	11	5.5
	Slightly agree	34	17.0
	Agree	94	47.0
	Strongly agree	30	15.0
	Total	195	97.5
Missing	System	5	2.5
Total		200	100.0

#### **6.6.20 Administration listens and responds to employee concerns**

The results show that most of the respondents, n=147 (73.5%) agree that administration listens and responds to employee concerns. This comprised n=85 (42.5%) agree, n=44 (22.0%) slightly agree and n=18 (9.0%) strongly agree as per Table 6.27.

**Table 6.27: Administration listens and responds to employee concerns**

	Frequency	Percent
Strongly disagree	20	10.0
Disagree	14	7.0
Slightly disagree	19	9.5
Slightly agree	44	22.0
Agree	85	42.5
Strongly agree	18	9.0
Total	200	100.0

### **6.6.21 Presence of active quality improvement programme**

The results show that most of the respondents n=168 (84.0%) agreed that the organisation has an active quality improvement programme, with n=97 (48.5%) who agreed, n=47 (23.5%) who slightly agreed n=24 (12%) who strongly agreed. It was evident from the respondents that quality improvement efforts are strongly being pursued and supported by the organisation in question and this is indicative of the core activities of quality improvement which are extremely important for organizational service delivery as per Table 6.28.

**Table 6.28: Presence of active quality improvement programme**

	<b>Frequency</b>	<b>Percent</b>
Strongly disagree	16	8.0
Disagree	7	3.5
Slightly disagree	9	4.5
Slightly agree	47	23.5
Agree	97	48.5
Strongly agree	24	12.0
Total	200	100.0

### **6.6.22 Involvement of nurses in the internal governance of the hospital**

The results revealed that n=106 (53.0%), which is over half of the respondents agreed that nurses were involved in the internal governance of the hospital whilst n=44 (22.0%) slightly agreed with this factor as per Table 6.29.

**Table 6.29: Involvement of nurses in the internal governance of the hospital**

	<b>Frequency</b>	<b>Percent</b>
Strongly disagree	16	8.0
Disagree	6	3.0
Slightly disagree	9	4.5
Slightly agree	44	22.0
Agree	106	53.0
Strongly agree	19	9.5
Total	200	100.0

#### **6.6.23 Availability of a preceptor programme for newly hired ICU registered nurses**

The results show that majority response was agree, n=118 (59%) followed by strongly agree, n=39 (19.5%). A total of n=157 (78.5%) of the sample agreed that there is a preceptor programme for newly hired ICU registered nurses as per Table 6.30.

**Table 6.30: Availability of a preceptor programme for newly hired ICU registered nurses**

	<b>Frequency</b>	<b>Percent</b>
Strongly disagree	4	2.0
Disagree	1	.5
Slightly disagree	2	1.0
Slightly agree	36	18.0
Agree	118	59.0
Strongly agree	39	19.5
Total	200	100.0

#### **6.6.24 Nursing care is based on a nursing rather than on a medical model**

The results show that the majority response was agree, n=122 (61.0%), followed by slightly agree n=40 (20.0%). This equates to n=162 (81.0%) of the respondents who believe that nursing care is based on nursing and not a

medical model. This can be indicative of good clinical practice and standards of practice within this organisation and nurses focused on a care delivery model as per Table 6.31. This model includes many factors such as assessment of patient needs their functional needs and spiritual needs and is patient centred. Such approach to nursing is very effective for accredited organisations and results are patient safety driven with gold standards of care.

**Table 6.31: Nursing care is based on a nursing rather than on a medical model**

	<b>Frequency</b>	<b>Percent</b>
Strongly disagree	3	1.5
Disagree	4	2.0
Slightly disagree	7	3.5
Slightly agree	40	20.0
Agree	122	61.0
Strongly agree	24	12.0
Total	200	100.0

#### **6.6.25 Opportunity for nurses to serve on hospital and nursing department committees**

The results indicate that majority response was agree, n=106 (53.0%) followed by slightly agree n=41 (20.5%). Most of the respondents, n=147 (63.5%) are positive that there is opportunity for nurses to serve on hospital and nursing department committees. This may be indicative of nurses given an opportunity to be interactive and contribute to the organisation's standards goals and vision as per Table 6.32.

**Table 6.32: Opportunity for nurses to serve on hospital and nursing department committees**

	<b>Frequency</b>	<b>Percent</b>
Strongly disagree	9	4.5
Disagree	11	5.5
Slightly disagree	12	6.0
Slightly agree	41	20.5
Agree	106	53.0
Strongly agree	21	10.5
Total	200	100.0

#### **6.6.26 Nursing administrators consult with staff on daily problems and procedures**

The results show that majority of the response was agree, n=88 (44.0%) followed by slightly agree n=50 (25.0%). Whilst n=105 (52.5%) of the respondents agreed and strongly agreed that nursing administrators consult with staff on daily problems and procedures. This is an area that requires attention as the communication lines must be open between administration and nursing staff which will facilitate effective solutions to problems and procedures. This can also be achieved through teambuilding and integration workshops between nurses and administrative staff as per Table 6.33.

**Table 6.33: Nursing administrators consult with staff on daily problems and procedures**

	<b>Frequency</b>	<b>Percent</b>
Strongly disagree	20	10.0
Disagree	14	7.0
Slightly disagree	11	5.5
Slightly agree	50	25.0
Agree	88	44.0
Strongly agree	17	8.5
Total	200	100.0

### 6.6.27 Patient care assignments foster continuity of care

The results show that the majority response was agree n=102 (51.0%) followed by slightly agree n=37 (18.5%). The results show that n=127 (63.5%) of the sample agreed n=102 (51.0%) and strongly agreed n=25 (12.5%) that patient care assignments foster continuity of care. Although there is good coordination among the multidisciplinary teams focusing on comprehensive patient care processes, it was also noted that the integrated people-centred care process enhanced teamwork amongst the various health care practitioners as per Table 6.34.

**Table 6.34: Frequency table for patient care assignments foster continuity of care**

	Frequency	Percent
Strongly disagree	14	7.0
Disagree	16	8.0
Slightly disagree	6	3.0
Slightly agree	37	18.5
Agree	102	51.0
Strongly agree	25	12.5
Total	200	100.0

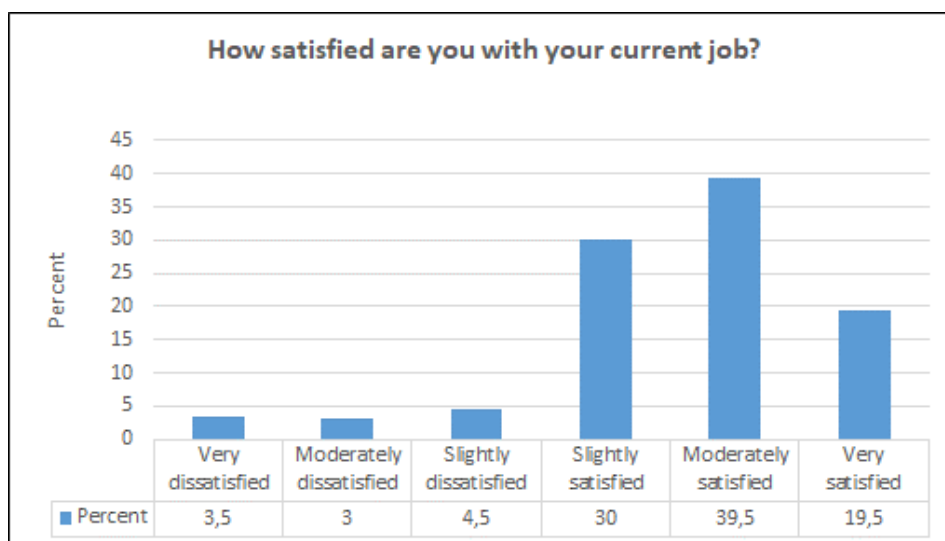
## 6.7 SUMMARY: SECTION B

Section B comprised 28 questions related to the respondents' current job. In summary, the findings revealed that the overall perception of the respondents is that they receive adequate support from their managers and head nurses, that the general working environment is positive and healthy, and that leaders allow staff opportunities to grow and develop within the organisation. The results also revealed that the participants are rewarded, recognised, and allowed opportunities for internal promotion. Notably, the respondents are concerned about the shortage of staff, which places an added burden on them to render quality and safe patient outcomes. Overall, most of the respondents believed that the employing body offered them adequate support and they enjoyed a sense of belonging and general well-being.

## 6.8 SECTION C: QUESTIONNAIRE JOB SATISFACTION DATA ANALYSIS

### 6.8.1 How satisfied are you with your current job?

The majority response was moderately satisfied, n=79 (39.5%). Majority of the respondents as depicted in the figure above indicated that they were satisfied with their current job. Overall, n=178 (89.0%) of the respondents indicated that they were either slightly satisfied, moderately satisfied or very satisfied with their current job. This could be indicative that they enjoyed their job within this organisation and displayed a sense of passion or commitment to the work they are doing. These results reveal that the respondents experience job satisfaction in the various ICUs. Other respondents n=22 (11.0%), indicated they were either dissatisfied moderately or slightly dissatisfied, warranting attention from management and the need to address reasons for employee dissatisfaction as per Figure 6.3.

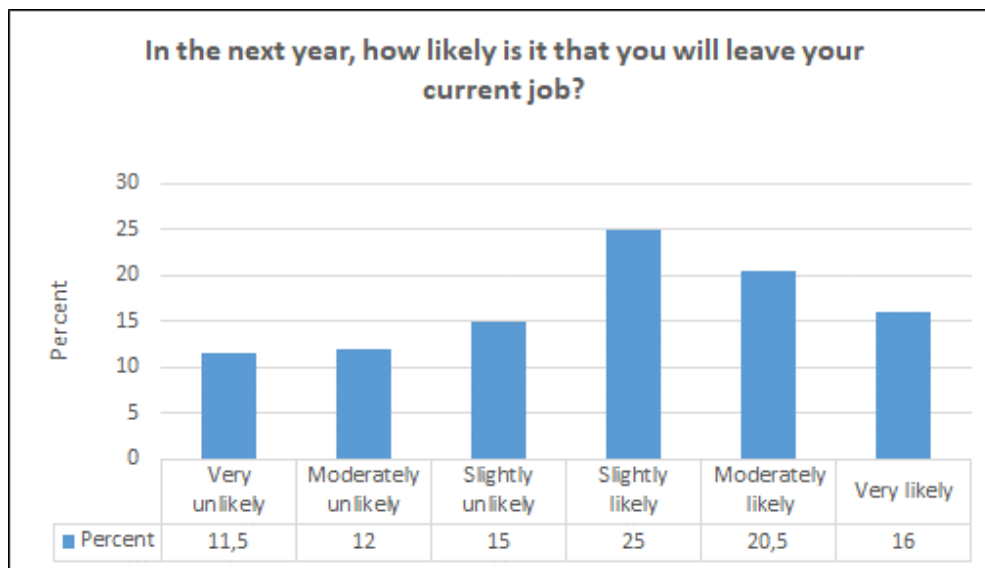


**Figure 6.3: Satisfaction with current job**

### 6.8.2 In the next year, how likely is it that you will leave your current job?

The results show that the majority response was slightly likely, n=50 (25.0%). In the next year n=50 (25.0%) of the respondents are slightly likely, n=41

(20.5%) of the respondents are moderately likely and n=32 (16.0%) of the respondents are very likely to leave their current job as per Figure 6.4. This indicates that more than half of the respondents intend to leave their jobs within the next year. Therefore, management needed to focus on a recruitment strategy to fill this gap to minimize the turnover in the various units.

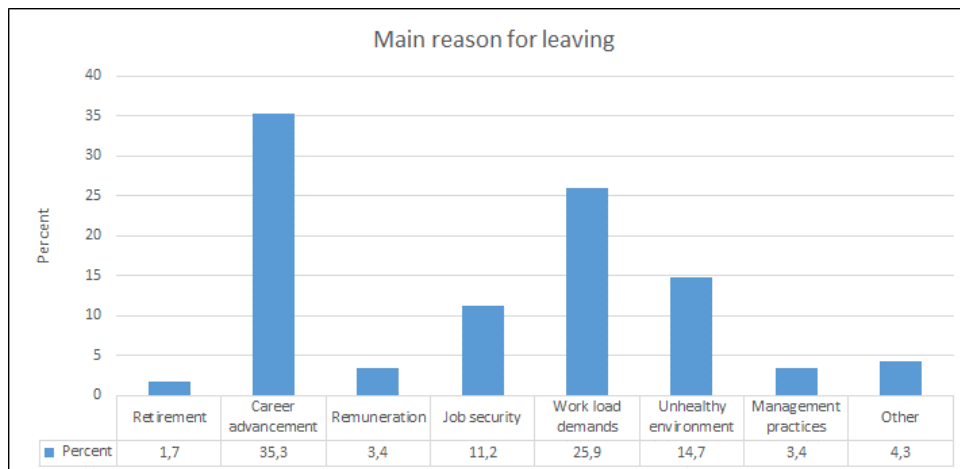


**Figure 6.4: Intention to leave current job**

### 6.8.3 Main reason for leaving the current job

As per Table 6.5, the significant responses for intent to leave the current job were career advancement, n=41 (35.3%), and work load demands n=30 (25.9%) followed by unhealthy environment n=17 (14.7%) and this could be due to them wanting to up skill and upgrade themselves from Diploma level to Bachelor level and from Bachelor to Masters level. Other possible reasons could be them wanting to embark on study opportunities in post graduate studies relevant to their speciality. This response can also be justified by the current laws of Saudi Arabia, whereby foreigners are not allowed to study within the Saudi Arabian universities due to the country's academic policy. These factors can notably impact on the career advancement of employees,

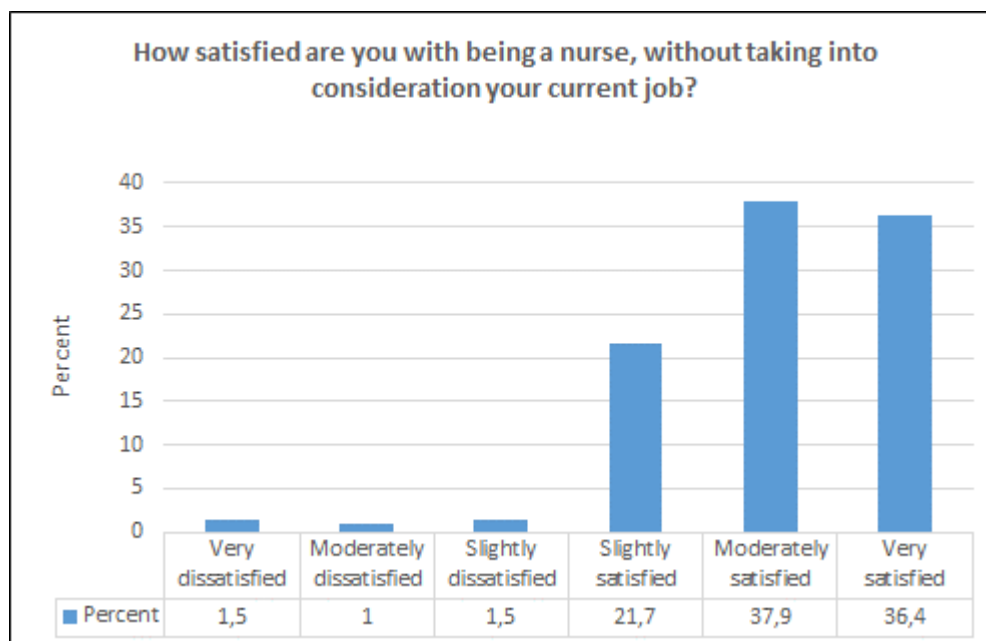
where it seems that opportunities for career advancement are non-existent as per Figure 6.5.



**Figure 6.5: Main reasons for leaving current job**

#### **6.8.4 How satisfied are you with being a nurse, without taking into consideration your current job?**

The results show that the majority response was moderately satisfied, n=75 (37.9%) followed by n=72 (36.4%) very satisfied with being a nurse, without taking into consideration their current job. Only n=43 (21.7%) are slightly satisfied with nursing as a career. As per Figure 6.6, nurses within this organisation are very passionate about their profession and are proud to be a nurse. Overall, very few are dissatisfied, n=10 (0.4%) with nursing as a career.



**Figure 6.6. How satisfied are you with being a nurse?**

## **6.9 SUMMARY: SECTION C**

These research findings show that 96.0% of the nurses are satisfied with their jobs. In the next year n=50 (25.0%) of the respondents are slightly likely, n=41 (20.5%) of the respondents are moderately likely whilst, n=32 (16.0%) of the respondents are very likely to leave their current job. The main reasons for this perception include career advancement n=41 (35.3%), workload demands n=30 (25.9%) and unhealthy workplace environments n=17 (14.7%). Without taking into consideration their current job, the results indicate that n=79 (37.9%) and n=72 (6.4%) of the respondents were moderately satisfied or very satisfied with being a nurse. Only n=43 (21.7%) are slightly satisfied with their nursing job without taking into consideration their current job.

## 6.10 SECTION D: QUESTIONNAIRE ON STAFF WELL-BEING DATA ANALYSIS

### 6.10.1 Experiencing frequent headaches

The results, reveal that n=77 (38.7%) of the respondents, who strongly agree experience frequent headaches whilst n=58 (29.0%) slightly agree with experiencing headaches. This could be indicative of increased work demands and decreasing coping abilities could be related to the shortage of staff and environmental issues linked to job dissatisfaction and unhealthy work environment. These factors in turn, could precipitate stress related symptoms such as headaches as per Table 6.35.

**Table 6.35: Experiencing frequent headaches**

		Frequency	Percent
Valid	Strongly disagree	22	11.0
	Disagree	32	16.0
	Slightly disagree	10	5.0
	Slightly agree	58	29.0
	Agree	53	26.5
	Strongly agree	24	12.0
	Total	199	99.5
Missing	System	1	.5
Total		200	100.0

### 6.10.2 Experiencing extreme fatigue after work

The majority of the respondents agree n=72 (36.0%) followed by slightly agree n=59 (29.8%). It is evident that just over half the respondents n=101 (51.0%) collectively agreed and strongly agreed that they experience extreme fatigue after their shifts. This factor could be related to their workloads. The significance of just over half of the respondents indicating that they experience fatigue after work should be viewed in a serious light, as such experiences may impair performance, and lead to an increase in fatigue and decreased employee productivity. These results can be used to develop tools to measure stress and fatigue as different constructs to aid nursing

administrators to gain a new perspective into nursing schedule, workload, morale, and well-being of nurses as per Table 6.36.

**Table 6.36: Experiencing extreme fatigue after work**

		Frequency	Percent
Valid	Strongly disagree	8	4.0
	Disagree	18	9.0
	Slightly disagree	12	6.0
	Slightly agree	59	29.5
	Agree	72	36.0
	Strongly agree	29	14.5
	Total	198	99.0
Missing	System	2	1.0
Total		200	100.0

### 6.10.3 Everything felt like an effort

Majority of the participants agree that everything I did felt like an effort and n= 90 (45.0%) followed by n=39 (19.5%) who slightly agree. Over half of the respondents, n=108 (54.0%) together agreed and strongly agreed that everything they did felt like an effort as per Table 6.37.

**Table 6.37: Everything felt like an effort**

		Frequency	Percent
Valid	Strongly disagree	8	4.0
	Disagree	18	9.0
	Slightly disagree	24	12.0
	Slightly agree	39	19.5
	Agree	90	45.0
	Strongly agree	18	9.0
	Total	197	98.5
Missing	System	3	1.5
Total		200	100.0

#### 6.10.4 Emotionally drained after a 12-hour shift

Majority of the respondents agreed n=71 (35.5%) followed by slightly agree n=42 (21.0%) whilst n=95 (47.5%) of the respondents agreed and strongly agreed that they felt emotionally drained after a 12-hour shift as per Table 6.38. This could be related to work demands and contributing factors related to staff shortages, increased work-related and organisational demands resulting in tiredness, low moods, withdrawal from friends and family and feeling unable to 'switch off' after work.

**Table 6.38: Emotionally drained after 12-hour shift**

		<b>Frequency</b>	<b>Percent</b>
Valid	Strongly disagree	10	5.0
	Disagree	28	14.0
	Slightly disagree	24	12.0
	Slightly agree	42	21.0
	Agree	71	35.5
	Strongly agree	24	12.0
	Total	199	99.5
Missing	System	1	.5
Total		200	100.0

#### 6.10.5 Battled to focus on completing work tasks

Majority of the respondents agree, n=64 (32.0%) followed by slightly agree. n=31 (15.5%). The sample responses show that n= 85 (42.5%) of the respondents were positive that they battled to focus on completing work tasks whilst n=47 (23.5%) of the respondents disagreed with this aspect as per Table 6.39. This could be indicative of the work dynamics within the organisation which could be exacerbated by the scheduling and allocation of shifts and long working hours. This in turn can impact on satisfaction and the care processes which in turn affect the safety of the patient.

**Table 6.39: Battled to focus on completing work tasks**

		Frequency	Percent
Valid	Strongly disagree	19	9.5
	Disagree	47	23.5
	Slightly disagree	17	8.5
	Slightly agree	31	15.5
	Agree	64	32.0
	Strongly agree	21	10.5
	Total	199	99.5
Missing	System	1	.5
Total		200	100.0

### 6.10.6 Difficulty in concentrating at work

Majority of the respondents disagreed n=67 (33.5%). This result together with those who strongly disagreed, n=37 (18.5%) and those who slightly disagreed, n=23 (11.5%) indicate that the majority of respondents, n=127 (63.5%) did not find difficulty in concentrating at work. However, it is significant that n=73 (36.5%) of the respondents did find it difficult to concentrate at work as per Table 6.40.

**Table 6.40: Difficulty in concentrating at work**

		Frequency	Percent
Valid	Strongly disagree	37	18.5
	Disagree	67	33.5
	Slightly disagree	25	12.5
	Slightly agree	23	11.5
	Agree	40	20.0
	Strongly agree	4	2.0
	Total	196	98.0
Missing	System	4	2.0
Total		200	100.0

### 6.10.7 Bothered by having to lift patients and move heavy loads

Majority of the respondents agree n=55 (27.5%) followed by slightly agree n=25 (12.5%). The results show that n=76 (38.0%) of the respondents were

negative whilst n=68 (34.0%) of the respondents were positive that they were bothered by having to lift patients and move heavy loads as per Table 6.41. Nurses need to ensure that they use the proper techniques when lifting and handling critical care patients as majority of ICU patients are immobile and carry dead weight, when sedated and ventilated. Organisations must ensure that they need to adapt and procure equipment for lifting and moving patients, including different types of sit-to-stand slings to transfer patients from a bed to a gurney or chair and help the patient with obesity stand and begin to ambulate.

**Table 6.41: Bothered having to lift patients and heavy loads**

		<b>Frequency</b>	<b>Percent</b>
Valid	Strongly disagree	32	16.0
	Disagree	44	22.0
	Slightly disagree	27	13.5
	Slightly agree	25	12.5
	Agree	55	27.5
	Strongly agree	13	6.5
	Total	196	98.0
Missing	System	4	2.0
Total		200	100.0

#### **6.10.8 Too much expected at work**

Majority of the respondents, n=140 (70%) agreed that too much was being expected of them at work. This is evident by the responses of agree, n=80 (40.0%), followed by slightly agree, n=46 (23.0%), and strongly agree, n=14 (7.0%) as per Table 6.42. It is significant that a large percentage of the respondents indicated that too much was expected of them. The management needs to address this critical factor and implement job segregation where respondents focus on direct patient care and not non- patient care tasks.

**Table 6.42: Too much expected at work**

		<b>Frequency</b>	<b>Percent</b>
Valid	Strongly disagree	12	6.0
	Disagree	30	15.0
	Slightly disagree	17	8.5
	Slightly agree	46	23.0
	Agree	80	40.0
	Strongly agree	14	7.0
	Total	199	99.5
Missing	System	1	.5
Total		200	100.0

### 6.10.9 Overly pressurized to complete my work tasks

Over half the respondents, n=108 (53.0%) are overly pressurised to complete their tasks and the other, slightly below half, n=92 (47.0%) are not. This is evident by the responses of agree, n=59 (29.5%), slightly agree, n=35 (17.5%) and strongly agree, n=14 (7.0%), for those who are pressurised; and n=responses of disagree, 46 (23.0%), strongly disagree, n=18 (9.0%), and slightly disagree n=27 (13.5%) of the respondents who do not feel overly pressurized to complete their work tasks as per Table 6.43.

**Table 6.43: Overly pressurized to complete work tasks**

		<b>Frequency</b>	<b>Percent</b>
Valid	Strongly disagree	18	9.0
	Disagree	46	23.0
	Slightly disagree	27	13.5
	Slightly agree	35	17.5
	Agree	59	29.5
	Strongly agree	14	7.0
	Total	199	99.5
Missing	System	1	.5
Total		200	100.0

### 6.10.10 Experience of frequent indigestion or illness

Majority of the respondents, n=137 (68.5%) did not experience frequent indigestion or illness as evident by the responses, disagree n=75 (37.5%),

followed by strongly disagree n=42 (21.0%) and slightly disagree, n=20 (10.0%). The remaining respondents, n=73 (31.5%) experience frequent indigestion or illness as per Table 6.44. This could be indicative of increased work stress related to a physiological manifestation such as indigestion or heart burn.

**Table 6.44: Experience of frequent Indigestion or illness**

		Frequency	Percent
Valid	Strongly disagree	42	21.0
	Disagree	75	37.5
	Slightly disagree	20	10.0
	Slightly agree	23	11.5
	Agree	35	17.5
	Strongly agree	4	2.0
	Total	199	99.5
Missing	System	1	.5
Total		200	100.0

#### 6.10.11 Irritability with other people

A significant response n=86 (43.0%) of the respondents disagreed that they are irritated by other people. Adding this figure to those who strongly disagree n=39 (19.5%) and those who slightly disagree, n=17 (8.5%), indicates that the majority of respondents, n=142 (71.0%) makes this response very significant as per Table 6.45.

**Table 6.45: Irritability with other people**

		Frequency	Percent
Valid	Strongly disagree	39	19.5
	Disagree	86	43.0
	Slightly disagree	17	8.5
	Slightly agree	18	9.0
	Agree	31	15.5
	Strongly agree	5	2.5
	Total	196	98.0
Missing	System	4	2.0
Total		200	100.0

#### 6.10.12 Panic easily in crisis situations and tend to lose focus

Most of the respondents, n=140 (70.0%) indicated that they do not panic easily and do not lose focus in crisis situations, which is significant. This is evident in the results where n=91 (45.5%) disagree, n=30 (15.0%) strongly disagree and n=19 (9.5%) slightly disagree as per Table 6.46. These findings reflected the commitment and dedication of the nurses and speaks well of the work ethic displayed by these nurses.

**Table 6.46: Panic easily in crisis situations and tend to lose focus**

		Frequency	Percent
Valid	Strongly disagree	30	15.0
	Disagree	91	45.5
	Slightly disagree	19	9.5
	Slightly agree	21	10.5
	Agree	32	16.0
	Strongly agree	6	3.0
	Total	199	99.5
Missing	System	1	.5
Total		200	100.0

#### 6.10.13 Difficulty in coping with stressful situations

The results shows that most of the respondents, n= 140 (70%) did not find it difficult to cope with stressful situations. This is a significant result, evident in their responses where n=91 (45.5%) disagree, n=30 (15.0%) strongly disagree and n=19 (9.5%) slightly disagree. An insignificant number of respondents, n=59 (29.5%) experience difficulty in coping with stressful situations as per Table 6.47.

**Table 6.47: Difficulty in coping with stressful situations**

		<b>Frequency</b>	<b>Percent</b>
Valid	Strongly disagree	30	15.0
	Disagree	91	45.5
	Slightly disagree	19	9.5
	Slightly agree	21	10.5
	Agree	32	16.0
	Strongly agree	6	3.0
	Total	199	99.5
Missing	System	1	.5
Total		200	100.0

**6.1014 Feeling of tiredness for no good reason**

The results show that majority of the respondents, n=141 (70.5%) do not feel tired for no good reason, which is significant. This is evident in their responses where, n=82 (41.0%) disagree, followed by strongly disagree, n=44 (22.0%) and slightly disagree, n=15 (7.5%) as per Table 6.48.

**Table 6.48: Feeling of tiredness for no good reason**

		<b>Frequency</b>	<b>Percent</b>
Valid	Strongly disagree	44	22.0
	Disagree	82	41.0
	Slightly disagree	15	7.5
	Slightly agree	24	12.0
	Agree	30	15.0
	Strongly agree	4	2.0
	Total	199	99.5
Missing	System	1	.5
Total		200	100.0

**6.10.15 Feeling of nervousness at work**

Majority of the respondents do not feel nervous at work. disagree n=80 (40.0%) followed by strongly disagree n=31 (15.5%). This could be indicative

that the respondents felt competent and confident within their speciality and were able to function optimally without supervision as per Table 6.49.

**Table 6.49: Feeling of nervousness at work**

		<b>Frequency</b>	<b>Percent</b>
Valid	Strongly disagree	31	15.5
	Disagree	80	40.0
	Slightly disagree	19	9.5
	Slightly agree	35	17.5
	Agree	28	14.0
	Strongly agree	6	3.0
	Total	199	99.5
Missing	System	1	.5
Total		200	100.0

#### **6.10.16 Feeling of helplessness**

Majority of the respondents, do not feel helpless at work. This is evident in the responses where n=75 (37.5%) disagree followed by strongly disagree Whilst n=50 (25.0%) of the sample agree and strongly agree they feel helpless at work as per Table 6.50.

**Table 6.50: Feeling of helplessness**

		<b>Frequency</b>	<b>Percent</b>
Valid	Strongly disagree	25	12.5
	Disagree	75	37.5
	Slightly disagree	25	12.5
	Slightly agree	24	12.0
	Agree	38	19.0
	Strongly agree	12	6.0
	Total	199	99.5
Missing	System	1	.5
Total		200	100.0

### 6.10.17 Feeling of depression

The results shows that majority of the respondents disagree n=69 (34.5%) followed by strongly disagree n=36 (18.0%). It is evident from the results that over half the sample n=105 (52.5%) do not feel depressed at work whilst only n=45 (22.5%) of the respondents felt depressed at work. This response should not be disregarded as a depressed state of the staff could be detrimental to the well-being of the staff, impacting on their concentration and pose a clinical risk to the quality of patient care outcomes as per Table 6.51.

**Table 6.51: Feeling of depression**

		Frequency	Percent
Valid	Strongly disagree	36	18.0
	Disagree	69	34.5
	Slightly disagree	25	12.5
	Slightly agree	23	11.5
	Agree	35	17.5
	Strongly agree	10	5.0
	Total	198	99.0
Missing	System	2	1.0
Total		200	100.0

### 6.10.18 Feeling sad and nothing could cheer me up

The results shows that majority of the respondents disagree n=79 (39.5%) followed by strongly disagree n=38 (19.0%). The results show that n=117 (58.5%) of the sample did not feel sad emphasizing the point that they were motivated individuals, whilst n=41 (20.5%) felt that way as per Table 6.52.

**Table 6.52: Feeling sad and nothing could cheer me up**

		<b>Frequency</b>	<b>Percent</b>
Valid	Strongly disagree	38	19.0
	Disagree	79	39.5
	Slightly disagree	20	10.0
	Slightly agree	20	10.0
	Agree	34	17.0
	Strongly agree	7	3.5
	Total	198	99.0
Missing	System	2	1.0
Total		200	100.0

**6.10.19 Feeling of worthlessness**

The results shows that majority of the respondents disagree n=73 (36.5%) followed by strongly disagree n=50 (25.0%). It is also seen that n=123 (61.5%) of the respondents have a sense of self-worth. This result is significant showing that staff have not reached a level of self-conceptualisation or self-actualization within this environment. Therefore, leaders need to focus on this factor to boost the morale of the respondents and to give positive feedback to develop a sense of belonging within the work environment and build their self-confidence so that staff feel worthy of their contribution the organisation as per Table 6.53.

**Table 6.53: Feeling of worthlessness**

		<b>Frequency</b>	<b>Percent</b>
Valid	Strongly disagree	50	25.0
	Disagree	73	36.5
	Slightly disagree	16	8.0
	Slightly agree	12	6.0
	Agree	40	20.0
	Strongly agree	6	3.0
	Total	197	98.5
Missing	System	3	1.5
Total		200	100.0

#### 6.10.20 Disturbed by unwanted thoughts and feelings

The results show that majority of the respondents disagree n=93 (46.5%) followed by strongly disagree n=38 (19.0%). The findings show that only n=15 (7.5%) of the sample slightly disagreed and felt that they were not disturbed by unwanted thoughts and feelings. The results also reveal that only n=31 (15.5%) of the sample agreed and strongly agreed that they were disturbed by unwanted thoughts and feelings as per Table 6.54.

**Table 6.54: Disturbed by unwanted thoughts and feelings**

		Frequency	Percent
Valid	Strongly disagree	38	19.0
	Disagree	93	46.5
	Slightly disagree	15	7.5
	Slightly agree	21	10.5
	Agree	23	11.5
	Strongly agree	8	4.0
	Total	198	99.0
Missing	System	2	1.0
Total		200	100.0

#### 6.10.21 Tension and anxiety prevented me from doing important things

The results shows that majority of the respondents disagree n=86 (43.0%) followed by strongly disagree n=38 (19.0%).The overall findings show that n=124 (62.0%) of the sample together disagreed and strongly disagreed that tension and anxiety prevented them from doing important things whilst n=40 (20.0%) of the sample indicate that tension and anxiety prevent them from doing important things as per Table 6.55.

**Table 6.55: Tension and anxiety prevented me from doing important things**

		<b>Frequency</b>	<b>Percent</b>
Valid	Strongly disagree	38	19.0
	Disagree	86	43.0
	Slightly disagree	17	8.5
	Slightly agree	17	8.5
	Agree	32	16.0
	Strongly agree	8	4.0
	Total	198	99.0
Missing	System	2	1.0
Total		200	100.0

#### **6.10.22 Difficulty in getting to sleep or staying asleep**

The results shows that majority of the respondents disagree n=84 (42.0%) followed by agree n=43 (21.5%). It is also seen that n=109 (54.5%) of the sample had no difficulty getting to sleep or staying asleep whilst only (28.3%) of the sample agreed and strongly agreed that they had problems sleeping or staying asleep. Almost half of the respondents had no difficulty in sleep patterns and the n=56 (28.0%) that expressed disturbances in sleep pattern could be related to many issues such as family issues, personal coping issues, mental exhaustion and work-related issues as per Table 6.56. These factors need to be explored to allow the respondents within this environment adequate rest days in order to function optimally and allowing themselves adequate sleep.

**Table 6.56: Difficulty in getting to sleep or staying asleep**

		<b>Frequency</b>	<b>Percent</b>
Valid	Strongly disagree	25	12.5
	Disagree	84	42.0
	Slightly disagree	18	9.0
	Slightly agree	15	7.5
	Agree	43	21.5
	Strongly agree	13	6.5
	Total	198	99.0
Missing	System	2	1.0
Total		200	100.0

#### **6.10.23 Leaving work feeling mentally and/or physically exhausted**

The results shows that majority of the respondents disagree n=75 (37.5%) followed by agree n=45 (22.5%). The research shows that n=102 (51.0%) of the sample disagreed and strongly disagreed that typically they left work feeling mentally and/or physically exhausted whilst only n=59 (29.5%) of the sample agreed and strongly agreed with this aspect. The significant percentage of those that strongly agreed and agreed on the factor of being mentally and physically exhausted after their work, is indicative of work demands and excess staff workloads. This could be related to factors such as staff shortages, leadership issues, and organisational structural issues. This in turn warrants the attention of organisational leaders and managers as per Table 6.57.

**Table. 6.57: Leaving work feeling mentally and physically exhausted**

		<b>Frequency</b>	<b>Percent</b>
Valid	Strongly disagree	27	13.5
	Disagree	75	37.5
	Slightly disagree	18	9.0
	Slightly agree	19	9.5
	Agree	45	22.5
	Strongly agree	14	7.0
	Total	198	99.0
Missing	System	2	1.0
Total		200	100.0

#### **6.10.24 Feeling depressed, stressed, and anxious thinking of my work**

The results shows that majority of the respondents disagree n=76 (36.5%) followed by strongly disagree n=41 (20.5%). The overall results show that n=114 (57.0%) of the sample disagreed and strongly disagreed that they felt depressed/stressed/anxious when they thought of their work; only n=50 (25.0%) of the sample felt this way. Overall, it is evident from the results that the respondents do not experience symptoms of depression and anxiety thinking of their work as per Table 6.58.

**Table 6.58: Feeling depressed, stressed, and anxious thinking of my work**

		<b>Frequency</b>	<b>Percent</b>
Valid	Strongly disagree	41	20.5
	Disagree	73	36.5
	Slightly disagree	17	8.5
	Slightly agree	17	8.5
	Agree	37	18.5
	Strongly agree	13	6.5
	Total	198	99.0
Missing	System	2	1.0
Total		200	100.0

#### 6.10.25 Sick leave due to illness

The results shows that majority of the respondents disagree n=75 (37.5%) followed by strongly disagree n=59 (29.5%). The findings show that n=134 (67.0%) of the sample did not take sick leave due to illness. This suggests a very healthy group of employees within this organisation that are able to cope with their workload challenges as per Table 6.59.

**Table 6.59: Sick leave due to illness**

		Frequency	Percent
Valid	Strongly disagree	59	29.5
	Disagree	75	37.5
	Slightly disagree	16	8.0
	Slightly agree	16	8.0
	Agree	25	12.5
	Strongly agree	7	3.5
	Total	198	99.0
Missing	System	2	1.0
Total		200	100.0

#### 6.10.26 Troubled by aches, pains, or other physical problems

The results shows the respondents that disagreed n=81 (40.5%) followed by strongly disagree n=45 (22.5%). Overall, there appears to be a minimal number of respondents who are plagued with all kinds of physical and emotional problems. This still is a significant percentage of staff-related problems that needs to be addressed whilst the contributing factors to be identified so that staff can be supported as per Table 6.60.

**Table 6.60: Troubled by aches, pains, and physical problems**

		Frequency	Percent
Valid	Strongly disagree	45	22.5
	Disagree	81	40.5
	Slightly disagree	18	9.0
	Slightly agree	17	8.5
	Agree	30	15.0
	Strongly agree	7	3.5
	Total	198	99.0
Missing	System	2	1.0
Total		200	100.0

## **6.11 SECTION D: SUMMARY**

The well-being questionnaire was used as a quantitative instrument to explore the various emotional, mental, and physical factors that affect nurses' WELL-BEING within the ICU environment. The analysis shows that a large percentage of respondents experienced various emotional or physical work-related problems that affected their health. These findings inform the organisation of nurses' perceptions of their own well-being. Consequently, the organisation will need to alleviate such factors to improve the holistic, physical and psychosocial well-being of the staff. Thus, employers can benefit from having a healthy workforce that will function optimally and be productive, improving the quality of the clinical practices and safe patient care.

## **6.12 SUMMARY OF THE CHAPTER**

The results from Phase 2 of the study, using a quantitative data collection method were presented in Chapter 6. The questionnaires which included four sections, namely Section A: demographics of the participants, Section B: experiences in current job, Section C: job satisfaction and Section D: staff well-being was analysed. There are some definite strengths and weaknesses within the ambit of workload and well-being. The findings show that well-being is not a popular subject and that the leadership should focus on nurses' well-being to create an environment that supports the physical and emotional well-being of their employees. People need to be understood, and managers need

to shepherd the people they work with, using great care and compassion. The other issue that managers must not be selfish. They must respect their colleagues and ensure their well-being. Putting others first is a sure way to promote staff well-being and job satisfaction in any institution. Staff well-being is also associated with demographic variables such as age, gender, and educational level. Overall, this study reveals that employee well-being is greatly influenced by various workload factors. In the next chapter, the findings of the study, both the qualitative and quantitative, are discussed.

## **CHAPTER 7: DISCUSSION OF FINDINGS**

### **7.1 INTRODUCTION**

The previous chapters presented the results of both the quantitative and qualitative strands of the study. In Chapter 7, discussions of results are presented with reference to the research questions and objectives of the study. These discussions are presented in two sections and are aligned to two fundamental aspects of the study, namely Section A focuses on the discussion of results based on the theoretical framework, the JD-R Model and Section B presents the discussion of results in relation to the objectives of the study.

### **7.2 SECTION A: DISCUSSION OF RESULTS BASED ON THE THEORETICAL FRAMEWORK THAT GUIDED THE STUDY**

The JD-R Model places working conditions into two categories, namely job demands and job resources. Job demands are the physical or emotional stressors of a job, such as time pressures, a heavy workload, a stressful working environment, role ambiguity, emotional labour, and poor relationships (Demerouti *et al.* 2001: 502). Job resources are the physical, social, or organisational factors that help to achieve goals, reduce workload, and improve well-being. They include autonomy, strong work relationships, opportunities for advancement, coaching and mentoring, and learning and development (Demerouti *et al.* 2001: 504).

In the past three decades, many studies have shown that various job and work characteristics have a profound influence on employee well-being (Bakker and Demerouti 2007: 309) which can be related to job strain, burnout and work engagement (Doi 2005: 10). Research has revealed that job demands, such as a high workload pressure, emotional demands, and role ambiguity may lead to sleeping problems, exhaustion, and impaired health

(Doi 2005:10; Halbesleben and Buckley 2004:859). On the other hand, job resources related to social support, performance feedback, and autonomy may instigate a motivational process leading to job-related learning and development, work engagement, and organisational commitment (Demerouti *et al.* 2001: 499; Salanova *et al.* 2005: 1217; Taris and Feij 2004: 543). Although the studies, cited above, have produced a long list of possible antecedents of employee well-being, theoretical progress has been limited. The researcher argues, based on findings of the current study, that most of the research on the JD-R model has been restricted to a limited set of predictor variables that may not be relevant for all types of job-related tasks. A discussion of the findings of this study, related to the three components and sub-components of the JD-R Model follows.

### **7.2.1 Job demands**

It is evident from the findings of this study, which are aligned to the JD-R Model, that high job demands lead to strain, health impairment and poor well-being. These effects are associated with shortage of human resources which lead to decreased motivation and low productivity in the critical care units. In the qualitative and quantitative phases of the study the following factors were very appropriate to the findings and showed a strong alignment to the JD-R Model elements.

Schaufeli and Taris (2014: 43) report that in comparison with other models, the JD-R model has gained considerable support, and takes a balanced approach in explaining negative as well as positive aspects of occupational well-being. Nahrgang, Morgeson and Hofmann (2011: 71) used the revised JD-R model to test a meta-analytic model of safety behaviour at work, and workload and noted that it not only improves people's work performance and the quality of their life, but also ensures healthy and essential experiences and positive challenges within their lives. The central aim of this study was to give an overview of both the negative and positive indicators of employee well-being using the qualitative and quantitative methods, simultaneously. The JDR model can, therefore, be

applied to a wide range of occupations and professions to improve employee well-being and performance (Demerouti *et al.* 2001: 505. For the purpose of this study, a comprehensive managerial framework will be developed from the findings to explicate the various workload factors and well-being among the ICU nurses and this will be discussed in chapter 8 using the JDR Model as the framework.

#### **7.2.1.1 Physical demands**

The most prevalent themes that emanated from the findings of this study were high demands of nursing work, demanding working conditions such as long working hours, heavy lifting, shortage of staff, and a lack of support from co-workers and management. These demands caused a personal strain on their physical and emotional well-being, including reducing the quality of nurses' personal life. The majority of nurses, in this study, frequently attributed the injuries they sustained to their work demands and insecure working environment, being in a foreign country. The main repercussions associated with workload in the ICU environment, from the quantitative findings and the qualitative findings, included absenteeism, high turnover of staff, lack of skills, job dissatisfaction, occupational accidents, near misses, reduced QoL, burnout syndrome and sleep disorders. The participants also expressed a decline in their performance due to shortage of staff and resources, long working hours, and security issues. These factors primarily affected the ICU nurses' physical and mental well-being which affected their ability focus on tasks.

According to Letvak (2001: 675), nursing shortages and long working hours, create challenges for nurses trying to deliver quality care, whilst being fatigued and stressed with an excessive patient load. In addition to long working days and hours, some of the participants in the current study reported that having long stretches of workdays without days off, prevented them from addressing their own health needs, particularly the need for rest, exercise, social life and other stress reduction and preventive activities. Some participants even questioned their long-term ability to survive in their current job. Employees

receive significantly higher workloads at night shift than in the day shift. Physical demand was thus measured by working shifts of 12 hours day and night. Most of the respondents said they had experienced extreme fatigue after their shift which raises concerns on their workload. The modal response was agreed with 36.4% followed by slightly agree with 29.8%. An estimated 14.6% responded that they strongly agree, 9.1% disagree, 6.1% slightly disagree and 4% strongly disagree that they were experiencing fatigue after their shifts.

These findings concur with Vogel *et al.* (2012: 1121) who found that working the night shift and the long hours can cause employees' physical health problems, compounding musculoskeletal symptoms. Attarchi *et al.* (2014: 309) also agree that working the night shift and the long 12-hour shifts is an indicator for measuring physical job demands. Findings of the qualitative and quantitative phases of this study indicate that participants who had less experience, being in the profession for less than three years, experience difficulties with long working hours and are dissatisfied with shift work. They expressed that shift work disrupts their sleep patterns and negatively affects their physiological responses of their body adjusting between different shifts.

However, very few participants, during the interviews, indicated that work scheduling was important and did not object to the length of shifts. Participants expressed their concerns related to the mixing of schedules between day and night, which contributed to emotional exhaustion and fatigue. Coffey, Van der Griendt and Fischer (2016: 40) found that work schedules were particularly important to Generation X employees who valued the ability to control their time.

In view of the above findings, it is important for the leaders of the organisation to identify the various workload factors, using a comprehensive managerial framework in the work environment, and identify the physical, mental and social health issues that can affect these professionals. This information can further support such managerial frameworks to find solutions to mitigate the nurses' work demands, thus leading to a better QoL and occupational well-being.

### **7.2.1.2. Psychological demands**

Knowledge and experience of how the dynamics of workload affect ICU nurses psychologically and the influence of co-worker support and guidance on this relationship, is limited in the literature review. This study found that ICU nurses' well-being is severely affected by workload factors. Findings of such a nature allude to causes, such as poorly designed jobs, high job demands and shortage of resources that exhaust employees mentally and physically. The effects of this are depletion of energy and health problems.

These findings concur with Bakker (2011: 265) and Nahrgang, Morgeson and Hofmann (2011: 71) who state that job demands cost effort and consume energetic resources, whereas job resources fulfil basic psychological needs, such as the need for autonomy, relatedness, and competence. Other studies have attributed the demanding nature of critical care nurses' work functions and expectations to related work stress (Chou *et al.* 2014: 4185) In addition, the high job demands and low job resources, together with repeated exposure to grief in an ICU, leads to occupational burnout, causing emotional disengagement. Essentially, when job demands are chronically high and are not compensated by job resources the employee's energy is progressively drained. Psychological well-being can predict job performances; ICU nurses are often confronted with emotional tasks emanating from making critical decisions under very intense time pressures and caring for patients in critical conditions (Wright and Cropanzano (2000: 84). This may finally result in a state of mental exhaustion, which, in its turn, may lead to negative outcomes for the individuals such as poor health, and influence their well-being and poor performance. However, establishing certain environmental conditions and influences does not always guarantee an improvement in employees' performance. As a negative predictor of psychological well-being, perceived job dissatisfaction is a moderating variable that influences the relationships in the JD-R Model (Schmitt *et al.* 2014: 921). Psychological well-being has two facets, namely eudemonic well-being factors and hedonic well-being (Ryan and Deci 2000: 68). The eudemonic well-being factors refer to the purposeful

aspect of psychological well-being (Johnson *et al.* 2018: 437). The hedonic well-being factors refer to subjective feelings of happiness, well-being, and positive emotions (Johnson *et al.* 2018: 437).

During the qualitative phase of the study, participants were asked how they rated their QoL in relation to psychological and emotional well-being after a 12-hour shift. The response from the participants was not particularly clear and somewhat mixed. During the interview phase, participants articulated their own viewpoints and expressed their sentiments regarding mental exhaustion concerning the 12-hour shifts they had to work. Majority of the findings during the interview were related to psychological barriers, such as staff working in professional silos and hierarchies. Some of the participants expressed their concerns related to communication due to language barriers, which were contributing to psychological barriers in the workplace. This factor was very prominent among all employees of different nationalities. The language barrier also pertained to patients, all Arabic speaking, who contributed to the nurses' fear of not being respected because they could not understand the patients and their families. While good communication fostered teamwork, poor communication created a toxic and unhealthy work atmosphere, increasing the communication failures, with the potential for job frustration and impaired staff well-being (Brinkert 2010: 145).

Therefore, based on the findings, it can be concluded that job demands can predict depersonalization and emotional exhaustion due to increased workloads. Personal accomplishment, on the other hand, was not related to job demand factors. The focus of this study was to deepen the understanding of nurses' work assignment and psychosocial working conditions. This objective was achieved by qualitatively and quantitatively assessing the job demands and job resources as well as the balance between them, through work content analysis, to provide explanations of the current work strain of this group of nurses in the ICU. From the findings, it is evident that the JD-R Model proposes reversed causal effects whereas exhausted and fatigued employees may create more job demands over time for themselves. Such

increased job demands will influence employees' well-being and job frustrations leading to their wanting to leave the organization, resulting in a high staff turnover (Bakker and Demerouti 2007: 309).

### **7.2.3 Organisational demands**

Organisational demands represent the potential increase in the workload of the employees. Resources at work refer to those physical, psychological, social, or organisational influences of the job tasks that are functional in achieving work goals. Such resources enable a reduction in job demands and the associated physiological and psychological costs or stimulate personal growth and development (Bakker *et al.* 2004: 86). Therefore, job resources are essential for dealing with job demands (Demerouti and Bakker 2011: 9). The job resources can be found structurally in the organization, as well as on an interpersonal and individual level (Bakker and Demerouti 2007: 309). The JD-R theory, according to Bakker and Demerouti (2014: 37), explains how environmental working conditions can influence employees, and how employees actively influence the occupational climate. The researcher agrees that organisational life should be modelled on the various levels, such as the organisation, the team, and the individual levels, which can influence each other within and over a period. In this way, leaders can understand the stable and dynamic properties of occupational well-being among their employees and develop strategies to minimize and overcome these factors that affect well-being. Moreover, it is essential to model these cross-level interaction effects of organisation level initiatives, and leader and employee behaviours on teams and individual well-being and performance. Using this multilevel approach, it can be explained how managers and supervisors help employees to avoid job stress and enhance a sense of well-being and job performance (Carayon and Gurses 2005: 284).

It has been noted that high job demands are the precipitating factors for employee health-related concerns (Bakker, van Veldhoven and Xanthopoulou 2010: 16; Van den Broeck, Van Ruysseveldt, Vanbelle and De Witte 2013:

105). Strain and well-being are mediators, at least partly, of the relationship between high job demands and health problems, and low job resources and turnover intention, respectively (Schaufeli and Bakker 2004: 293). Feedback, control, supervisory support, rewards, role clarity, and participation have been advanced as important indicators of job resources in previous JD-R research (Bakker *et al.* 2003: 341; Demerouti *et al.* 2001: 499). The contextual approach applied has contributed to identifying organizational and working conditions that help to explain why psychosocial working conditions related to job demands and job resources vary. In addition, gender, age, and ICU experience seem to provide some explanation for variations in psychosocial working conditions and their consequences (Liljegren and Ekberg 2008: 10).

The most relevant findings, in this study, considering the aforementioned factors are highlighted in the following discussion. The more disadvantageous psychosocial working conditions were associated with health problems, low motivation, poor performance, and turnover, both in the quantitative and qualitative findings of the study. Therefore, nurses working in the various ICUs are a particularly exposed group as discussed in Chapters 5 and 6. Focussing on nurses' working conditions should be made a priority, since there is an imbalance of job demands and job resources in the ICUs as expressed by the participants. Their job demands were extremely high, and this affected their well-being (Demerouti and Bakker 2011: 9). Organisational support was one of the factors that participants expressed as relating to personnel resources in different ways, namely shortage of staff and supplies. From the findings in Chapters 5 and 6, it is evident that the shortage of nurses was more related to budgetary concerns, shortage of skills and competence in the various units of care. It was revealed that the ICUs were often short-staffed because of staff being on sick leave and the organisation's difficulty in recruiting staff and filling vacancies.

The reasons for nursing shortage are multifaceted in nature, which reflect the changes in population demographics, women's employment patterns, the healthcare system, and nursing work (Rosseter 2011: 125). The findings, as

presented in Chapters 5 and 6, indicate that it might be crucial that nurses in ICUs are provided with balanced working conditions to retain those who have already signed up and to attract new, young experienced nurses with the required skills. Projected shortages should be viewed in the context of expected increases in demand for ICU nurses (Rosseter 2011: 125). If hospitals can build the foundation by reducing the level of dissatisfaction, then their employees will be more satisfied and become empowered in the job environment (Lewis 2007: 901). Although this has been a difficult task, it is essential to focus on this new generation of nurses and secure the future availability of ICU nurses in the Military Hospital of Saudi Arabia. The nursing shortages will force organizations to re-evaluate its strategies and to determine how to retain nurses within the ICUs.

A study done by Gormley (2011: 33) found that the work environment influences staff motivation and behaviour. An imbalance between job demands and job resources is thus associated with undesired organizational and individual consequences, including ill health, unsatisfying service quality and goal achievement, poor motivation, and intention to leave the workplace, as well as intention to leave the profession (Demerouti and Bakker 2011: 9). On the other hand, the results demonstrate that a better balance between job demands and job resources is associated with desired organizational and individual consequences, including health, satisfying service quality and goal achievement, motivation, and intention to stay at the workplace as well as in the profession (Schaufeli and Taris 2014: 44). Thus, job demands and job resources, from various sources, can be combined in many ways, with a wide range of effects on sustainability. Organizations and jobs are created entities and, therefore, are possible to change, and the workplace is an arena in which preventive actions can be implemented.

Therefore, this study has primarily focused on making recommendations for organizational level interventions and on solving problems of relevance for a larger group of employees by, for example, job redesign. Hence, in line with the JD-R theory and the purpose of this thesis, two possible and combinable

routes focusing on work rather than individual factors, namely increasing the job resources and optimizing the job demands, indicate that organizations can use human resource practices to optimize the design of the jobs they offer (Bakker *et al.* 2014: 390). Human resource practices, such as performance development and skills training create an abundance of opportunity to overcome challenging job demands and help supplement job resources that fuel employee well-being and performance.

#### **7.2.4 Social demands**

Job demand elements consist of those factors such as time pressure and workload which reduces health and energy causing severe mental disorders over time and eventually resulting in low employee performance (Demerouti and Bakker 2011: 9). As perceived effort is significantly predicted by nurses' job demands in the findings in Chapter 5, their available job resources predict the meaning of work, it is important for health care management to carefully consider the possible impact of these factors at the workplace. From the specific outcomes of the study, increasing job resources may be effective to protect nurses' well-being, which may have a greater influence on decreasing those job demands that increase perceived effort (Aiken *et al.* 2002:288). Employees will start to invest more time to accomplish higher job demands, which severely affect their work-life balance. Initially, they tend to put their maximum physical and mental efforts to effectively manage occupational stress, which is a normal reaction even at the cost of their health and well-being. Work demands can be acute or chronic, and the consequences of high chronic stress levels from job demands are perceived through absenteeism, productivity drop, demotivation, interpersonal difficulties, different physical illnesses, depression, anxiety and unhappiness in the personal sphere (Bakker and Demerouti 2007: 309).

Some of the participants struggled, during the interview process, with this question, as many of the staff were foreigners and had no family living with them. They, however, expressed that the long working hours and lack of recreation after work or on their days off disrupted their work life balance.

Majority of the participants expressed that they had to stay positive, but their work-life balance was negatively influenced when they felt emotional dissonance, which in turn affected their work commitments as discussed in Chapter 6. The common factors expressed by the participants were personal factors that predicted the work-life balance, which was identified as having no energy after long working hours, minimum personal control and poor coping skills due to being overworked from the high work demands (Zangaro and Soeken 2007: 445).

Participants expressed their concerns about social factors that emanate from excessive occupational demands affect their family life. This contributes to work-family conflict, which can be expressed in a form of an inter-role conflict. The pressures of being a wife or a mother from the work factors and from family domains such expectations were expressed as mutually incompatible (Greenhaus and Beutell 1985: 77). Research has shown that nurses are particularly prone to work-family conflict (Grandey *et al.* 2005: 305). Given that, the work and family role systems represent the two most important domains of life for most people. This is evident in previous studies that have linked increased work-family conflict to decreased job satisfaction and performance, and organisational commitment and higher turnover intentions (Karatepe and Kilic 2015: 267; Shockley and Singla 2011: 861).

The findings from both the quantitative and qualitative phases of the study revealed that the participants were dissatisfied with long working hours. The findings indicated that there was conflict between social demands and work demands. Workplace responsibilities, such as inflexible working hours, work overload, interpersonal conflict at work and unsupportive supervisors in the organization interfered with family life. The findings from the quantitative and qualitative phases of the study, as reported in Chapters 5 and 6, indicate that the majority of the Saudi nurses expressed their dissatisfaction with long working hours as it affected their family life and conflicted with cultural expectations. Hours of work, non-standard work schedules such as weekend

work and night shifts which impinge on employees' ability to meet family-related demands were raised as concerns in the study findings.

Studies have shown that weekend work can result in higher levels of fatigue and stress, which can undermine individuals' ability to meet demands in the family domain (Fenwick and Tausig 2001: 1179; Gutek, Searle and Klepa 1991: 560; Milkie and Peltola 1999: 476; Voydanoff 1988: 749). Work hours and weekend work were used together with workload as indicators of work demands. According to the participants, the increase in the workload factors of the nursing profession affects all aspects of the nurses' living and lifestyle. Prioritizing their career over family life, due to the job and professional requirements, and impaired or altered personal life, were issues that were creating stress and ill-health for most of the participants. Majority of the participants were foreigners working in Saudi Arabia who care for their families financially. Being away from their families and working under stressful conditions added to their social demands. They were too tired, after work, to spend quality time with their families or to communicate with family and relatives.

Pressures at work and increase in their job requirements were not the only cause of not engaging with family responsibilities and activities, but sometimes they were also prevented from pursuing their personal interests and entertainment because of work exhaustion and fatigue after a long shift. Some of the participants remembered these conditions with the words of 'removing yourself from no social life'. Yaghoobian and Parhizgar (2002: 20) and Abdi and Shahbazi (2001: 58) reported that divorce and family disputes and conflicts are prevalent in occupations, such as nursing, which have shift work or high workload demands. Participants, with family responsibilities and school-going children, expressed that shift work, night shift and weekend shifts, disrupt family life.

The focus of the study is examining how job demands and job resources affect social demands and, whether job resources reduce the effects of job demands. The way in which job demands and resources produce conflict, and

the increase in the social demands depend on individual family circumstances, gender, and a partner's engagement. Studies show that the variation by family circumstance is smaller than one might expect, certainly smaller than variation by job characteristics (Byron 2005:169 and Gallie and Russell 2009: 445). However, these factors should not be dismissed, as the importance of family circumstances may depend on which type of social demand. There are different types of social demands. Demands are aspects of various job expectations, which is associated with sustained physical and or mental effort (Bakker and Geurts 2001: 345). Time-based job demands can affect social demands, family, and lifestyle by limiting the time available for non-job-related purposes (Voydanoff 2004: 399). Time-based demands are most consequential for family time whilst strain-based demands are most important for social demands such as lifestyle factors (Greenhaus and Beutel 198; Steiber 2009; Voydanoff 2004). Domain spanning demands is related to commuting or taking extra work home which can affect the interface between work and family domains and thus play a key role in shaping work-life balance (Voydanoff 2005: 822). Job pressure and long working hours have mutually reinforcing effects on social demands for both women and men working in the ICUs. However, the JD-R model also asserts that job resources may moderate the effects of job demands. Although some studies have provided support for this buffer, others fail to show a clear pattern of effects on the social demands of the model. (Bakker and Demerouti 2007: 310).

### **7.3 SECTION B: DISCUSSION OF RESULTS BASED ON THE OBJECTIVES THAT GUIDED THE STUDY**

The discussion of results in this section is focussed on the three objectives that the researcher identified at the beginning of the study towards achieving the aim of the study. These objectives were to:

- Determine the workload factors that influence ICU nurses' well-being in a Saudi Arabian Hospital.
- Explore nurses' experiences regarding workload factors in a Saudi Arabian Hospital.

- Develop a comprehensive healthcare managerial framework that explicates the manner in which workload factors influence the nurses' well-being.

### **7.3.1 Objective 1: Workload factors that influence ICU nurses' well-being in a Saudi Arabian Hospital**

In order to gain insight into the workload factors that influence ICU nurses' well-being, the researcher interviewed nurses, within the international and national realm of nursing staff, who are involved in the facilitation and delivery of direct patient care within the critical care environment. The interviews afforded the researcher a perspective of clinical nursing practice in the ICU environment and the perceived workload factors that influence the nurses' well-being, within their units.

The findings of the study revealed that the ICU nurses perceived the shortage of staff as the key factor that affected their well-being. It was revealed that one nurse was caring for an average of two (1:2) to three (1:3) patients when the standard ratio in this organisation is one nurse to one ventilated patient (1:1) and one nurse to two non-ventilated patients (1:2). These ratios are do not in comply with the Hospital Nurse-Patient Policy and standards, according to the Joint Commission requirement for staffing acuities (JCI 2016: 155). It should be noted that the hospital under study had achieved Joint Commission Accreditation in 2017 and the guidelines followed are based on their recommendation to sustain the accreditation regarding standards of patient safety and care.

Similar challenges were reported in a study that determined factors that influenced the job satisfaction of nurses in Saudi Arabia. Findings revealed that factors such as the lack of educational opportunities, poor image of the nursing profession, perceptions of favouritism, high workloads and stressful work environment and the effect of religion on job satisfaction contributed to demotivated staff and played a huge role in decreased staff morale (Alotaibi

*et al.* 2015: 24). These findings concur with the current study, where workload factors such as exhaustion, fatigue, burnout, long working hours, lack of support from management, and communication challenges were verbalised by participants. The consensus amongst participants, in this study, was that the increased demands on the workload, which directly influenced their well-being, were due to the diverse environment of mixed nationality and language issues. The other factor was a shortage of staff that many of the participants' identified as a key contributor to their emotional exhaustion and fatigue, which indirectly affected their family work-life balance (Gurses and Carayon 2007: 185).

A similar study conducted in Iran also identified the most important factors affecting the nursing workload (Gaba and Lee 1990: 354). The study also noted that assessing the workload of the healthcare providers is necessary because many stressors may affect the management of the high volume of their work. In addition, the high volume of their regulatory tasks and obligations make it difficult to identify and respond to the emergencies in the critical care units. The present study was conducted on the nurses working in the ICUs of the general hospitals. The ICU nurses are regularly confronted with the most severe emotional issues and problems and make important decisions regarding the patients' lives, and continuously meet the demands of patients and their relatives. Therefore, they are confronted with a heavy and demanding workload which is one of the most important factors influencing their stress levels (Carayon and Gurses 2005: 284). This fact doubles the necessity of paying attention to the workload of ICU nurses from a global perspective. Gurses and Carayon (2007: 185) also report that workplace conditions, resources, and the relationship and communication between employer and employees are mitigating factors that influence a nurse's self-efficacy and the way he/she executes his/her workload in the ICU (Gurses and Carayon 2007: 185).

Overall, the results of the present study and other studies cited show that the nurses' workload is influenced by many factors such as staffing shortage, long

working hours, security concerns and language barriers. These factors, which are closely associated with the nurses' working conditions and duties, can prevent or facilitate their performance positively or negatively. On the other hand, the consequences of high workload such as nurses' non-compliance with care guidelines and inadequate patient monitoring can lower the quality of patient care and thereby increase patients' and relatives' level of dissatisfaction (Lu *et al.* 2005:211). However, it was also noted from the participants' responses that clearly stated responsibilities, roles, and functions of nurses together with training and education rendered them skilled and competent in providing care, management, and support to their patients. Participants also added that adequate resources such as staffing, and supplies played a vital role in decreasing the nurses' workload and boosting staff morale. Findings from the current study, as presented in Chapters 5 and 6, also indicate that the management should address concerns pertaining to staffing and resources by reducing staff turnover and improving staff well-being to sustain a healthy working environment.

### **7.3.2 Objective 2: Explore nurses' experiences regarding workload factors in a Saudi Arabian Hospital**

Nurses' experiences regarding workload factors, within the Saudi Arabian Hospital context, were explored through interviews and questionnaires. The findings, from the survey and interviews, revealed that the participants' workload factors affected their well-being. The ICU nurses, in this study, indicated that the shortage of staff and increase in the workload demands were compounded by long working hours and family pressures which contributed to their emotional, physical and psychological exhaustion. These effects on their well-being had negative implications for their families, social lives and their workplace productivity (Bagheri *et al.* 2012: 190).

A Saudi Arabian study by Abu-Zinadah (2006: 125) revealed that the current Saudi Arabian registered nurses (RNs) workforce is 60% female and that married female RNs who have or are having children while working 12 hour

shifts are the most likely to leave their clinical positions, which significantly contributes to the shortage of nurses. Therefore, addressing the issues of staff shortages and the resultant workload demands and long working hours of ICU nurses, in this study will assist in the development of a deeper understanding of nurses' turnover in Saudi Arabia.

Poor management and organisational skills of the nurse manager, such as setting of unrealistic work schedules and staff allocation provoked employee workload stress and led to disgruntled or unhappy staff. In this study, participants with complex family situations or chronic conditions also experienced difficulties in organising shift schedules to accommodate their specific circumstances as this affected their work-life balance and, in some cases, affected their relationship with partners. While shift scheduling was not the focus of this study, Khammar *et al.* (2017: 595) notes that the consequence of inflexible work scheduling influenced the satisfaction and productivity levels of nurses. Therefore, this emphasises the advantages of flexible shift scheduling which aids in nurse retention. The same study reported that there was a direct relationship between shift work, occupational stress, and job satisfaction among nurses who worked shifts.

In another study in Kingdom of Saudi Arabia (KSA), the effects of job stress on physical and mental health of nurses, working within Ministry of Health hospitals in the Qassim region in KSA, were explored. The findings revealed that the most common type of work-related stress for nurses was job pressure followed by poor rapport with managers (Al Hosis 2009: 193). It was further reported that nearly half of the nurses who participated in this study suffered from physical and mental illnesses due to work-related stress (Mersal 2002:22). Results of the studies cited above support the findings of the current study on work-related stress which are statistically significant.

The Saudi Arabian government currently relies on expatriates from over 40 countries to provide 80 percent of the nursing workforce needed for its rapidly growing population (Alhusni *et al.* 2017: 2). The high turnover rate of

expatriate staff creates instability within the nursing workforce (Health 2007a), and the Saudi healthcare system is facing significant challenges in attempting to address the shortage of local nurses and retaining the highly skilled expatriates. Consequently, the nursing sector has significantly engaged in Saudization, a government-driven process designed to replace the expatriate workforce with a Saudi national workforce. Whilst most of participants in this study are expatriates, and although they had similar perceptions of workload factors, such as shortage of staff and high turnover of staff in the ICUs, it is evident from the findings that their diverse cultures created some conflict in the work place, contributing to staff emotional physical and psychological exhaustion and fatigue.

Participants indicated that they are aware and fearful that the implementation of Saudisation programs would lead to the loss of their employment, and some participants attributed their difficult professional relationships with some nurses and doctors, within the ICU, to such fears (Tumulty 2001: 285). The findings of both the quantitative and qualitative phases, indicate that participants experience considerable workplace conflict as threatening professional and collegial relationships which hamper their ability to function optimally, emotionally, physically and psychologically (Roscigno *et al.* 2009: 747).

The importance of sharing and understanding patients' cultural values and religious beliefs was frequently emphasised by participants as a contributing factor to their well-being in the critical care units. Participants believe that understanding a patient's culture and religion is an important element in effective patient care, especially in the Saudi Arabian society where most people are influenced by Islamic beliefs and cultural values that extend to influence patients' expectations of health care. Many participants perceived their patients' level of experienced comfort was related to the sense of belonging and the social attachment consequent to their sharing of culture and religion. as discussed in Chapters 5 and 6, in the presentation of the findings.

Participants felt responsible to protect and advocate for patient rights in ways that were fully respectful of patients' religious values and demands for personal privacy. Many participants believed that desired quality of patient care could not be achieved unless the nurses' understanding of a patient's needs included these aspects of care. Participants felt that patients and their families were very abusive and demanding and there was a lack of security within this workplace. Such insecurity and abuse created a sense of fear amongst nurses which provoked them to leave their jobs and return to their countries. It was also evident from the findings that many workplace structures and policies, as perceived by participants are designed to fit the needs of the Saudi culture and practices and not accommodate other nationalities. These regulations make it difficult for non-Saudi nurses to accommodate the working conditions, such as working hours, annual leave, and recognition of religious holidays, maternity leave and breast-feeding hours (Banakhar 2018:277).

There is a significant need to conduct further studies of work-life integration in different health settings in Saudi Arabia, which is experiencing similar chronic shortages of local and expatriate health care professionals, although these shortages are occurring in very different cultural and social circumstances. To date, while some literature sources document the attrition and retention rates within the Saudi nursing workforce, Aldossary (2008: 125), there are minimal Saudi Arabian studies that specifically explore the clinical nurses' intentions to remain or leave the workforce. Therefore, the reasons for the increasing turnover behaviour of nurses in Saudi Arabia remain largely unknown.

The findings in this study indicate that, despite the workload challenges, nurses in the ICUs were tolerant of their working conditions. However, this study has uncovered a significant need for the organisation to utilise these workload factors to reformulate retention policies and practices. Consideration should be given to the ICU nurses' needs to enable them to continue working in a healthy working environment. This could be achieved by developing a

managerial framework that explicates workload factors that are influencing the nurses' well-being.

### **7.3.3 Objective 3: Develop a comprehensive healthcare managerial framework that explicates the manner in which workload factors influence the nurses' well-being.**

The research objective is to develop a strategic well-being management framework, from a middle and upper management perspective, focusing on workload factors' influence on nurses' well-being in a critical care environment. The framework will focus specifically on understanding the middle managers' conceptualization of workload and well-being, as perceived by the ICU nurses, from a strategic perspective. The managerial framework was developed from the findings of the study related to workload and ICU nurses' well-being and aligned with the JD-R theory.

The result of the analysis is a description of how nurses perceived the concepts, workload as well as their well-being, from a physical, social, emotional, and psychological perspective. The framework will serve as a guideline to the management team to formulate strategies, based on the findings of the study and to implement the recommendations, emanating from this study, to improve the physical, social, emotional and psychological factors influencing the well-being of the ICU nurses. The model includes both the content of the issues that should be addressed for a healthy workplace, grouped into antecedents and consequences, and the process, one of continual improvement that will ensure success and sustainability of healthy workplace initiatives. The framework will include the various workload factors that affect the nurses' well-being as revealed in the findings, with a description and explanation of what the model aims to represent and how it works. According to Ulrich *et al.* (2010: 363), creating a healthy workplace where nurses and managers collaborate and use a continual improvement process to protect and promote the health, safety and well-being of nurses and the sustainability of the workplace can assist in the retention of staff.

According to the WHO, creating a healthy workplace that does no harm to the mental or physical health, safety or well-being of workers is a moral imperative by strengthening the organisation's capabilities to anticipate, identify, evaluate and control or eliminate risks and dangers in the workplace (WHO 2004: 150). The managerial framework aims to update workers' health legislation and regulations related to internal policies, and the establishment of programmes designed to improve the quality of the work environment. Fostering such programmes for health promotion and disease prevention in occupational health will encourage better health services for the nurses within this critical care environment. This study reveals several ways in which workload factors affect ICU nurses' health and well-being. The researcher believes that these factors can be mitigated, depending on how the organisation and its leadership integrates its human resource practices into the managerial framework, developed from the findings of this study. This link between the effect of workload factors on the ICU nurses' well-being, and human resource practices and worker outcomes, has been poorly investigated in Saudi Arabia. However, the current study's findings significantly nuance this.

#### **7.4 SUMMARY OF CHAPTER**

In this section, the study findings were discussed in relation to the theoretical model and the objectives of the study. Findings verify that a healthy nursing workforce is only conceivable when the healthcare managers and leaders protect and retain their competent nurses, and when there is a dual responsibility for a sustainable workforce within the organisation. The objectives of the study were also discussed in detail and the relevant literature sources were cited to support the findings and discussion. The managerial framework with recommendations and implementation strategies is presented in Chapter 8 .

## **CHAPTER 8: DEVELOPMENT OF A COMPREHENSIVE HEALTHCARE MANAGERIAL FRAMEWORK**

### **8.1 INTRODUCTION**

This chapter will focus on the development of a comprehensive healthcare managerial framework, based on the findings of the study with the aim of making recommendations related to work-related factors and well-being amongst ICU nurses. Some of the elements that will form part of the managerial framework include staff shortages, uneven distribution of staff, gaps in skills and competencies, low retention and reduced motivation, and other job demand resource challenges.

### **8.2 OVERVIEW OF WORKLOAD FACTORS**

Healthcare professionals throughout the developed world report higher levels of sickness, absence, dissatisfaction, distress, and burnout at work than staff in other sectors (Stone *et al.* 2007: 50). A healthy workplace or environment is where employees and managers or supervisors collaborate to adopt a continuous improvement process to protect and promote the health, safety and well-being of workers and the sustainability of the workplace (WHO 2015: 354). Creating a healthy workplace that causes no harm to the mental or physical health, safety or well-being of workers is a moral imperative for all managers. Definitions of a healthy workplace have significantly evolved over the past several decades. They vary from an almost exclusive focus on physical work environments, the realm of traditional occupational health and safety practices, to dealing with physical, chemical, biological and ergonomic hazards such as lifting and handling (Burton 2010: 120). The definition has broadened to include health practices and factors of lifestyle, psychosocial factors, work organisations and workplace culture, all of which have a profound effect on employee health in the work environment. Healthy employees contribute to high productivity and success of the organisation,

which leads to economic prosperity in the country, and individual social well-being of workers. Looking after the health and well-being of nurses is paramount for effective output related to work productivity and job satisfaction. Investing in employee's health and well-being, not only delivers benefits for the organisation, but also for the patients in the care of health practitioners, namely nurses (Sergeant and Laws-Chapman 2012:14).

This study explored the various workload factors, that were ranked according to importance globally, as well as in Saudi Arabia. A mixed-methods research design, using a survey questionnaire and semi-structured interview to collect data. These factors were divided into three main areas as follows:

- Intrapersonal factors including age, years of experience and educational preparation.
- Interpersonal factors involving autonomy, direct patient care, professional relationships, and leadership.
- Extra personal factors consisting of organisational policies related to salaries and work conditions, educational opportunities, and physical work environments.

It was integral for the researcher to assess the quality of work-life of the participants and understand their organisational career intentions, which may have contributed to the improvement of the ICU nurses' work satisfaction and productivity. The researcher envisaged these findings to subsequently impact on the health and well-being of the nurses. In view of these factors from the study findings, the researcher explored all the elements from data analysis to formulate a comprehensive managerial framework that explicates the various workload factors that influenced the well-being of nurses within the critical care units. This managerial framework was developed from the study findings. It will be used by the executive managers as a guide to implement processes and systems to alleviate such workloads and improve the well-being of ICU nurses within this organisation. The structure and content of the nurses' workload has a wide range and extends beyond a predetermined framework. Therefore, many factors affect the workload of nurses and different methods

could be used to measure them. In the present study, the factors which were significant, according to the results from the data analysis, will be presented as part of the managerial framework for this organisation.

The framework will focus on the ICU environment to encourage and enable staff to lead healthy lives and make healthy choices that support positive well-being. The two factors that constitute the framework are:

- Organisational enablers which are essential to leadership. They are the structural and cultural building blocks such as leadership and management, data and communication and healthy working environments that improve staff health and well-being.
- Health interventions that concentrate on the core health areas that focus on staff support.

The framework can be utilised as an interactive tool that will set out clear actionable steps and will provide guidelines on how healthcare organisations can plan and deliver a staff health and well-being plan effectively and efficiently. The following will discuss the development of the managerial framework to improve well-being of ICU nurses.

### **8.3 PROCESS USED TO DEVELOP THE COMPREHENSIVE MANAGERIAL FRAMEWORK GUIDELINES**

The information that has been presented thus far is related to the first three objectives of the study which are to:

- Determine the workload factors that influence ICU nurses' well-being in a Saudi Arabian Hospital.
- Explore nurses' experiences regarding workload factors in a Saudi Arabian Hospital.
- Develop a comprehensive healthcare managerial framework that explicates the way in which workload factors influence the nurses' well-being.

The study's findings, in relation to the objectives and the conceptual model that was used in the study, highlighted the concepts to be included in the development of the managerial framework that explicates the workload factors and its influence on ICU nurses' well-being. The guidelines were formulated in relation to the seven (7) major themes that emerged from the data analysis of the participants' responses in the qualitative and quantitative data collection processes (Tables 5.4). The proposed workload antecedents with specific factors will be integrated into the framework as social, physical, emotional and psychological elements and is depicted in Tables 8.1 and 8.2.

**Table 8.1: Workload antecedents with specific factors**

<b>WORKLOAD ANTECEDENTS</b>	<b>PARTICIPANTS' PERCEPTIONS</b>	<b>SPECIFIC FACTORS</b>
<b>Work overload.</b>	<b>Inadequate staffing. Inadequate supplies. Cultural barriers. Lack of skills. High turnover of nurses. High occupancy and shortage of beds. High turnover of patients.</b>	<b>Work hours/schedule. Long working hours. Shortage of ICU beds. Imbalance in patient acuity. Imbalance in nurse patient ratios.</b>
<b>Lack of control.</b>	<b>Lack of involvement in decision making. Teamwork low. Supervisory support. Lack of respect for nurses by doctors.</b>	<b>Job functions defined by non-nurses. No teamwork/conflict. No employee well-being programme. Lack of "voice" on policies affecting direct patient care.</b>
<b>Insufficient reward. No career development.</b>	<b>Lack of recognition. Lack of positive feedback for improvement. No career development opportunities.</b>	<b>Inadequate salary. Lack of opportunities for advancement.</b>
<b>Patient demands. Community demands. Diverse culture. Communication barriers.</b>	<b>Inter-personal relationships/conflicts Lack of support from leadership and administration High demands from patients' family. Lack of respect for expatriate nurses.</b>	<b>Difficulties with interactions with physicians. Non supportive relationships with peers. Challenges in patient communication.</b>
<b>Security in adequate. Verbal and physical abuse to nurses by community.</b>	<b>Lack of safety and security in the ICUs. Verbal and physical abuse by patients and families. Community refuse to follow visiting policy. Security not firm with the control of visitors.</b>	<b>Physical abuse by the community demanding access into ICU. Cultural challenges with extended families. More support from management for safety of nurses in the ICU.</b>

#### **8.4 MANIFESTATIONS OF WORKLOAD ON NURSES' WELL-BEING**

There is an increasing emphasis on the working environment of nurses because of its potential to retain skilled nurses and ensure positive patient and staff outcomes. In the United States of America (USA), a few years ago, many hospitals were labelled *Magnet* institutions, good places for nurses to work. Nurses in these organisations were recognised as central to the hospital and because of this philosophy, had higher job satisfaction and retention rates (Kramer and Schmalenberg 1991: 50). A more recent study also found that attractive organisational characteristics are key factors in nurse retention and employee well-being. An increased workload and having to leave basic nursing tasks undone were also found to be fundamental to nurses' levels of job satisfaction and retention rates (Aiken *et al.* 2001: 43). A collegial working environment, opportunities for nurse education, a richer skill mix and continuity of care have also been linked to healthy working environment and healthy staff (Baumann, O'Brien-Pallas *et al.* 2001: 14; Estabrooks *et al.* 2005: 74).

Nurses' job satisfaction is affected by the perception of control over their work (Laschinger *et al.* 2004: 527). The findings of this study indicate that nursing workload can be impacted by many factors, such as the number of case types referred to as disease-related groups that nurses have to care for, the degree of patient turnover and the movement of patients between and within wards, impacting on high turnover of patients in the ICUs (Duffield *et al.* 2004: 664). The increased throughput of patients and their length of stay and acuity with the staff shortages also manifests in the workload, influencing the well-being of nurses. In Table 8.2, the dimensions of the workload and the relevant manifestations will be used to guide the framework for implementation. The aim is to improve ICU nurses' well-being by decreasing the identified workload factors from the quantitative and qualitative results of the study.

**Table 8.2: Manifestations of workload on nurses' well-being**

Dimension	Manifestation
<b>Physical</b>	Exhaustion, lack of energy. Musculoskeletal symptoms. Hypertension stress related. Cardiovascular conditions. Accidental injuries. Headaches. Insomnia/sleep disturbances. Changes in appetite. Lack of self-care.
<b>Psychological</b>	Anger. Depression. Anxiety. Frustration. Guilt. Cynicism. Tension, irritability. Mood swings, outbursts of temper. Sadness/homesick. Withdrawn, numb feeling. Emotional detachment. Decreased coping abilities. Inability to concentrate. Lack of drive or initiative. Loss of idealism. Dissatisfaction with personal accomplishments.
<b>Interpersonal/ Social</b>	Inability to communicate with family, friends, and colleagues. Cynicism, suspiciousness toward co-workers and others in work environment. Lack of trust in the team. Neglect of family and social obligations. Marital dysfunction. Questioning of spiritual beliefs.

## **8.5 APPLICATION OF THE CONCEPTUAL MODEL TO THE DEVELOPMENT OF MANAGERIAL FRAMEWORK GUIDELINES**

Grove, Burns and Gray (2013: 41) state that a conceptual framework provides a rationale and structure that guides the development of the study. It also forms an understanding on which the study is based, enabling the researcher to link the findings of the study to the body of knowledge and conceptualise this in practice. It is also made up of propositions, sets of concepts and statements integrated into a meaningful configuration. Therefore, the initial step in the development of guidelines, in the current study, was the consideration of the conceptual framework as outlined in Chapter 2. All the concepts in the framework were applied and adhered to, in order to provide structure to each guideline.

The conceptual framework of the JD-R Model, as discussed in Chapter 2 of the current study, and its concepts allowed for the proposed managerial framework to be formulated. It allowed for a synthesis of best practices that could assist all leaders involved in the implementation process. Bakker and Demerouti's (2007: 309) JD-R Model guided the formulation of framework elements from the data analysis and the findings according to the identified major themes.

## **8.6 PURPOSE OF THE MANAGERIAL FRAMEWORK GUIDELINES FOR NURSES WELL-BEING**

A healthy work environment for nurses is complex and multidimensional, comprised of numerous components and relationships among the components. A comprehensive managerial framework is needed to guide the development, implementation, and evaluation of a systematic approach to enhancing the work environment of nurses with the aim of improving their well-being. Healthy work environments for nurses are defined as practice settings that maximise the health and well-being of the nurse, quality patient and client outcomes, organisational performance, and societal outcomes. The Comprehensive Framework that explicates workload and well-being for ICU

nurses presents the healthy workplace as a product of the interdependence among individual, organisational, and external system determinants and manifestations as shown in Table 8.2. In this plan, the various factors comprising three major domains: organisational characteristics, individual characteristics, and working conditions, that characterise or affect the nurses' workload and well-being are thus conceptualised as driving the overarching constructs that is referred to as quality of work life. This is broadly expressed as the sum of perceptions ICU nurses have about their experience at work, related to workload. Three constructs are conceptualised that help to define the ICU working environment, namely organisational climate, job characteristics, and work environment (Aiken, Clarke and Sloane 2002: 187). The framework within the JD-R Model will indicate the synergistic interactions among all levels and components from the findings. Due to the complexity involved in reviewing all the working conditions regarding health outcomes in nursing, a decision was made to limit this framework to a specific sub-construct of working conditions within the ICUs, namely organisational climate, and nurse-level perceptions of job characteristics, including staffing, scheduling, decision making, and interpersonal relationships, which emanated from the findings of the qualitative and quantitative phases of the analysis.

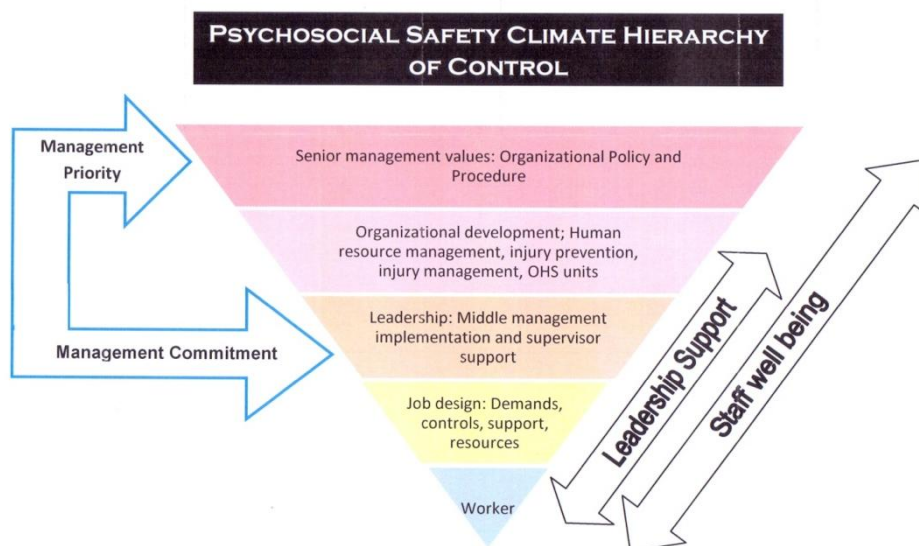
To safeguard nurses' physical and mental well-being, managers should endeavour to create a workplace that is free from work-related injury. If this issue is taken seriously within health care organisations, employee health and well-being is more than just the avoidance of workplace injuries. Although there is no unified definition or association of employee health and well-being, according to International Labour Organisation (ILO), workplace well-being is related to all aspects of working-life issues, from the standards to the quality and the safety of the physical environment structure, to how nurses feel about their work demands, their working environment, the climate at work and work organisation. This supports the concepts that employee health and well-being is a holistic concept, with physical, emotional, intellectual, and social dimensions. The following framework illustrates this broader concept which was adapted from the theoretical framework of the study.

## 8.7 THE OUTLINE OF MANAGERIAL FRAMEWORK MODEL FOR IMPLEMENTATION

The framework will focus on health promotion and sustainable leadership which will be presented as two aspects:

- The selected key elements for health and sustainability.
- Re- engineering of the sustainable managerial work systems applied to the workload and well-being model.

The elements of the framework will illustrate only the overall association with the crafting of healthy and sustainable working conditions. Moreover, managers' work and organisation key to bridging and handling the multiple components of workload factors and resource conditions for individuals and groups of nurses over and within system levels. Systems approach on its own may not be adequate to build leadership intervention programs for well-being, as it may not acknowledge the positive effect of nurses' job satisfaction factors.



**Figure 8.2: Managerial framework for ICU nurses adapted for the study as guide for management implementation**

The objectives of this managerial framework for employee health and well-being for ICU nurses are to:

- Ensure that employees recognise the value the organisation places on their health and well-being.
- Support and maintain a safe and healthy working environment.
- Improve the physical and mental well-being of the workforce.
- Encourage and support employees to develop and maintain a healthy lifestyle.
- Support employees with health conditions to remain at work.
- Remove barriers that prevent employees with health conditions or impairments from achieving their potential.
- Improve employees' morale and focus on emotional support.

Therefore, a practical perspective on managerial work and organisation will be applied within the managerial framework which will enable an understanding of the complex social practices of sustainable managerial work. Building a diverse capacity for sustainable conditions means developing resources that can contribute to an organisational capacity to deal with organisational demands. These resources include creating good working conditions and a learning climate, systematic health and occupational safety management practices, integration of important values and norms into the daily management, and effective communication that supports operational improvements. Coordination and the building of trust between individuals and staff is equally important across all organisational levels. The individual's perspective in this context relates to the support of individual crafting of resources and demands. This means supporting the development of individual's handling strategies for work and recovery, supporting their adaptation of demands, and optimising individual resources to fit the individual's capability and ambition.

## **Management Priority**

Priorities management is the practice of focusing time and resources towards work, projects, and tasks that impact high-value projects, accounts, and long-term goals. A growing demand for services and expensive innovative technologies is threatening the sustainability of healthcare systems worldwide. Decision makers in this environment struggle to set priorities appropriately, particularly because they lack consensus about which values should guide their decisions, this is because there is no agreement on best practices in priority setting. The framework in Figure 8.2 allows managers to set such priorities based on the findings from the current study to implement within this organisation. Successful management relies on leadership. Leadership, whether it is nursing, medical or healthcare leadership, is about knowing how to make visions become reality.

However, the challenges to this are constantly evolving in the rapidly changing world, and thus health care professionals are constantly facing the certainty to re-evaluate the priorities and establish new-ones. It is essential that management prioritize and establish the best approach to ensure patients are treated with dignity and respect; where systems are designed for the benefit of individual needs; and where the work performed by nurses and other providers is valued and respected (Ahrens 2005:36). In order for patients to receive this highest quality care, nurse managers must place a priority on staff satisfaction as well as professional growth and quality care. This all must be done while maintaining fiscal responsibility to ensure long term sustainability.

## **Management Commitment**

Management commitment to the employee's impacts on organisation outcomes, efficient operations, turnover rates, and productivity (Arnolds and Boshoff, 2004:13). Gaining the commitment of the entire workforce is arguably more significant today than in the past. Change urges management to make

internal adjustments that inherently encourage people to respond. The response of management requirement is for employees to dedicate their physical and mental energies for the benefit of the organisation. However, management values and prioritised actions contained within their theory of action may influence employee motivation and commitment to the organisation. The framework as illustrated in Figure 8.2, developed from the study findings will guide managers on how to commit to alleviating workload factors within the various ICUs and create a positive work environment in relation to nurses' wellbeing. The current study primarily focussed on the development of a comprehensive framework that explicates the workload and nurses wellbeing. The emphasis of the work is on psychological processes or forces which affect work motivation.

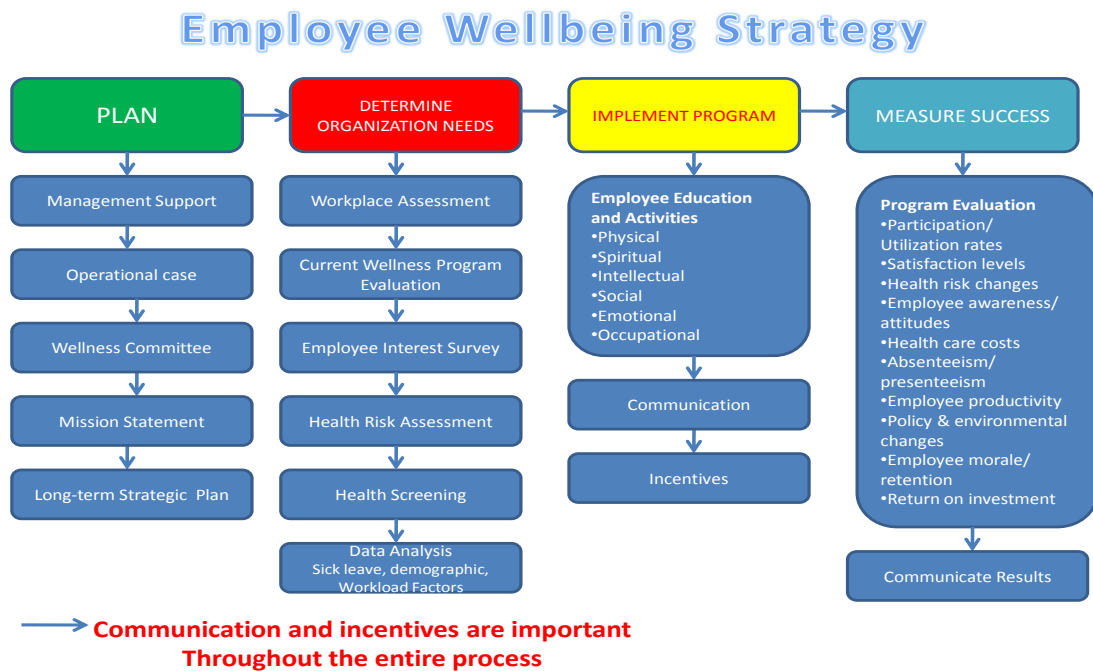
Particular emphasis needs to be given to ICU nurses perceptions of cognitive environmental cues stemming from management actions and values. The focus is for managers to concentrate on identifying workload factors associated with the internal environment and wellbeing of the workplace rather than situational factors associated with external factors and more emphasises on wellbeing (Greenglass and Burke, 2000:390). Nurses require strong leadership and commitment at every level of the health care system hierarchy, including direct supervision of nursing practice at the bedside (Bennett et.al 2001:63) To achieve a goal of the safest possible health care system, all leaders and practitioners must have a clear understanding of their individual and collective responsibilities to provide resources and shape the structures and values by which the system operates. It is now time to move forward in evaluating strategies and workplace interventions aimed at improving nurses' health and well-being.

## **8.8 RECOMENDATIONS FOR A HEALTH AND WELL-BEING INTERVENTIONAL STRATEGY FOR ICU NURSES**

This interventional strategy sets out the key messages for health care managers to meet the needs of nurses-regarding their health and well-being. It will lay the foundation for management's contribution to improved and seamless support of the health and well-being of ICU nurses. This strategy is a guide to enable nurses to work collaboratively with all key professionals and stakeholders. Such collaboration will facilitate the delivery of improved QoL and health outcomes for both the nurses and the patients under their care.

The aim of this strategy is to focus on the ICU nurses' and general practice nurses' contribution to workplace standards. However, the principles can be transferable to other professionals or members of the multidisciplinary teams within the organisational setting. The interventional strategy will build on good practice and evidence, drawn from a range of professional and partners including, allied health professionals, doctors, social workers, practice nurses and managers. Executive and middle management providers will be at different points of development and can use the strategy to benchmark their current position and to drive improvements from the findings of the study.

The interventional strategy outlines the factors and the challenges ICU nurses perceived as workload and opportunities for well-being improvements in support that can be achieved through an integrated approach. Nurses expressed their experiences in diminished quality of their work, their personal life and poor health outcomes. This strategy will guide management in overcoming these challenges and contributing to improvement of working conditions within the organisation. The proposed actions outlined in this strategy will require the skills, knowledge, and leadership of all managers and leaders and allow input from professional individuals, groups, partner organisations and stakeholders. The strategic framework aims at supporting and enhancing support for nurses with their experiences of workload factors which affect their well-being.



**Figure 8.3: Employee Well-being Strategy adapted from the findings of the study**

Employee well-being can be attained by ensuring the best possible support for them by addressing service challenges and identifying solution- focussed approaches. Service configuration with delivery and resourcing needs to be supported through local partnerships with health, social care, and voluntary organisations. Governmental officials and human resource managers also play an important role in the adoption of the strategic principles.

This interventional strategy is a guide that can be adapted to ensure the needs of nurses are considered and to allow professionals to build relationships and work together to develop an understanding of each other's roles and responsibilities .This will help to ensure the early identification of support strategies and interventions for nurses' well-being. The use of a partnership pathway will provide support effectively, and deliver and provide solutions to address departmental challenges including:

- Providing strategic leadership by developing unit- based ownership and strategic support systems to ensure there is clear understanding of the impact of a caring role on nurses' health and well-being.
- Improving partnerships by building strong, positive interdepartmental relationships. Ensuring that there are formalised liaison and referral processes that provide seamless support and develop closer working relationships with wider partners, including support services, adult social care and security.
- Supporting the workforce and developing joint training and peer support in all critical care areas.
- Maximising resources by promoting best practice to support delivery and improved working relationships between professions, mainly nurses and doctors.
- Enhancing improved communication by developing local processes to improve transfer and sharing of information between health and social care and support.
- Standardisation of the procedures within professional boundaries whilst maintaining confidentiality and sharing information appropriately between health and social services to support carers' needs.
- Supporting seamless access by providing clarity of roles, responsibilities, and referral systems to ensure a continuum of support as nurses needs change.

## **8.9 BENEFITS OF THE COMPREHENSIVE WELL-BEING STRATEGIC PROGRAM**

It is a renowned fact that people are an organisation's most valuable asset. However, there is still some lethargy towards the well-being of staff, with the subject often pushed aside in favour of what is perceived to be more pressing issues. The value of a successful employee well-being program is appreciated, from its inception right through to implementation and evaluation. A large percentage of a nurse's life is spent at work; hence, many health problems experienced by nurses are triggered in their workplace. This

includes work-related stress, the direct result of mental and emotional, physical, and psychological pressure, which can seriously affect a person's general well-being. By developing a health and well-being strategy, rather than just a collection of benefits, management can ensure that what employees are offered, helps support the company's wider business objectives. Figure 8.4 lists some of the benefits to the employee and to the organisations.

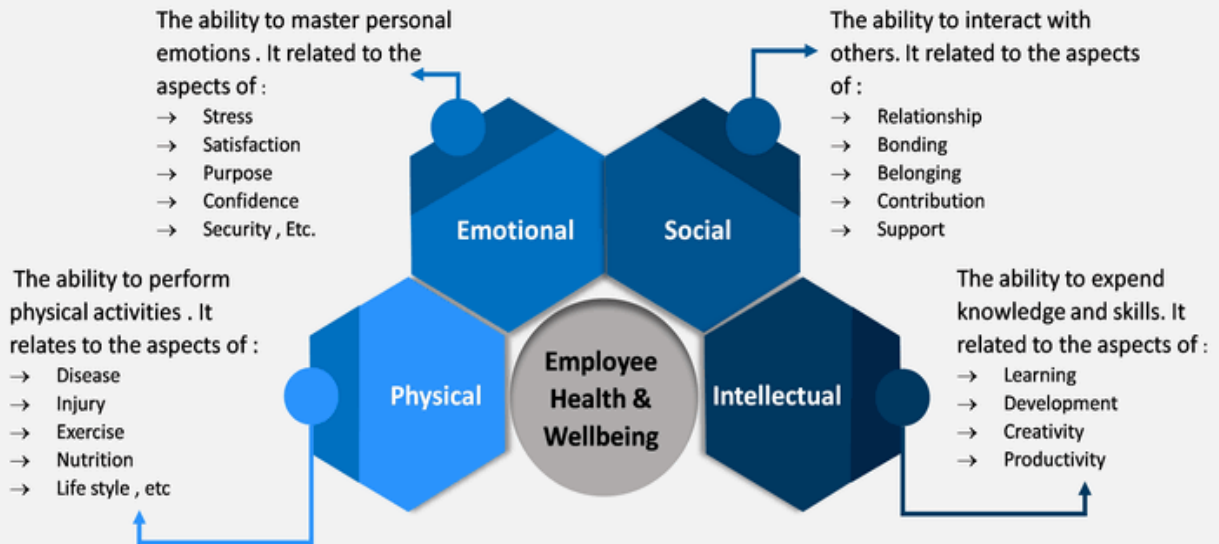


**Figure 8.4: Benefits of a well-being programme**

Participants indicated that there is a need for such well-being program. Their perceptions of the workload factors, expressed during the interviews and in the questionnaires, guided the researcher to formulate the managerial framework that supports the well-being programme. To encompass what employees want and value, it is essential for organizations to treat them well, boost their social capital, and project an attractive employment brand.

# EMPLOYEE WELLBEING / WORKPLACE WELLBEING

## Employee Health & Wellbeing



**Figure 8.5: Comprehensive managerial framework elements from the study findings**

### 8.10 KEY ELEMENTS IN THE IMPLEMENTATION OF THE MANAGERIAL FRAMEWORK

The promotion and development of a comprehensive well-being program for workload factors need not necessarily incur extensive operational costs for organisations which is especially relevant to the strategic plan for implementation. Well-being at work is a complex and comprehensive concept. Although the plan is aimed at individuals, it is important to focus on those measures that are relevant at an organisational level. Organisational measures include leadership support, environment, training and development, people and culture, communication, connectedness, resources, and an operational approach. Although many organisations are embarking on

projects to improve the nursing workforce, nursing workload and the quality of nursing care, additional work is required before this plan becomes a regular feature of workforce planning in Saudi Arabia.

The comprehensive plan will build on the human resource strategy towards a new way of working and caring for nurses. This strategy seeks to achieve change through substantive partnerships with staff, managers, patients, and other relevant organisations at local, national, and international level. Staff governance is an organisational system of corporate accountability for the fair and effective management of all employees and is key to the effective and efficient delivery of services and well-being. The staff governance standard aims to set out what each employee must sustain to improve their continuity in relation to the fair and effective management of staff and a healthy working environment. The strategic plan will highlight the focus areas, the objectives, and the action to implement the various outcomes of the study findings.

#### **8.11 STRATEGIC PLAN ON WORKLOAD AND WELL-BEING OF NURSES FOR MANAGERS.**

The strategy for workload and well-being is derived from the findings of the qualitative and quantitative data from the study, based on participants' perceptions of workload and well-being.

The strategic plan has elements that has financial and human resources implications. Therefore, it will need the approval of the executive leadership team, prior to implementation. The timelines are also subject to the availability of resources and, therefore, may be altered upon consultation with departments, such as communications, information technology, training and education and human resources, whose support would be required. The work plans will explore the outcomes, resources, indicators and timelines for expected outcomes and persons responsible to action each element from the plan as illustrated in Figure 8.4.



**Figure 8.6: Managerial Strategic Plan for Workload and Well-being**

Planning must be continuous, throughout the duration of the implementation stage. Each plan element and activity thereof will be accompanied by a proposal for the initiative at various times. Concrete resources, timelines, responsibilities and communication and training methods will be identified and presented to the executive leadership team for approval, modification, or removal from the work plan.

Risk and enabling features are factors, external to the Wellness Strategic Plan, that should be considered and may impact overall performance. Such features may include legislation, government funding, leadership support, unanticipated organizational change and geographical separation as indicated in Figure 8.4 in the plan. Throughout the implementation phase, timely communication and meaningful engagement with staff are essential components to becoming a model workplace. Program elements and activities may require a formal method of communication, for example, training,

invitations to participate, executive communications or all-staff meeting progress updates. Alternatively, informal communications, such as departmental meetings and general information sharing through hospital or organisational management information systems may be used. Key to the implementation phase and I throughout the Wellness Plan is leadership engagement and clear, timely, and consistent communication across all levels of the organization.

## **8.12 SUMMARY OF CHAPTER**

This chapter outlined the development of a Comprehensive Managerial Framework that explicates workload and well-being among the ICU nurses. The workload factors were extracted from the findings of the study and a proposed wellness plan has been developed for a two-year cycle, taking into consideration various operational indicators as outlined in the various sections of Chapter 8. The proposed plan includes a new framework cycle to understand the current state of the organisation and to identify key elements for action. Well-being is becoming a core responsibility of good corporate citizenship and a critical performance strategy to drive employee engagement, organizational energy, and productivity. It is also a growing expectation the talent companies most want to recruit, access, and retain. Leadership commitment, communication and employee engagement serve as foundational components and, therefore, are embedded throughout each stage of the plan.

In the following chapter, the conclusions of the study is presented by reflecting the findings, the strengths and limitations of the study, the personal journey of the researcher and recommendations for future research on workload and well-being of nurses.

## **CHAPTER 9: CONCLUSION, LIMITATIONS AND RECOMMENDATIONS OF THE STUDY**

### **9.1 INTRODUCTION**

In this chapter a summary of the research findings, the conclusions, limitations and recommendations for nursing practice, nursing education and further research will be presented. Based on the results of the study, The aim of the study was to determine the various workload factors that influenced the well-being of ICU nurses working in a Saudi Arabian Hospital and to develop a comprehensive healthcare managerial framework that explicates the way workload factors influence nurses' well-being.

This chapter also specifies the limitations of the study to prevent any generalization of the conclusions and/or the recommendations. Conclusions based on the results of the study will be presented and recommendations made for the implementation of a comprehensive healthcare managerial framework that explicates the workload and well-being among the ICU nurses.

### **9.2 LIMITATIONS OF THE STUDY**

Recent studies on a similar research topic, related to employee well-being, are not publicly available in Saudi Arabia. However, the researcher was able to explore the concept of workload and well-being among nurses through the various websites and journal articles within the Gulf areas. In Saudi Arabia, there are no studies focusing on workload and well-being among nurses in an ICU environment. Most of the studies are related to workload and patient safety. Given these limitations, the results presented here should be the first step towards implementing a comprehensive managerial framework that explicates workload and well-being among nurses in general. This model still needs to be implemented, tested, and refined, should a need arise.

The limitations that affected the study involved the participants' behaviour during face-to-face interviews. This was caused by the researcher's presence which was evident when participants hesitated to respond. All participants were duly assured that the researcher will not influence any answers or responses and that they should be free to participate or withdraw from the study at any given time. An additional limitation that was faced by the researcher, was the timeline for conducting the current research, which was governed by the University's policies and protocol.

In Phase 1, the qualitative phase of this study, a purposive, non-probability sampling strategy method was used to recruit nurses to participate in the semi-structured interviews. The participants were ICU nurses from a group of critical care units of one hospital and did not include managers. This could potentially limit the generalizability of the findings to managers in other clinical areas of the hospital, regarding their perceptions of the workload and well-being among nurses in general.

In Phase 2, the quantitative phase of this study, the sample consisted of only the nurses who are working in the ICUs, who have direct contact with patients. Registered nurses in the clinical areas are the general nurses and the team leaders who always actively engage in patient care activities at unit level. The sample included nurses only working in the critical areas and those nurses who were employed by the organisation for more than two years and who were keen to participate. Despite some of these limitations, the following conclusions are drawn, and recommendations made, based on these conclusions.

### **9.3 CONCLUSIONS DRAWN FROM THE STUDY**

In both the phases of the qualitative and quantitative approach of the study, the researcher identified key responses from the participants on how workload factors influenced their well-being. The qualitative and quantitative data sets aimed to achieve the first two objectives of the study namely, to determine the

workload factors that influenced ICU nurses' well-being in a Saudi Arabian Hospital and to explore their experiences regarding work-related factors in participating ICU units. Notably, the aim of the study was to develop a comprehensive healthcare managerial framework that explicates the manner in which work-related factors influenced the nurses' well-being, based on the study findings. The conclusions drawn from both phases of the study will be presented as Phase 1 (Qualitative) and Phase 2 (Quantitative) conclusions. The conclusions related to the qualitative phase of the study and those linked to the objectives will be presented as a brief discussion. The conclusions from the quantitative phase will be discussed in relation to the conceptual model chosen for the study, namely the JD-R model relating it to the psychological, physical and emotional impact on nurses' well-being.

### **9.3.1 Phase 1 (Qualitative) Conclusion.**

The results pertaining to this part of the study are discussed in depth in Chapter 5, with the major themes and sub-themes in the qualitative phase illustrated in Table 5.4. Seven major themes which emerged during the analysis of the findings were further categorized into sub-themes.

Major themes that emerged from the study include the following:

- Shift work and impact on work life.
- Human resources concerns.
- Cultural barriers to communication.
- Factors influencing staff turnover in the ICUs.
- Group cohesion in the workplace.
- Emotional exhaustion factors in the workplace.
- Safety and security concerns in the workplace.

The conclusions, based on the results and the findings of the qualitative phase of the study, revealed that ICU nurses experienced various workload factors that influenced their well-being and productivity. Participants perceived the workload to be related to many factors, namely the work demand, communication and working in a multicultural diverse environment. The

expatriate nurses expressed that the language barriers which added to their work stress was predominantly Arabic speaking patients. The conclusions drawn are also based on the results and the findings of the quantitative phase of the study, which revealed that inadequate support from the managers exposed the ICU nurses to verbal and physical abuse from family members. Participants also shared their own personal experiences of long working hours, which affected their work performance and contributed to the decreased productivity and job satisfaction. There were mixed responses to the interview questions from many of the participants related to job security and work-life balance which could be related to fear of losing their jobs. The high demands of the work and the shortage of staff were the main factors expressed in relation to work productivity. Shortage of staff was one of the sub-themes. Participants revealed that the hospital work environment is a highly pressurised environment and nurses have grave concerns regarding staffing and other resources. This appeared to create a barrier between the job demands and job satisfaction. The need for an employee well-being programme was advocated by the participants to support nurses emotionally and psychologically, whilst giving them a sense of belonging within the stressful environment.

### **9.3.2 Phase 2 (Quantitative) conclusions**

The findings of the quantitative strand of the study aimed to achieve the first objectives of the study which was to determine the various workload factors and their influence on the well-being of ICU nurses working in a Saudi Arabian Hospital. It is hoped that these findings will provide evidence that would allow the researcher to ultimately, develop a comprehensive healthcare managerial framework that will explicate the manner in which workload factors influence the nurses' well-being. The researcher examined the descriptive statistics such as the mean, median and mode to gain insight into the newly created variables. In Chapter 6, the findings from the analysis of responses from the questionnaires were presented. The questionnaire was divided into four sections:

Section A: Demographics of the participants.

Section B: Experiences in current job.

Section C: Job satisfaction.

Section D: Staff well-being.

There were some definite strengths and weaknesses within the ambit of staff workload and staff well-being. The findings show that well-being is not a popular subject and that leadership should focus on nurse's well-being. In addition, participants expressed that managers need to create an environment that supports both the physical and emotional well-being of the nurses that they work with; that employees need to be understood, and managers need to shepherd the people they work with, using great care and compassion. Although, putting employees first is an effective way to promote staff well-being and job satisfaction in any institution, staff well-being should also be associated with demographic variables such as age, gender, and educational level. Overall, the findings reveal that the various workload factors have a strong influence on employee well-being.

This chapter related the study findings to the theoretical model and the objectives of the study. Findings verify that a healthy nursing workforce that is in good physical and psychological condition is only conceivable when the health care managers and leaders can protect and retain the employability of their competent nurses, and when there is a dual responsibility for a sustainable workforce within the organisation. The results from Chapters 5 and 6 support the main objectives of the study, concluding that workload factors influence the ICU nurses' well-being and the need to implement a comprehensive managerial framework is critical for this organization. The main objective of this study was to assess whether the workload factors can influence the effectiveness of organisational wellness programmes. As effective wellness programmes can lead to positive results like improved employee health and well-being and stronger organisational outcomes, organisations should seek to understand the psychological processes involved in promoting employee wellness. It is important that the executive

management team of the organisation cooperate and be receptive to the implementation of systems and processes for employee well-being programmes within the various ICUs. It was integral for the researcher to assess the quality of work-life of the participants and understand their organisational career intentions, which may have contributed to the improvement of the ICU nurses' work satisfaction and productivity, as the researcher envisaged these findings to subsequently impact on the health and the well-being of the nurses.

Based on these factors from the study findings, the researcher explored all the elements from the data analysis to formulate a comprehensive managerial framework that explicated the various workload factors that influenced the well-being of nurses within the critical care units, as discussed in Chapter 8. The framework can be utilized as an interactive tool that will set out clear actionable steps and will provide ongoing guidelines on how healthcare organisations can plan and deliver a staff health and well-being programme effectively and efficiently. Strategies for monitoring, evaluation and feedback are important and these should be in place at all departmental levels with accountability from all managers. Communication between the various levels of management and with relevant stakeholders is vitally important for leaders to focus on as part of the emotional, physical and psychological well-being of the nurses in the critical care areas. More importantly, it is necessary to create a positive organisational working environment for all staff within this organization. The researcher, therefore, proposes the following recommendations emanating from the findings of this study.

## **9.4 RECOMMENDATIONS OF THE STUDY**

Recommendations for both phases of the study stem from the results of the study as presented in Chapters 5 and 6. It is suggested that managers of the organisation focus on the implementation of employee well-being programmes. . Recommendations that the researcher proposes are:

- Recommendation 1: The implementation of a managerial framework that explicates the workload and well-being among the ICU nurses.
- Recommendation 2: Management commitment and accountability for the implementation of the programmes.
- Recommendation 3: Training and development on employee well-being programmes.
- Recommendation 4: Human resource strategy/Staffing and retention.
- Recommendation 5: Five-Step roadmap to building sustainable well-being.
- Recommendation 6: Future research.

### **9.4.1 Recommendation 1: Effective Implementation of the managerial framework that explicates workload and well-being among the ICU nurses**

The findings from the study were used to explore strategic management of nurses' well-being, from a middle management and top management perspective, focusing on an employee well-being programme for ICU nurses. The comprehensive managerial framework focuses, specifically, on understanding the middle managers' conceptualization of well-being and well-being management from a strategic perspective related to workload factors in the ICUs. It also includes the manager's experiences of her/his role in strategic well-being management as discussed in Chapter 8. The elements of the managerial framework illustrate the overall associations with the crafting of healthy and sustainable working conditions. Moreover, managers' work and organisation are the keys to bridging and handling the multiple components of workload factors and resource conditions for individuals and groups of nurses over and within system levels.

Systems approach on its own may not be adequate to build leadership intervention programmes for well-being, as it may not acknowledge the positive effect of nurses' job satisfaction factors. The data analysis was performed considering theory of workload and well-being, strategic well-being management and roles of middle managers in the implementation process. The results from the analysis is a description of how middle managers perceived the concepts of the JD-R model as well as their leadership roles in strategic well-being management, within the critical care units of the organisation. The JD-R model suggests that the demands of the job need to be aligned with the resources of the employee, for the employee to experience well-being. Providing the employees with sufficient resources will increase their motivation and commitment to the organisation, while high job-demands drain the physical and mental resources of the employees ultimately leading to physical or psychological problems. The results also indicate how these perceptions influence the operationalization of well-being strategy, specifically related to the various workload factors. A strategic approach, including clearly defined goals, sufficient resources and systematic monitoring is recommended for the effective and efficient management of well-being. The managerial framework as discussed in Chapter 8 clearly defines the various factors that influence the role and responsibilities of the various management levels for the implementation.

#### **9.4.2 Recommendation 2: Management Commitment and Accountability towards workload demand and well-being of ICU nurses**

The management, in any organisation, should aspire to create a model organisation for optimizing the health of its employees, and believe that the physical and psychological well-being and safety of employees are key aspects leading to organisational success and sustainability. It is essential to understand the views and attitudes of managers towards well-being management to ascertain how well-being strategy is implemented in organisations.

Findings from the study indicate that it is a shared responsibility of employees and the organisation to promote and to enhance working relationships, consistent with the principles of mutual respect, confidentiality and cooperation. The organisational leaders should be fully committed to working collaboratively with their employees to create and sustain psychologically and physically healthy and safe work environments. The comprehensive managerial framework, as discussed in Chapter 8, will be a primary guide in the process of enhancing an effective well-being programmes for ICU nurses. Recognizing that employee participation is an essential component, through this forum, employees should actively participate in the development, implementation, and continual improvement of a healthy and safe work environment. Organisations have also been realizing the possibilities of well-being management. The way middle managers conceptualize well-being and well-being management greatly influences the way they experience their role in strategic well-being management. The motivation for well-being management stems from the managers personal values and communication and is perceived as part of their managerial responsibilities. Therefore, staff well-being and management should be quite effortless.

Thus, well-being is considered as both a factor and an outcome in the study findings. Well-being, as a factor, has been interpreted as having an influence on other outcomes, namely health and productivity. On the other hand, well-being, as an outcome is perceived as the ultimate goal that can be affected by other factors, such as organisational culture, leadership, environmental factors, work tasks and work demand and resources as discussed in Chapter 8. In practice, the findings should help with the process of implementing successful well-being strategies.

The findings further suggest that there is a need for a more comprehensive approach to well-being management, educating managers on how the various aspects of well-being, namely the physical, psychological and social are interrelated and need to be equally considered in the managers' personal

well-being management as discussed in Chapter 8. In addition to this, managers need to develop a well-being strategic plan, with realistic and attainable goals that support the other goals of the organisation. It is also recommended that the organisation must be prepared to respond timeously to employees needs to ensure their well-being.

#### **9.4.3 Recommendation 3: Training and development on the well-being programme initiatives**

Supervisors should know and understand the institution's policy on employee well-being programmes and how to evaluate and document job performance, inform workers of any work-related problems and help them make improvements where necessary. The managerial framework as discussed in Chapter 8 emphasises the importance of training of managers, supervisors, and other representatives. Without proper training and regular re-training supervisors, personnel administrators, and other contributors to the programme would fail to pool resources towards developing an effective well-being programme and utilising its services optimally. The contents of the training programme often include information on company policy and procedures, explanation of the programme itself and instruction on identifying, confronting and referring an employee with job performance problems.

#### **9.4.4 Recommendation 4: Human resources and well-being initiatives**

Findings from the study indicate that workload factors experienced by the ICU nurses influenced their health status directly, and indirectly influenced their work behaviour, attendance, and job performance. The human resources department should adopt a key role in initiating these well-being initiatives and recommend that the comprehensive managerial framework, as discussed in Chapter 8, is aligned with the HR employee retention and recruitment strategy for the organisation. By aligning the HR strategy to the comprehensive managerial framework that explicates the workload and the well-being of ICU nurses, the human capital in every aspect of the organization's operations, from technology, clinical practices and standards, and service delivery will be

enhanced. It is recommended that the organisation build competitive advantage by improving the health status and well-being of the ICU nurses. HR should have the vision to partner with other health management personnel in developing a proactive plan of action to address pivotal employee health and work behaviour issues related to workload and well-being of nurses in the critical care areas. Ideally, the organisation should have broad-based skills and knowledge in wellness programming to effectively develop and implement a strategic plan of action. The plan should be aligned with the overall organizational framework for employee well-being.

It is also recommended that the findings related to long working hours, environmental stress, diverse workplace and cultural barriers should be addressed by the human resources management. The HRM should provide appropriate incentives that have perceived value for employees, use effective communications to promote employee engagement and create a workplace culture supportive of wellness. It is also recommended that HR address the factors that affected the health and behaviour of ICU nurses in the study by implementing specific work site programs, policies and incentives to promote employees' health and well-being. Other recommendations include:

- Organizational cultures should be transformed into dynamic, evolving health-promoting venues.
- Policies that enhance employee health and productivity.
- Incentives that create employee valued incentives to motivate employees to engage in healthy practices.
- Wellness programming that implements customized employee-centric health programs.
- Integration of HR functions with employee wellness and work/life quality initiatives.

#### **9.4.5 Recommendation 5: Five-Step roadmap to building sustainable well-being to alleviate workload factors**

The researcher recognized that the list of workload factors may be too long or cumbersome to communicate in the real world, practical, or urgent contexts of the health care environment. From the findings of the study, the following five steps are recommended as a final synthesis that may be more easily conveyed to ICU nurses and organisational leaders. When these steps are implemented there is a probability that the cultural context will be supportive of well-being, resulting in sustainable and positive outcomes for the organisation and their ICU nurses.

**Step 1:** The executive team should begin to develop wise leadership through right attitude, perspective, and insight. This includes being aware of both factual and theoretical dimensions of their organisation and openness to the value of creating and sustaining well-being for the entire workforce. While the task of the organisation is to offer care services, there is a clear recognition of the value of gaining input from the team, the teamwork that leads to a successful outcome, and a commitment to promote the process of enhancing the whole person as a part of the organisational commitment.

**Step 2:** The workplace must be a well-led, safe, healthy, and encouraging place. The environment should contribute to the opportunities for workers to thrive rather than just survive. There is recognition that both safety practices and environmental services are fundamentals that need to be established to create a foundation for further well-being in the ICUs.

**Step 3:** The human resources department must be essential to well-being through talent acquisition and talent development. The HR department must be supportive to the employees and view their role as dynamic and constantly adaptive, especially when setting the foundation for staff well-being and implementing programmes. They should recruit individuals with potential to contribute to the goals of the organisation, and they must make a concerted

effort to continually help the workforce grow and develop. This includes formulating policy that encourages growth rather than policy that is reactive and only addresses liability or minimal performance standards. HR must be involved in creating an environment that potentiates the workforce. The HR department bridges the needs of the organisation and the needs of the employees and must work diligently to align the goals of each of these dimensions of the organisation.

**Step 4:** Establish explicit skills training that enhances the efficacy and autonomy of the workforce. for effective coping and a sense of control. It is essential to recognize that these are not skills that are learned only once but skills that must be continually exercised to become effective and to be sustainable. The success of the organisation involves the ongoing, creative input of workers at all levels of the organisation. There is also a need to provide ongoing training in process skills and skills that involve contributions individuals make to the overall mission. This requires a new mindset for the organisation, involving changes in policy and in management styles to continually enhance the value of the workers.

**Step 5:** Provide a supportive environment that creates a culture of well-being within the organization. This includes all the workload factors discussed in the preceding sections of the study. It requires clarity regarding the value of the work that is done rather than focussing solely on costs containment for the organisation. It also includes creating an environment in which there is a sense of being a part of a team and effort to create a supportive and caring environment. This can include the wellness programming within a context of creating well-being rather than within the context of budget constraints.

#### **9.4.6 Recommendation 6: Future research**

Future studies should consider the possibility of expanding the current model by incorporating other latent variables that have been discussed within the study and in the literature review as being of relevance. These variables

include skill mix, shortage of staff, communication barriers and diverse culture and its influence on employee well-being. The studies should also consider using larger sample sizes to ensure that the final sample size, after addressing the missing values problem, is not less than 300. To add value to the study, the researcher should consider a comprehensive study of general nurses to ascertain the influence of workload and well-being in the general practice environment.

Multiple group analysis in structural equation modelling is instrumental because it allows one to compare multiple samples across the same measurement instruments or multiple population groups namely doctors versus nurses for any identified structural equation model. Future research should attempt to draw probability samples from other military hospitals in Saudi Arabia to increase the demographic representativeness of the ICU population in healthcare, in Saudi Arabia. Future research should expand the theoretical model by incorporating other latent variables such as shortage of ICU nurses, the demand and supply of ICU nurses and diversification in the ICUs to further explain additional variance in employee well-being.

While organisational support of wellness played a key role in the design of this study, future research should consider the relationship of this important factor to outcome variables with more detail. Future studies should examine the relationship between perceived organisational support and other outcomes, like improved organisational commitment from individuals who value health and wellness. Organisational wellness programmes can act as a recruitment tool for individuals that value these types of benefits and can serve to improve commitment to the organisation, and both employee and organisational performance. Additionally, while the JD-R model can be used as a strong model for future research, the lack of any clear multidimensionality of the scale could be a weakness. Therefore, future research should consider adding additional items to the scale to create a multidimensional assessment of perceived organisational support of wellness which can include peers, supervisor, manager, and organisation level items.

The importance of barriers, as a mediator for this study, prompts a continued examination of the impact of these barriers on organisational wellness outcomes as well as other outcomes, related to employee health and wellness. Each of three concrete dimensions of time, energy, and resources could benefit from more in-depth study of their unique impact on employee health behaviours. Future studies can also examine the role that motivation and interest play in the effectiveness and health-related outcomes of wellness programmes. In this study, motivation to use wellness programmes and interest in specific programmes were strongly related, but this finding could have been a result of how the survey was designed. Additional research focus areas should consider dimensions of workload perceptions and employee engagement with wellness to ascertain if these two are strongly related, with more detailed measures of programme motivation and overall programme interest.

## **9.5 CHAPTER SUMMARY**

The findings of this study indicate that organisational wellness programmes are very significant for organisations and are here to stay. These structured programmes are rapidly becoming an important part of organisational strategy and can have a powerful influence on both employee well-being and the organisational productivity, and best and safe outcomes. As these programmes demand considerable time and money, researchers and practitioners alike should continue to collaborate to consider ways to make work life a supportive and healthy endeavour that promotes and values the health of all employees at all levels.

Evaluation strategies are important for assessing the extent to which workload influences well-being of nurses and succeeds in attaining its expected outcomes. The evaluation framework can be utilized in different settings and environments by nurse healthcare managers to support effective and sustainable programmes. It can also be used as guide to adapt and revise the

employee well-being programmes to enhance the wellness of nurses, and ultimately the quality of patient care outcomes.

The managerial team should aspire to create a model organisation for optimizing the health of its employees and believe that the physical and psychological well-being and safety of employees were the key aspects leading to organisational success and growth sustainability outcomes. It is a shared responsibility of both the employees and the organisation as a whole to promote and enhance effective and healthy working relationships consistent with the principles of mutual respect, confidentiality and cooperation.

## **9.6 CONCLUDING REMARKS**

Healthcare organisations across the globe are challenged to achieve nurse workforce stability, safety, and well-being. A wide body of empirical literature now supports the intuitive link between the work environments, as shaped by institutional leaders, that provide an important context for nursing work with a variety of critical patient, nurse and organisational outcomes. Environmental characteristics, examined in this study, have ranged from staffing and resource adequacy to the support of unit level and organisation-wide managerial support. A variety of job-related experiences were linked with high turnover as well as impaired well-being factors related to job demand resources.

In this study, workload played an important mediating role between the extent of well-being and emotional exhaustion among ICU nurses. The JD-R model was grounded in theoretical assumptions and previous study findings, which were used to explain nurse job outcomes and experiences of well-being. The major themes included, shift work and its impact on work- life, human resource concerns, cultural barriers to communication, factors influencing staff turnover in the ICUs, group cohesion, emotional exhaustion factors and safety and security concerns in the workplace.

There were some definite strengths and weaknesses within the ambit of workload and well-being. The findings from this study showed that well-being is not a popular subject in Saudi Arabia. The leadership should focus on nurses' well-being and the managers should make a concerted effort to create an healthy environment that supports the physical and emotional well-being of the people within their organisation. Staff well-being was also associated with demographic variables such as age, gender, and educational level. Overall, this study revealed that the various workload factors strongly influenced employee well-being.

This study established the key strategies for health care managers to empower and support ICU nurses' health and well-being. It is hoped that management will implement these strategies to provide improved and seamless support to the health and well-being of ICU nurses. It is also hoped that the nurses work collaboratively with all key professionals and stakeholders to deliver improved QoL and health outcomes for both the nurses and the patients under their care. The aim was to focus on the ICU nurses and general practice nurses' contribution to workplace standards. However, the principles can be transferable to other professionals or members of the multidisciplinary teams within the organisational settings. The interventional strategy will build on good practice and evidence drawn from a range of professionals and partners including, Allied Health Professionals, doctors, social care, practice nurses and managers. Executive and middle management providers at different points of development, can use the strategy to benchmark their current position and to drive improvements from the findings of the study.

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# APPENDICES

## Appendix 1: University Ethics clearance



**Appendix: 2a: Permission letter to the Clinical Director of Anaesthesia, Intensive Care Unit & Operating Room**

6 Begonia Road  
Cleland  
Pietermaritzburg  
3201  
[Date]

Dr. Faisal Masoud Al Ghadam  
Clinical Director of Anaesthesia, Intensive Care Unit & Operating Room  
Armed Forces Hospital Southern Region  
P.O. Box 101  
Khamis Mushayt  
61961

Dear Dr. Faisal Al Ghadam

**Request for permission to conduct research**

My name is Krishnavellie Chetty, Director of Nursing Armed Forces Hospital Southern Region, and a PhD in Health Sciences student at the Durban University of Technology in South Africa. The research I wish to conduct for my doctoral thesis and the title is: *A comprehensive healthcare managerial framework that explicates the manner in which workload factors influence the nurses' well-being: A case study of a Saudi Arabian hospital.*

I am hereby seeking your consent to conduct the study within the organisation and this mixed method study with a convergent parallel design will involve the ICU nurses only that are full time employed by Armed Forces Hospital Southern Region. The data collection in the qualitative phase will be a structured interview guide as well as structure questionnaire during the quantitative phase of the study. The study poses no risks of any kind to the participants and the organization. I have provided you with a copy of my proposal which includes copies of the data collection tools and consent and/or assent forms to be used in the research process, as well as a copy of the approval letter which I received from the Institutional Research Ethics Committee (IREC).

If you require any further information, please do not hesitate to contact me or my supervisor Prof Sibiya on +27 31-373 2704 Email [nokuthulas@dut.ac.za](mailto:nokuthulas@dut.ac.za)

Thank you for your time and consideration in this matter.

Yours sincerely,

---

Dr. K Chetty (PhD Health Sciences Candidate)  
Durban University of Technology  
+966531837821  
jessiechetty4@gmail.com

 **Armed Forces Hospitals Southern Region**  
Ministry of Defense and Aviation  
P.O. Box 101, Khamis Mushayt  
Kingdom of Saudi Arabia  
Phone 00966 172500001 Ext : 21017 / 22272 

**ANAESTHESIA & ICU DEPARTMENT**

---

**TO:** Dr. Krisnavellie Chetty – Director of Nursing Administration

**FROM:** Dr. Faisal Al Ghadam - Clinical Director of Anesthesia-ICU & O.R

**DATE:** 23 June 2019

**SUBJECT:** Permission to Conduct Research  
"A comprehensive healthcare managerial framework that explicates the manner in which workload factors influence the nurses well being: A case study of a Saudi Arabian hospital"

---

In response with the letter received with regards to the above subject, I do not have any objection and supporting the above research.

It will be an honor to have study like this take place in our hospital.

  
**DR. FAISAL AL GHADAM**  
Clinical Director of Anesthesia-ICU & O.R

ANESTHESIA, ICU & OR  
June 2019/11

## **Appendix: 3a: Permission letter to the Assistant Hospital Director for Medical and Technical Affairs**

6 Begonia Road  
Cleland  
Pietermaritzburg  
3201  
[Date]

Brigadier General Dr. Ayed Abdullah Al Mordy  
Assistant Hospital Director for Medical and Technical Affairs  
Armed Forces Hospital Southern Region  
P.O. Box 101  
Khamis Mushayt  
61961

Dear Brigadier General Dr.

### **Request for permission to conduct research**

My name is Krishnavellie Chetty, Director of Nursing Armed Forces Hospital Southern Region, and a PhD in Health Sciences student at the Durban University of Technology in South Africa. The research I wish to conduct for my doctoral thesis and the title is: *A comprehensive healthcare managerial framework that explicates the manner in which workload factors influence the nurses' well-being: A case study of a Saudi Arabian hospital.*

I am hereby seeking your consent to conduct the study within the organisation and this mixed method study with a convergent parallel design will involve the ICU nurses only that are full time employed by Armed Forces Hospital Southern Region. The data collection in the qualitative phase will be a structured interview guide as well as structure questionnaire during the quantitative phase of the study. The study poses no risks of any kind to the participants and the organization. I have provided you with a copy of my proposal which includes copies of the data collection tools and consent and/or assent forms to be used in the research process, as well as a copy of the approval letter which I received from the Institutional Research Ethics Committee (IREC).

If you require any further information, please do not hesitate to contact me or my supervisor Prof Sibiya on +27 31-373 2704 Email [nokuthulas@dut.ac.za](mailto:nokuthulas@dut.ac.za)


Thank you for your time and consideration in this matter.

Yours sincerely,

---

Dr. K Chetty (PhD Health Sciences Candidate)  
Durban University of Technology  
+966531837821  
jessiechetty4@gmail.com

## Appendix 3b: Approval letter from the Assistant Hospital Director for Medical and Technical Affairs

  
ARMED FORCES HOSPITAL, SOUTHERN REGION  
P.O. BOX 101 KHAMIS MUSHAYT KINGDOM OF SAUDI ARABIA

**M  
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**TO :** Dr. Krishnavellie Chetty  
Director of Nursing Administration

**Cc :** Dr. Abdulqader Al Rawi  
Assistant Hospital Director for Academic Affairs & Training

Dr. Yahya Al Qahtani, Director of Medical Administration  
Dr. M. Ezzedien Rabie, Chairman of Research & Ethics Committee

**FROM :** Brig. Gen. Dr. Ayed Abdullah Al Mordy  
Assistant Hospital Director for Technical & Medical Affairs  
Director of King Faisal Military Hospital

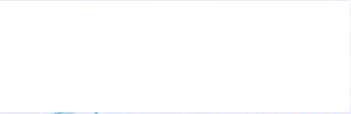
**DATE :** 23<sup>rd</sup> June 2019

**SUBJECT :** Approval to conduct a doctoral thesis  
PhD in Health Sciences at AFHSR

---

Reference to the approval of H/E Hospital Director, AFHSR on your memo dated 20<sup>th</sup> June 2019 requesting permission to do your research on "A Comprehensive Healthcare Managerial Framework that Explicates the Manner in which Workload Factors Influence the Nurses' Well-Being: A Case Study of a Saudi Arabian Hospital".

Therefore, I would like to inform you that the Administration of AFHSR has no objection with your request. However, you are hereby requested to discuss the results with the Administration prior to publication.

  
Brig. Gen. Dr. Ayed Abdullah Al Mordy  
Assistant Hospital Director for Technical & Medical Affairs  
Director of King Faisal Military Hospital

## **Appendix: 4a: Permission letter to the Hospital Director Armed Forces Hospital Southern Region**

6 Begonia Road  
Cleland  
Pietermaritzburg  
3201  
[Date]

Brigadier General Dr. Abdullah Bin Saleh Al Otiebi  
Hospital Director Armed Forces Hospital Southern Region  
Armed Forces Hospital Southern Region  
P.O. Box 101  
Khamis Mushayt  
61961

Dear Brigadier General Dr.

### **Request for permission to conduct research**

My name is Krishnavellie Chetty, Director of Nursing Armed Forces Hospital Southern Region, and a PhD in Health Sciences student at the Durban University of Technology in South Africa. The research I wish to conduct for my doctoral thesis and the title is: *A comprehensive healthcare managerial framework that explicates the manner in which workload factors influence the nurses' well-being: A case study of a Saudi Arabian hospital.*

I am hereby seeking your consent to conduct the study within the organisation and this mixed method study with a convergent parallel design will involve the ICU nurses only that are full time employed by Armed Forces Hospital Southern Region. The data collection in the qualitative phase will be a structured interview guide as well as structure questionnaire during the quantitative phase of the study. The study poses no risks of any kind to the participants and the organization. I have provided you with a copy of my proposal which includes copies of the data collection tools and consent and/or assent forms to be used in the research process, as well as a copy of the approval letter which I received from the Institutional Research Ethics Committee (IREC).

If you require any further information, please do not hesitate to contact me or my supervisor Prof Sibiya on +27 31-373 2704 Email [nokuthulas@dut.ac.za](mailto:nokuthulas@dut.ac.za)

Thank you for your time and consideration in this matter.

Yours sincerely,

---

Dr. K Chetty (PhD Health Sciences Candidate)  
Durban University of Technology  
+966531837821  
jessiechetty4@gmail.com

## Appendix 4b: Approval letter from the Hospital Director Armed Forces Hospital Southern Region



ARMED FORCES HOSPITAL SOUTHERN REGION  
P.O. BOX 101 KHAMIS MUSHAYT KINGDOM OF SAUDI ARABIA

**M  
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**TO :** Dr. Krishnavellie Chetty  
Director of Nursing Administration

**Cc :** Dr. Abdulqader Al Rawi  
Assistant Hospital Director for Academic Affairs & Training

Dr. Yahya Al Qahtani, Director of Medical Administration  
Dr. M. Ezzedien Rabie, Chairman of Research & Ethics Committee

**FROM :** Brig. Gen. Dr. Abdullah Bin Saleh Al Otiebi  
Director of Armed Forces Hospital Southern Region

**DATE :** 23<sup>rd</sup> June 2019

**SUBJECT :** Approval to conduct a doctoral thesis  
PhD in Health Sciences at AFHSR

Reference to the approval of H/E Hospital Director, AFHSR on your memo dated 20<sup>th</sup> June 2019 requesting permission to do your research on "A Comprehensive Healthcare Managerial Framework that Explicates the Manner in which Workload Factors Influence the Nurses' Well-Being: A Case Study of a Saudi Arabian Hospital".

Therefore, I would like to inform you that the Administration of AFHSR has no objection with your request. However, you are hereby requested to discuss the results with the Administration prior to publication.

*Brig. Gen. Dr. Abdullah Bin Saleh Al Otiebi*  
*Director of Armed Forces Hospital Southern Region*  
P.R.

## Appendix 5a: Letter of information for the interview participants



Thank you for agreeing to participate in this study. Your input is highly appreciated.

**Title of the Research Study:** A comprehensive healthcare managerial framework that explicates the manner in which workload factors influence the nurses' well-being: A case study of a Saudi Arabian hospital.

**Principal Investigator/s/researcher:** Dr Krishnavellie Chetty (PhD: Health Sciences Candidate).

**Co-Investigator/s/supervisor/s:** Prof. M.N. Sibiya, D. Tech: Nursing (Supervisor); Dr V. Naidoo, D Nursing, (Co-Supervisor).

**Brief Introduction and Purpose of the Study:** You are cordially invited to participate in a research study as entitled above. The aim of the study is to determine the various workload factors and their influence on the well-being of ICU nurses working in a Saudi Arabian Hospital and ultimately, develop a comprehensive healthcare managerial framework that explicates the manner in which workload factors influences the nurses' well-being. As critical care nurses you are responsible for the care of critically ill patients and are faced with many workload factors that may influence the well-being and therefore you form part of the rich source of information required to complete this study based on your perceptions and experiences within the working environment.

**Outline of the Procedures:** You are kindly requested to participate on one-to-one interview. The researcher will personally conduct the interview and will last between 25 to 30 minutes. The researcher will ask you few questions on your experiences regarding workload in the ICU and its influence on your well-being. A private room will be arranged for the interview process in the nursing administration board room in order to ensure that the interviews are conducted in a suitable environment. I kindly request to use a voice recorder to capture the interview discussions.

**Risks or Discomforts to the Participant:** There are no risk envisaged in this study as only information about your views on workload and its influence on your well-being will be sought.

**Benefits:** The findings of the study will result in developing a comprehensive managerial framework that will explicate the manner in which workload factors influence the nurse's well-being within the organisation.

**Reason/s why the Participant May Be Withdrawn from the Study**

**Remuneration:** You may decide to withdraw from this study at any time by advising the researcher and may do so without any sanction or penalty.

**Costs of the Study:** You will not be expected to pay or receive remuneration for the participation in the study.

**Confidentiality:** All information you provide is considered completely confidential. Your name will not be included or in any other way associated, with the data collected in the study. Furthermore, because the interest of this study is in the average responses of the entire group of participants, you will not be identified individually in any way in any written reports of this research. Confidentiality will be maintained by keeping the consent form separate from the questionnaire so that it could not be used to identify the participants. The completed and returned questionnaires will be kept in a safe drawer under lock and key in the researchers' office to which only the researcher associated with the study will have access. After the research project is fully completed research data will be destroyed after a period of 5 years.

**Research-related Injury:** There are no risks attached to this study.

**Persons to Contact in the Event of Any Problems or Queries:** Please contact the researcher, my supervisor Prof. M.N. Sibiya on +27 31-373 2704. You may also contact the researcher, Dr K. Chetty on +966531837821 or the Institutional Research Ethics Administrator on +27 31 373 2375. Complaints can be reported to the DVC: Research, Innovation and Engagement, Prof S. Moyo on +27 31 373 2577 or [moyos@dut.ac.za](mailto:moyos@dut.ac.za)

## Appendix 5b: Letter of information for the survey participants



Thank you for agreeing to participate in this study. Your input is highly appreciated.

**Title of the Research Study:** A comprehensive healthcare managerial framework that explicates the manner in which workload factors influence the nurses' well-being: A case study of a Saudi Arabian hospital.

**Principal Investigator/s/researcher:** Dr Krishnavellie Chetty (PhD: Health Sciences Candidate).

**Co-Investigator/s/supervisor/s:** Prof. M.N. Sibiya, D. Tech: Nursing (Supervisor); Dr V. Naidoo, (D Nursing) (Co-Supervisor).

**Brief Introduction and Purpose of the Study:** You are cordially invited to participate in a research study as entitled above. The aim of the study is to determine the various workload factors and their influence on the well-being of ICU nurses working in a Saudi Arabian Hospital and ultimately, develop a comprehensive healthcare managerial framework that explicates the manner in which workload factors influences the nurses' well-being. As critical care nurses you are responsible for the care of critically ill patients and are faced with many workload factors that may influence the well-being and therefore you form part of the rich source of information required to complete this study based on your perceptions and experiences within the working environment.

**Outline of the Procedures:** You are kindly requested to participate in a structured questionnaire which will focus on eliciting nurses' perceptions on the experience of workload and its influence on their well-being within the ICU environment. You are kindly requested to complete a questionnaire that will take you about 20 minutes to complete. I will personally distribute and collect the questionnaire. In order to ensure confidentiality, please do not write your name on the questionnaire.

**Risks or Discomforts to the Participant:** There are no risk envisaged in this study as only information about your views on workload and its influence on your well-being will be sought.

**Benefits:** The findings of the study will result in developing a comprehensive managerial framework that will explicate the manner in which workload factors influence the nurse's well-being within the organisation.

**Reason/s why the Participant May Be Withdrawn from the Study**

**Remuneration:** You may decide to withdraw from this study at any time by advising the researcher, and may do so without any sanction or penalty.

**Costs of the Study:** You will not be expected to pay or receive remuneration for the participation in the study.

**Confidentiality:** All information you provide is considered completely confidential. Your name will not be included or in any other way associated, with the data collected in the study. Furthermore, because the interest of this study is in the average responses of the entire group of participants, you will not be identified individually in any way in any written reports of this research. Confidentiality will be maintained by keeping the consent form separate from the questionnaire so that it could not be used to identify the participants. The completed and returned questionnaires will be kept in a safe drawer under lock and key in the researchers' office to which only the researcher associated with the study will have access. After the research project is fully completed research data will be destroyed after a period of 5 years.

**Research-related Injury:** There are no risks attached to this study.

**Persons to Contact in the Event of Any Problems or Queries:** Please contact the researcher, my supervisor Prof. M.N. Sibiya on +27 31-373 2704. You may also contact the researcher, Dr K. Chetty on +966531837821 or the Institutional Research Ethics Administrator on +27 31 373 2375. Complaints can be reported to the DVC: Research, Innovation and Engagement, Prof S. Moyo on +27 31 373 2577 or [moyos@dut.ac.za](mailto:moyos@dut.ac.za)

## Appendix 6: Consent



### Statement of Agreement to Participate in the Research Study:

- I hereby confirm that I have been informed by the researcher, Ms Krishnavellie Chetty about the nature, conduct, benefits and risks of this study - Research Ethics Clearance Number: 068/19.
- I have also received, read and understood the above written information (Participant Letter of Information) regarding the study.
- I am aware that the results of the study, including personal details regarding my sex, age, date of birth, initials and diagnosis will be anonymously processed into a study report.
- In view of the requirements of research, I agree that the data collected during this study can be processed in a computerised system by the researcher.
- I may, at any stage, without prejudice, withdraw my consent and participation in the study.
- I have had sufficient opportunity to ask questions and (of my own free will) declare myself prepared to participate in the study.
- I understand that significant new findings developed during the course of this research which may relate to my participation will be made available to me.

_____	_____	_____	_____
<b>Full Name of Participant Thumbprint</b>	<b>Date</b>	<b>Time</b>	<b>Signature / Right</b>

I, Krishnavellie Chetty herewith confirm that the above participant has been fully informed about the nature, conduct and risks of the above study.

Krishnavellie Chetty	_____	_____
<b>Full Name of Researcher</b>	<b>Date</b>	<b>Signature</b>

_____	_____	_____
<b>Full Name of Witness (If applicable)</b>	<b>Date</b>	<b>Signature</b>

_____	_____	_____
<b>Full Name of Legal Guardian (If applicable)</b>	<b>Date</b>	<b>Signature</b>

## Appendix 7a: Demographic data: Interview participants

Participant Code:

Date of interview: .....

### **SECTION A: DEMOGRAPHIC DATA**

Please answer the following questions about yourself. This data is needed to help us to build a picture of the overall staff mix and characteristics. Please tick in the appropriate box. Note that for some questions it may be necessary to write the information required in the appropriate box or space provided.

#### **Q1. What is your gender?**

Male	
Female	

#### **Q2. What is your age?**

Below 21	
21-30	
31-40	
41-50	
Above 50	

#### **Q3. What is your highest level of education?**

Some secondary school	
Standard 10 or equivalent	
Post school certificate	
Diploma	
Degree/ Masters/ PhD	
Other ( <i>Specify</i> ) _____	

#### **Q4. How long (e.g. 3 years 2 months) have you been employed in this hospital?**

\_\_\_\_\_ years    \_\_\_\_\_ months

**Q5. What is your employment status?**

Full-time: MSD	
Contract: Program	
Other ( <i>please specify</i> ) _____	

**Q6. What are your nursing qualifications? (Tick all that apply to you)**

Registered Nurse: Bachelors	
Licensed Practitioner Nurse: Diploma	
Masters Nursing Science	
Doctorate in Nursing	
Post Basic: ICU	
Other ( <i>please specify</i> ) _____	

**Q7. Unit where you are allocated (Tick ONE option only)**

Adult General ICU	
Paediatric ICU	
NICU	
High Dependency Unit	
Cardiac ICU	
Obstetrics ICU	
Coronary Cardiac Unit	

**Q8. What is your country of origin?**

Saudi Arabia	
South Africa	
Malaysia	
Philippines	
India	
Other ( <i>please specify</i> ) _____	

## **Appendix 7b: Interview guide**

### **SECTION B: INTERVIEW QUESTIONS**

#### **Grand tour question**

“What are your experiences of the nursing work related factors in your current role?”

#### **Probing questions**

- Identify five work-related factors you may perceive to be having a negative impact on your work tasks in the ICU environment.
- How do you perceive these work-related factors as influencing your well-being?
- What are some of the consequences you experience because of these work-related factors?
- How do you deal with challenging situations and events within the ICU environment?
- What recommendations can you make that will improve the work related demands related to nurses' well-being in the ICU?
- What are some of the situations that you believe could contribute to nurses work related demands and influence their well-being in the ICU.
- How do you rate your quality of life in relation to your psychological and emotional well-being after a 12 hour shift?
- Are you involved in decision making processes with your supervisor?
- Do you get adequate support from your supervisors when you encounter work related challenges in the ICU?
- Does the unit have any form of employee programmes for staff well-being?
- Do you believe that such programmes will benefit the staff? Justify your answer.

## Appendix 8: Questionnaire

Participant Code:

Date of interview: .....

### **SECTION A: DEMOGRAPHIC DATA**

Please answer the following questions about yourself. This data is needed to help us to build a picture of the overall staff mix and characteristics. Please tick in the appropriate box or write the information required in the appropriate box or space provided.

**Q1. What is your gender?**

Male	
Female	

**Q2. What is your age?**

Below 21	
21-30	
31-40	
41-50	
Above 50	

**Q3. What is your highest level of education?**

Some secondary school	
Standard 10 or equivalent	
Post school certificate	
Diploma	
Degree/ Masters/ PhD	
Other ( <i>Specify</i> ) _____	

**Q4. How long (e.g. 3 years 2 months) have you been employed in this hospital?**

\_\_\_\_\_ years    \_\_\_\_\_ months

**Q5. What is your employment status?**

Full-time: MSD	
----------------	--

Contract: Program	
Other ( <i>please specify</i> ) _____	

**Q6. What are your nursing qualifications? (Tick all that apply to you)**

Registered Nurse: Bachelors	
Licensed Practitioner Nurse: Diploma	
Masters Nursing Science	
Doctorate in Nursing	
Post Basic: ICU	
Other ( <i>please specify</i> ) _____	

**Q7. Unit where you are allocated (Tick ONE option only)**

Adult General ICU	
Paediatric ICU	
NICU	
High Dependency Unit	
Cardiac ICU	
Obstetrics ICU	
Coronary Cardiac Unit	

**Q8. What is your country of origin?**

Saudi Arabia	
South Africa	
Malaysia	
Philippines	
India	
Other ( <i>please specify</i> ) _____	

## **SECTION B: QUESTIONS ABOUT YOUR JOB IN YOUR CURRENT UNIT**

Indicate the extent to which you agree/disagree that each of the following work-related items is present in your current unit.

<b>In my current unit ...</b>	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Slightly disagree</b>	<b>Slightly agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
1. There are adequate support services (e.g., porters, housekeeping) that allow me to spend time with my patients.						
2. I have a good working relationship with physicians and nurses.						
3. The Head Nurse/Nurse Manager is supportive of the nurses						
4. There is active staff development or continuing education programmes available.						
5. There are opportunities for career promotion						
6. There are opportunities for me to participate in policy development.						
7. Supervisors use mistakes as learning opportunities, not criticism.						
8. There is enough time and opportunity to discuss patient care problems with other nurses.						
9. There are enough registered nurses to provide quality patient care.						
10. The Head Nurse or Nurse Manager is a good manager and leader to the ICU nurses						
11. The director of nursing is highly visible and accessible to staff.						
12. There is enough staff (i.e., nurses and health care practitioners) to get the work done.						
13. Praise and recognition are given for a job well done.						
14. There is an expectation of high standards of nursing care from the nursing quality administration						
15. Good teamwork between nurses and physicians is present.						
16. There are opportunities for professional development						
17. There is a clear philosophy of nursing relating to patient care and standards						
18. The nurses are clinically competent.						

<b>In my current unit ...</b>	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Slightly disagree</b>	<b>Slightly agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
19. The head nurse backs decisions made by nursing staff, even if the decision is in conflict with a physician.						
20. Administration listens and responds to employee concerns.						
21. There is an active quality improvement programme. E.g. staff satisfaction survey.						
22. Nurses are involved in the internal governance of the hospital (e.g., practice and policy).						
24. There is a preceptor programme for newly hired ICU registered nurses e.g. Unit based clinical competencies.						
25. Nursing care is based on a nursing rather than on a medical model.						
26. There is opportunity for nurses to serve on hospital and nursing department committees.						
27. Nursing administrators consult with staff on daily problems and procedures.						
28. Patient care assignments foster continuity of care (i.e. the same nurse cares for the patient from one day to the next).						

### **Section C : JOB SATISFACTION**

**C1. How satisfied are you with your current job?**

Very dissatisfied	Moderately dissatisfied	Slightly dissatisfied	Slightly satisfied	Moderately satisfied	Very satisfied

**C2. In the next year, how likely is it that you will leave your current job?**

Very unlikely	Moderately unlikely	Slightly unlikely	Slightly likely	Moderately likely	Very likely

**C3. If you answered slightly likely, moderately likely or very likely to C2, what is your MAIN reason for leaving? (Select the ONE option that applies most to you)**

Retirement	
Career advancement	
Remuneration	
Job security	
Work load demands	
Unhealthy environment	
Management Practices	
Other, please specify	

**C4. How satisfied are you with being a nurse, without taking into consideration your current job?**

Very dissatisfied	Moderately dissatisfied	Slightly dissatisfied	Slightly satisfied	Moderately satisfied	Very satisfied

#### **Section D: WELL-BEING**

Indicate your level of agreement that you have experienced the following **in the past month**

<b><u>In the past month...</u></b>	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Slightly disagree</b>	<b>Slightly agree</b>	<b>Agree</b>	<b>Strongly agree</b>
1.I have experienced frequent headaches.						
2.I have experienced extreme fatigue after my shift.						
3. Everything I did felt like an effort.						
4. I felt emotionally drained after a 12 hour shift.						
5. I battled to focus on completing work tasks.						
6. I had difficulty concentrating at work.						
7. I was bothered by having to lift patients and move heavy loads.						

<b><u>In the past month...</u></b>	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Slightly disagree</b>	<b>Slightly agree</b>	<b>Agree</b>	<b>Strongly agree</b>
8. Too much was expected of me at work.						
9. I felt overly pressurized to complete my work tasks.						
10. I experienced frequent indigestion or illness.						
11. I easily became irritable with other people.						
12. I panicked easily in crisis situations and tended to lose focus.						
13. I experienced difficulty in coping with stressful situations.						
14. I often felt tired for no good reason.						
15. I felt nervous at work.						
16. I sometimes felt helpless.						
17. I felt depressed.						
18. I felt sad and nothing could cheer me up.						
19. I felt worthless.						
20. I was disturbed by unwanted thoughts and feelings.						
21. Tension and anxiety prevented me from doing important things.						
22. I had difficulty getting to sleep or staying asleep.						
23. I typically left work feeling mentally and/or physically exhausted.						
24. I felt depressed/stressed/anxious when I thought of my work.						
25. I had to take sick leave due to illness.						
26. I was troubled by aches, pains or other physical problems.						

**THANK YOU FOR TAKING PART IN THE SURVEY**

## **Appendix 9: a sample of an interview transcript**

### **PARTICIPANT No 4:**

RESEARCHER: Thank you for participating in the research study related to work related factors. Did you sign the consent? I hope you fully understand the informed consent:

PARTICIPANT: Yes.

RESEARCHER: You can be reassured that the information during this interview session will be kept confidential.

PARTICIPANT: Yes. Thank you.

RESEARCHER: The purpose of the research is to explore what are your experiences of the nurse work related factors in your current role and its influence on your WELL-BEING in the ICU.

PARTICIPANT: I am working in PICU. I understand.

RESEARCHER: Can you identify five work related factors that you may perceive to be having a negative impact on the work tasks in the ICU?

PARTICIPANT: Maybe there's patient related regarding this, sometimes shortage of staff, then sometimes the staff is stressed also, provided with all the mandatory courses we are expected to complete and another stress may be there, maybe some family problems we have back home. That sometimes they will encounter, it can affect you also during the duty, our duty and what else?

RESEARCHER: How do you perceive these work-related factors that can influence the well-being of the staff or yourself?

PARTICIPANT: Sometimes you will be stressed when you are working so sometimes we cannot focus that much with the patient. And some other problems also outside that, actually we have to leave it from work but it will sometimes affect also with our focus at work.

RESEARCHER: What are some of the consequences you experience because of these work-related factors?

PARTICIPANT: Some consequences during the work, sometimes we forget something during the day, but it will not affect that much with the patient. Like for example, something that you have to do with the patient now and sometimes because of the stress and the increase in the work tasks you tend to forget some of these things to be delivered to the patient.

RESEARCHER: How do you deal with these challenges and situations and events within the ICU environment? How do you deal or cope with it?

PARTICIPANT: During your off you have to relax, and you have to do some time of yourself. You have to eat well; you have to exercise so that that moment when you go back to work you're ... you're ... you're focused already. Like if you have time to rest you have to...

RESEARCHER: And within the work environment, how do you deal with this high workload?

PARTICIPANT: With this high workload? You have to keep your mind and focused and what is this one? You have to address all the concerns one by one so that you will get onto this job ... or you will get all this work done.

RESEARCHER: What recommendations can you make that will improve the work-related demands related to the nurses' well-being in the ICU?

PARTICIPANT: The recommendations, in the unit itself, is that the attitudes of the patients and the nurses and also the turnover of the staff also because it's difficult to work all the time that you been doing that one with all the junior staff because you have to assist them also from time to time.

RESEARCHER: How do you rate your quality of life in relation to your psychological and emotional well-being after a twelve-hour shift?

PARTICIPANT: Because our work, even though we are busy we have the teamwork in the ICU. So ...

RESEARCHER: But your emotional status or the staff's emotional status and psychological after twelve-hour shifts? How do you feel?

PARTICIPANT: After twelve hours. Sometimes, according to the busyness of the unit, sometimes it's busy ... we are drained already going to the house. Like after washing our clothes but in-between if we are not busy it's fine.

RESEARCHER: Are you involved in any decision-making processes with your supervisor?

PARTICIPANT: Yes, if we are doing work tasks then we involved.

RESEARCHER: So, what decision making are you involved in?

PARTICIPANT: Regarding the staffing, regarding with this the schedules and the allocation of staff.

RESEARCHER: Does your unit have an employee well-being programme?

PARTICIPANT: No.

RESEARCHER: Do you believe that such a programme will benefit the staff?

PARTICIPANT: Yes.

RESEARCHER: Can you justify your response.

PARTICIPANT: Because on ... if this programme is like that, we can see what are the stuff they're doing, how stressed they are in the work and it will help them also and the management will see ... because the effectiveness of the work is that how staff is being handled and they're working hard in the units. If some programmes like that it will help them to ... for the people to see and value their people.

RESEARCHER: We have come to the end of the interview. Thank you so much for participating in the interview. Before we close, do you have anything to add or any comments?

PARTICIPANT: For me it's so helpful this study for the nurses.

RESEARCHER: Thank you.

PARTICIPANT: Okay.

## **Appendix 10: Letter from the statistician**

**Gill Hendry** B.Sc. (Hons), M.Sc. (Wits), PhD (UKZN)

**Mathematical and Statistical Services**

Cell: 083 300 9896

email: hendryfam@telkomsa.net

---

3 July 2019

Re: Assistance with statistical aspects of the study

Please be advised that I have assisted Krishnavellie Chetty (Student number 19650357), who is presently studying for a PhD: Health Sciences at DUT, with the questionnaire validation for her study.

Yours sincerely

Gill Hendry (Dr)

## Appendix 11: Letter from the professional editor

### **EDIT A SHAH (PTY) LTD**

**REG. NO. 2018/353171/07**

10 MAGENTA PLACE  
CLARE ESTATE  
4091  
DURBAN  
Tel: 0670937403  
Cell: 0834637758  
e-mail: [tharadevishah@gmail.com](mailto:tharadevishah@gmail.com)

#### **EDITING CERTIFICATE**

**A COMPREHENSIVE HEALTH CARE MANAGERIAL FRAMEWORK THAT EXPLICATES THE MANNER IN WHICH WORKLOAD FACTORS INFLUENCE THE NURSES' WELL-BEING: A CASE STUDY OF A SAUDI ARABIAN HOSPITAL/Krishnavellie Chetty (19650357)**

I am a freelance editor specialising in proofreading and editing academic documents. I confirm that I have edited this dissertation and the references for clarity, language, and layout. I used the track changes/review option in Microsoft Word. I returned the document to the author:

- Ensuring that spelling, grammar, punctuation, line spacing, and font is consistent and correct.
- Checking the List of References for consistency and style and checking entries against online databases to check accuracy of spelling and reference detail.
- Ensuring that all references in the text appear in the List of References and vice versa.

Resolving and accepting the changes in the text and references is the responsibility of the author.

#### **My Qualifications and Experience:**

- 30 years' experience as a research librarian at the University of KwaZulu-Natal and the Durban University of Technology.
- 16 years' experience in editing theses, research reports, teaching materials, journal articles, newsletters.
- Scribing, recording and transcriptions for workshops, seminars, debates.
- Facilitating and lecturing at Workers' College and Durban University of Technology.
- Master's in Library & Information Science, University of KwaZulu-Natal.
- B.Bibl.(Hons) in Library & Information Science, University of South Africa
- Higher Diploma in Education, University of South Africa.
- B.A. University of Durban-Westville

**Thara Devi Shah (Director).**

**11 JUNE 2020**

## Appendix 12: Turnitin report

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