FACTORS CONTRIBUTING TO WORK-RELATED FATIGUE AMONG HOSPITAL NURSES IN VHEMBE DISTRICT, LIMPOPO, SOUTH AFRICA.

BY

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Declaration

I, Mudau Thetshelesani, hereby declare that the proposal titled "***factors contributing to work-related fatigue among hospital nurses in Vhembe district, Limpopo, South Africa***" submitted by me, has not been submitted previously for a degree at this or any other university, that it is my work in design and execution, and that all the reference material contained therein has been duly acknowledged.

Signature: *MudauT* Date: 08/06/2024

(I)

DEDICATIONS

This study is dedicated to my grandmother Siaga Joyce Madzhonisi and my mother Mudau Julia who raised me well to be who I am today.

ACKNOWLEDGEMENTS

- My sincere gratitude goes to God who gave me wisdom, good Health and guidance to finish my studies.
- To my supervisors, Dr. Mudau AG and Prof. Makhado L, thank you for guidance, support and always motivating me in my studies.
- To hospital management from Tshilidzini hospital and Donald Frazer hospital who allowed me to conduct my study , I say thank you
- To all my participants who take their time to participate on my study, I say thank you so much.

List of acronyms and abbreviation

CEO-Chief Executive Officer

DOH-Department of Health

ICN-International Council of Nurses

MEC-Member of Executive Council

SA-South Africa

SANC-South African Nursing Council

WHO-World Health Organization

Abstract

Work-related fatigue among hospital nurses is a significant issue that affects both physical and mental health, leading to mistakes that negatively impact patient care. The study's goal was to identify and describe factors that contribute to work-related fatigue among hospital nurses. This study used a qualitative approach, including exploratory, descriptive, and contextual designs. The study population consisted of Hospital nurses from the Vhembe district. Non-probability, purposive sampling used to select participants. The study was conducted through an in-depth interview. The audiotape used to gather data and data was transcribed verbatim for data analysis purposes. Credibility, conformability, and dependability are examples of measures used to assure trustworthiness. Ethical considerations were met.

The study findings revealed that factors that contributes to work related fatigue are heavy workloads, consumption of caffeine, depressive experience, conflict with other staff members, age, work-life imbalance, lack of breaks and rest, shortage of nurses, shift and off duties, lack of resources, lack of social support, long work hours and lack of appreciation of nurses towards contribution to nursing .Based on the study results, recommendations were given.

Keywords: Contributing factors, Fatigue, Hospital, Nurses and Work related

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CHAPTER 1

OVERVIEW OF THE STUDY

1. Introduction

According to International Council of Nurses (2019), nurses play key a role in healthcare as they provide care, support and treatment for the sick and the injured patients. They also detect illness, administer medicines, assist in surgeries, treat patients beyond the initial diagnosis, provide mental support and perform other key roles. A report published by Mercer University (2021) states that recently, the demands on nurses are increasingly complex in healthcare, which means that the new role of nurses has changed, and those who hold a bachelor's degree are best equipped to care for the patients.

The shortage of healthcare providers is a major concern worldwide. In 2017, the World Health Organization (WHO) report addressed the shortage of health care providers especially nurses, and how it will interfere with national and international efforts to enhance the health and well-being of the global population. Due to the demanding nature of nurses' work and the current shortage of nurses, hospital nurses often find themselves working extra shifts, extended hours, and taking more responsibility in hospital settings ,which leads to a high level of stress , decreased job satisfaction and anxiety.

A report published by the Nurse Media journal of nursing (2018) states that occupational injuries and needle stick injuries have been associated with long work hours. Stress reduction and health improvements are vital to quality patient care.

1.1 Background of the study

Nursing shortages are widespread on a global basis; they are projected to become a severe issue in the future, potentially harming global health systems. The current worldwide shortage of competent health professionals will increase to 12.9 million by 2035 .Nurses' workload is increased by a prolonged shortage and significant turnover (WHO, 2018). A study conducted by the United States of America by Battle (2018) shows that 12-hour shifts lead to poor performance due to physiological strain, fatigue, and burnout, which are consequently negatively impacting patient care and safety. The study

also shows that nurses' risk of making mistakes is significantly increased when work shifts are longer than 12 hours. Nurses who worked overtime reported to be less effective at work, which increases the chance of errors.

Nurses want to be appreciated for their contributions to healthcare; such appreciation fosters a sense of belonging and achievement, whereas a lack of appreciation for nurses' contributions leads to stress and burnout due to depersonalization (Nurse Media Journal of Nursing, 2018). According to a study conducted in Canada by Saksvik (2017), the key causes contributing to work-related exhaustion among hospital nurses are working overtime and poor management by failing to balance shifts and off duties.

Study conducted by Laschinger (2018), Lack of social support can indeed be a contributing factor to work-related fatigue among hospital nurses. Nurses often face demanding and stressful work environments that can lead to physical and emotional exhaustion. Social support plays a crucial role in helping individuals cope with stress and maintain their well-being, and when support is lacking, it can exacerbate the effects of fatigue. Nurses are frequently exposed to emotionally challenging situations, such as dealing with critically ill patients or witnessing traumatic events. Social support from colleagues and supervisors can provide an outlet for sharing feelings and emotions, allowing nurses to process their experiences. Without this support, nurses may feel emotionally drained, leading to increased fatigue.

Maoskey (2018) found that a lack of breaks and rest can contribute to work-related fatigue among hospital nurses. Nurses operate in a tough and stressful atmosphere that requires continual attention and focus. They frequently work lengthy shifts with unpredictable working hours, which can be physically and mentally stressful. Nurses require breaks and rest periods to recharge and recover from the pressures of their jobs. However, due to variables such as staffing shortages, high patient loads, crises, and the 24-hour nature of health care, nurses may not always have appropriate opportunities for breaks or rest. When nurses are unable to take frequent breaks, they may develop cumulative fatigue during their shifts. This can lead to decreased alertness and impaired cognitive function.

According to a study by Wtkoski (2016), caffeine consumption can disturb sleep patterns, particularly when it's near to bedtime or during irregular work hours. Nurses who work night shifts may find it difficult to fall asleep when they need to sleep. This disturbance may result in chronic fatigue and a decline in general wellbeing. Due to its diuretic properties, caffeine can cause dehydration by increasing the output of urine. Dehydration can make fatigue worse and impair one's ability to think clearly and move efficiently. The quality of nurses' sleep may be affected even if they are able to fall asleep after taking caffeine. The quantity of deep sleep that is necessary for restorative sleep can be decreased by caffeine.

According to Caruso's (2019) research, work-life balance refers to harmony between work and non-work parts of life and is an important notion for workers to continue working healthy and to sustain the ability to receive nursing care. Nursing is a tough career that frequently demands nurses work long hours, irregular shifts, and even weekends and holidays. As a result, many nurses face work-life imbalances, which can have a substantial impact on their health and personal lives and lead to work-related fatigue.

Choi (2017) conduct a study in South America and found that physical demands contribute significantly to work-related fatigue among hospital nurses. Nurses are frequently forced to undertake physically demanding duties during their shifts, which can cause physical tiredness and fatigue over time. Nurses frequently have to lift, transfer, and reposition patients, which requires physical strength and can be taxing on their bodies. Moving patients who are heavy or have restricted mobility raises the possibility of musculoskeletal injury and fatigue. Nurses frequently undertake repetitious tasks such as dispensing prescriptions, documenting information, and performing procedures. These repetitive motions can cause muscle fatigue, tension, and overuse injuries, particularly in the hands, wrists, and shoulders.

According to a study conducted in South Carolina by Aiken (2020), long shifts lasting more than eight hours can cause physical exhaustion. Nurses are frequently on their feet, carrying out physically demanding jobs like moving and lifting patients, providing prescriptions, and responding to emergencies. Prolonged work hours without enough rest

can lead to muscle exhaustion, low energy levels, and an increased risk of injury. Nurses must maintain a high degree of mental focus and attention in order to offer safe and effective care. Extended hours can impair cognitive function, resulting in decreased attentiveness, poor decision making, and reduced critical thinking abilities. Mental exhaustion can jeopardize patient safety and increase the likelihood of medical errors. Nurses frequently work with patients who are in pain, agitated, or facing life-threatening situations. Extended hours might result in emotional fatigue and burnout.

According to Amy's (2013) study in Sub-Saharan Africa, when long shifts are combined with overtime it leads to exhaustion. A study conducted in Malawi by Khamisa (2015), discovered lack of resources can be a major contributor to work-related fatigue among hospital nurses. The rigorous nature of nursing job, along with inadequate resources, can produce a stressful environment that leads to fatigue. Nurses require adequate equipment and materials to carry out their duties properly and efficiently. A nurse may need to spend additional time looking for resources, devising solutions, or dealing with equipment faults.

Nnle (2017) did a study in the southwest of Nigeria and found that older nurses are more affected by work-related fatigue than younger nurses. Wendsche (2017) found that age can be a contributing factor to work-related fatigue among hospital nurses. As nurses age, they may endure physical and cognitive changes that limit their ability to meet the demands of their jobs. Individuals' physical stamina and endurance typically deteriorate as they age. Nurses, particularly those working in hospitals, frequently face physically demanding tasks such as long shifts, lifting and transferring patients, and standing for extended periods of time. Physical endurance declines with age, making it more difficult for older nurses to maintain energy levels, resulting in increasing fatigue.

A study conducted by Malatji (2017) revealed that work-related fatigue is a serious concern in South African hospitals, with many nurses complaining about it, with the main cause being a scarcity of nurses. Gibson (2018), who conducted a study in Cape Town, found that conflict with other staff members might contribute to work-related fatigue among hospital nurses. Conflict with coworkers can create a hostile work atmosphere, causing nurses to experience higher emotional stress. Constant fights, disagreements, or

bad encounters can have an impact on their mental and emotional well-being, resulting in emotional exhaustion.

1.2 Problem statement

Fatigue is a common psychological phenomenon among nurses; it is characterized by a decline in physical, emotional, and psychological energy resulting from work-related stress that leads to cynicism toward clients and colleagues and feelings of low self-efficacy. The Member of Executive Council (MEC) of Health in Limpopo Province, Doctor Phophi Ramathuba, reported to the portfolio committee on June 14, 2018 on SAnews.gov.za that, the Limpopo province burdens of medical lawsuits remain high.

Between the 2018-2019 financial years and the current year, medico legal claims have set the department back by R4.3 billion. Doctor Phophi Ramathuba said that best of reducing claims is to have quality care. The researcher has been doing community service in one of the local hospitals in the Vhembe district. The researcher was working in the female medical ward and observed that most professional nurses complain of fatigue, often take sick leave, and do not complete their number of working days as allocated by the supervisor.

The researcher observed poor performance and absenteeism which affect the staff on duty as they would have to do more extra work because of the shortage and decrease in patient care. The clinical audits also show the prolong stay of patients in the hospital and high dearth rate.

1.3 Rationale of the study

The studies about work-related fatigue among hospital nurses have been done in other countries and also in South Africa by Malatji (2017) at Gauteng hospitals, and in Limpopo province, the study on work related fatigue was never conducted and this show that there is still a need to conduct this study in South Africa to get more in-depth information on

factors contributing to work-related fatigue among Hospital nurses. In Limpopo Province the problem of work- related fatigue is still a big challenge to professional nurses and management at the hospital, the researcher will also focus on the other wards such as pediatric, medical and surgical ward and want to know contributing factors to work-related fatigue and how to overcome them.

1.4 Significance of the study

The study about work-related fatigue among hospital nurses may help Limpopo Provincial Department of Health to draw the policy and focus on preventing/reducing work related fatigue. The may be fewer complaints from the patients, which may reduce the litigations that the Limpopo provincial department of health is faced with. Hospital management, supervisors and nurses can be aware of the factors that contribute to work-related fatigue and strategies to prevent work-related fatigue. Intervention strategies can be developed as they may be aware of the factors that contribute to work-related fatigue. When the nurses are aware of factors that lead to work-related fatigue, they may try to avoid those factors that lead to work-related fatigue. The patients or the community may benefit because they will receive the best medical care as the nurses will be having a lot of energy.

1.4.1 Purpose of the study and objectives

To explore and describe factors that contributes to work-related fatigue among hospital nurses.

1.4.2 Research questions

What are the factors that contribute to work-related fatigue among hospital nurses?

1.5 Definition of terms

1.5.1 Contributing factors

According to Collins dictionary, contributing factors is defined as something that is partly responsible for a development or phenomenon

In this study contributing factors is defined as something which responsible for causing work-related fatigue on professional nurses.

1.5.2 Fatigue

Fatigue is explained as a feeling of constant tiredness or weakness and can be physical, mental, or a combination of both (Health line, 2020).

In this study fatigue refers to a state of mental or physical strain on professional nurses resulting from negative or demanding circumstances.

1.5.3 Hospital

Is a health care institution providing patient treatment with specialized health science and auxiliary healthcare staff and medical equipment (WHO, 2019).

In this study hospital refers to a health institution where the sick or injured are given medical or surgical care in Vhembe district in, Limpopo, South Africa.

1.5.4 Professional Nurse

According to South African Nursing act 33 of 2005, professional nurse is a person registered as professional nurse in terms of section 31 of the nursing act. According to Mosby medical dictionary state that a professional nurse is a nurse who has completed a course of study at an approved and accredited nursing school and licensed to practice by South African nursing council

In this study a professional nurse is a nurse working in the hospital of Vhembe district in Limpopo province, South Africa.

1.5.5 Work-related

According to Merriam-Webster dictionary (2019), work-related is defined as directly connected to or arising from one’s employment or job duties.

In this study work-related defined as having connection to the activities, responsibilities or environment in nurses' occupation.

1.6 Summary

The above section focused on the background, problem statement, rationale of the study, significance of the study, purpose of the study and objectives, research question and definition of terms. The following chapter is literature review.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

A literature review is a systematic and explicit approach to the identification, retrieval, and bibliographical management of independent studies (usually drawn from the published sources), according to Burns and Grove (2005) as cited by Brink, Van der Walt and Van Rensburg (2012). The goals of a literature review are to locate information on a topic, synthesize conclusions, identify areas for future studies, and develop guidelines for clinical practice.

2.2 Purpose of the Literature Review

According to Brink, Van der Walt and Van Rensburg (2012), researcher conduct the literature review for various reasons, namely to

- To obtain clues on the methodology and instrument.
- Identifying the research problem and honing the research question.
- To compare the results of the current study with those from previous research.

A review of pertinent literature on "Factors contributing to work-related fatigue among hospital nurses in public health institutions" was conducted for this study. The researcher discovered that while numerous investigations had been carried out in different nations, there had been no reports, studies, or literature on this subject from the Vhembe District.

2.3 Physical demands

Physical demands in nursing can contribute to physical exhaustion which can leads to reduced productivity and higher rates of musculoskeletal injuries and disorders.

2.3.1 Heavy workloads

Study conducted by Choi (2017), nurse's experience work-related throughout their shifts. Nurses are frequently needed to undertake physically demanding duties, which over time can cause physical exhaustion. It takes physical strength to lift, transfer, and reposition

patients as needed. Repetitive tasks such as giving prescriptions, recording data, and carrying out procedures can cause muscle strain and fatigue.

2.4 Personal factors

Consumption of caffeine can disturb sleep patterns, particularly when it's near to bedtime or during irregular work hours. Nurses who work night shifts may find it difficult to fall asleep when they need to sleep. Nurses face high workloads which leads to physical exhaustion, nursing is emotionally demanding work and concern about making medical errors contribute to stress. .Conflict with other coworkers can create a hostile work atmosphere causing nurses to experience higher emotional stress. Older nurses may experience more fatigue compared to younger nurses. Irregular shift and mandatory overtime can make it difficult to manage personal and work obligations. Inadequate rest and breaks can lead to physical and mental exhaustion.

2.4.1 Consumption of caffeine

According to a study by Wtkoski (2016), caffeine consumption can disturb sleep patterns, particularly when it's near to bedtime or during irregular work hours. Nurses who work night shifts may find it difficult to fall asleep when they need to sleep. This disturbance may result in chronic fatigue and a decline in general wellbeing. Due to its diuretic properties, caffeine can cause dehydration by increasing the output of urine. Dehydration can make fatigue worse and impair one's ability to think clearly and move efficiently.

2.4.2 Depressive experience

Study conducted by Bum-Sung (2018), depressive experience can be a substantial contributor to work-related fatigue among hospital nurses. Nurses operate in a rigorous and high-stress environment that frequently includes lengthy work hours, emotional strain, and exposure to horrific occurrences. These characteristics, together with the

personal and professional expectations placed on nurses have a significant impact on their entire health, including physical and mental health.

2.4.3 Conflict with other staff members

Gibson (2018) conducted a study in Cape Town and found that Conflict with other staff members might contribute to work-related fatigue among hospital nurses. Conflict with coworkers can create a hostile work atmosphere, causing nurses to experience higher emotional stress. Constant fights, disagreements, or bad encounters can have an impact on their mental and emotional well-being, resulting in emotional exhaustion.

2.4.4 Age

Nnle (2017) conduct a study in the southwest of Nigeria and found that older nurses are more affected by work-related fatigue compared to younger nurses. Wendsche (2017) found that age can be a contributing factor to work-related fatigue among hospital nurses. As nurses age, they may experience physical and cognitive changes that limit their ability to meet the demands of their jobs. Individuals' physical stamina and endurance typically deteriorate as they age. Nurses, particularly those working in hospitals, frequently face physically demanding tasks such as long shifts, lifting and transferring patients, and standing for extended periods of time. Physical endurance declines with age, making it more difficult for older nurses to maintain energy levels, resulting in increasing fatigue.

2.4.5 Work-life imbalance

According to Caruso's (2019) research, work-life balance refers to harmony between work and non-work parts of life and is an important notion for workers to continue working healthy and to sustain the ability to receive nursing care. Nursing is a tough career that frequently demands nurses to work long hours, irregular shifts, and even weekends and

holidays. As a result, many nurses face work-life imbalances, which can have a substantial impact on their health and personal lives and lead to work related fatigue.

2.4.6 Lack of breaks and rest

Maoskey (2018) found that a lack of breaks and rest can contribute to work-related fatigue among hospital nurses. Nurses operate in a tough and stressful atmosphere that requires continual attention and focus. They frequently work lengthy shifts with unpredictable working hours, which can be physically and mentally stressful. Nurses require breaks and rest periods to recharge and recover from the pressures of their jobs. However, due to variables such as staffing shortages, high patient loads, crises, and the 24-hour nature of health care, nurses may not always have appropriate opportunities for breaks or rest. When nurses are unable to take frequent breaks, they may develop cumulative fatigue during their shifts. This can lead to decreased alertness and impaired cognitive function.

2.5 Organizational factors

Lack of adequate staffing to cover all shifts and responsibilities can result in nurses working longer hours and having less time for rest and recovery. Inadequate access to necessary equipment, supplies and support staff can cause physical and mental exhaustion. Lack of managerial support, poor communications and unsupportive team dynamics can lead to emotional exhaustion.

2.5.1 Shortage of nurses

A nursing shortage exists on a global scale; it is projected to become a severe concern in the future, potentially harming global health systems. According to one population model, the current worldwide shortage of competent health professionals will rise to 12.9 million by 2035 (WHO, 2018). Nurses' workload is increased by a prolonged shortage and significant turnover. With fewer nurses available, it is difficult to effectively cover all shifts and offer suitable breaks for nurses. With a high patient-to-nurse ratio, nurses may be

required to care for many patients at once, compromising the quality of care they can deliver. Increased workload and responsibilities can lead to stress and fatigue.

2.5.2 Shift and off duties

A study conducted in the United States of America by Battle (2018) shows that 12-hour shifts lead to poor performance due to physiological strain, fatigue, and burnout, which are consequently negatively impacting patient care and safety, and this study shows that nurses' risk of making an error is significantly increased when work shifts are longer than 12 hours, when nurses work overtime, or when they worked more than 40 hours per week.

2.5.3 Lack of resources

A study conducted in Malawi by Khamisa (2015), discovered Lack of resources can be a major contributor to work-related fatigue among hospital nurses. The rigorous nature of nursing job, along with inadequate resources, can produce a stressful environment that leads to fatigue. Nurses require adequate equipment and materials to carry out their duties properly. They may need to spend additional time looking for resources, devising solutions, or dealing with equipment faults. These additional burdens might raise stress levels and lead to fatigue.

2.5.4 Lack of social support

Study conducted by Laschinger (2018), lack of social support can indeed be a contributing factor to work related fatigue among hospital nurses. Nurses often face demanding and stressful work environments that can lead to physical and emotional exhaustion. Social support plays a crucial role in helping individuals cope with stress and maintain their well-being, and when support is lacking, it can exacerbate the effects of fatigue. Nurses are frequently exposed to emotionally challenging situations, such as dealing with critically ill patients or witnessing traumatic events. Social support from colleagues and supervisors

can provide an outlet for sharing feelings and emotions, allowing nurses to process their experience.

2.5.5 Lack of appreciation of nurses towards contribution to nursing

Nurses want to be appreciated for their contributions to healthcare; such appreciation fosters a sense of belonging and achievement, whereas a lack of appreciation for nurses' contributions leads to stress and burnout due to depersonalization (Nurse Media Journal of Nursing, 2018).Nurses who feel underappreciated may become distracted and unsatisfied with their jobs, resulting in high turnover rates. When nurses are not recognized for their efforts and hard work, they may experience emotional exhaustion, depersonalization, and a lack of personal success. Recognition and praise are critical for professional happiness and career success (Nelson, 2017).

2.6 Summary

The above chapter focused on the literature review by different researchers on the study phenomenon. The findings indicates that factors that contributes to work related fatigue are heavy workloads ,consumption of caffeine, depressive experience ,conflict with other staff members, age, work-life imbalance, lack of breaks and rest, shortage of nurses, shift and off duties, lack of resources, lack of social support, long work hours and lack of appreciation of nurses towards contribution to nursing.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 introductions

Research methodology refers to the various methods that the researcher used to carry out the research and may include procedures and themes (Creswell, 2018). This chapter presents the research approach, design, study setting, population, sampling method and

data collection method. The research instrument, data analysis, pretesting, trustworthiness, and ethical considerations are also discussed.

3.2 Research approach and design

3.2.1 Research approach

Burns and Grove (2015) refer to the methods, techniques, and procedures that are implemented to conduct research. This study used qualitative approach to explore factors that contribute to work-related fatigue in hospital nurses. The researcher used qualitative approach to seek an in-depth understanding of social phenomena within their natural setting; it relied on data obtained by the researcher from first-hand observation and interviews (burns and Grove, 2011). The researcher interviewed the participants in their natural setting (hospital).

3.2.2 Research design

Exploratory, descriptive and contextual approaches were used. This approach allowed the researcher to obtain in-depth knowledge from participants about being studied.

3.2.2.1 Exploratory design

Social research explores a certain phenomenon with the primary goal of formulating more specific questions or hypotheses. It is developed to provide information and insight into clinical and practical problems (Grove et al, 2019).

In this study, the explorative design was used to gain new and increased knowledge on experiences and knowledge of hospital nurses on factors that contribute to work-related fatigue.

3.2.2.2 Descriptive design

The researcher notes the behavior, actions views, and appearances to give a clear picture of what happens when the phenomenon was being studied (brink, 2012). According to Dowling and Cooney (2012), the purpose of the descriptive design is to describe the experiences of the participants.

In this study, the descriptive design was used to describe the experiences of hospital nurses on work-related fatigue.

3.2.2.3 Contextual design

Contextual approaches refer to a setting in which the research actions occur; the primary goal is to understand the events within the context in which they occur.

This study was contextual because it was conducted in a clinical area where the phenomenon takes place.

3.3 Study setting

The study was conducted at the Donald Fraser and Tshilidzini hospitals in Vhembe, Limpopo Province, South Africa. According to statistics SA (2012), Limpopo is the fourth largest population in South Africa. Limpopo has five districts namely Mopani, Sekhukhune, Capricorn, Waterberg, and Vhembe District. Vhembe District located in the northern part of Limpopo Province. Vhembe district has 01 regional hospital, 02 Private hospitals, 06 district Hospitals, 01 specialized psychiatric hospital, 08 community health Centers, 112 clinics, and 22 mobile clinics (DOH 2017). There are 1453 professional nurses that are employed in the district, of which 636 are employed in the hospitals and 812 in primary health care. Donald Fraser hospital is situated in Tshitereke village, Sibasa Road, Vhufuli, Vhembe District, Limpopo, South Africa, and it was established in 1930. Donald Fraser hospital offers services to patients to approximately one million people in the Thulamela municipality. 210 professional nurses in Donald Fraser, 156 enrolled nurses and 148 auxiliary nurses .Tshilidzini hospital is situated in Phundamaria road, Shayandima, Vhembe District, and Limpopo, South Africa and was established in 1958.Tshilidzini hospital offers services to both in and outpatient to approximately 1.5 million people in the Thulamela municipality; it is the regional hospital which serves as the referral for twenty-eight public health facilities. It has 287 professional nurses, 170 enrolled nurses and 171 auxiliary nurses. The two selected hospitals in Vhembe district is where researcher observed the problem of work- related fatigue.

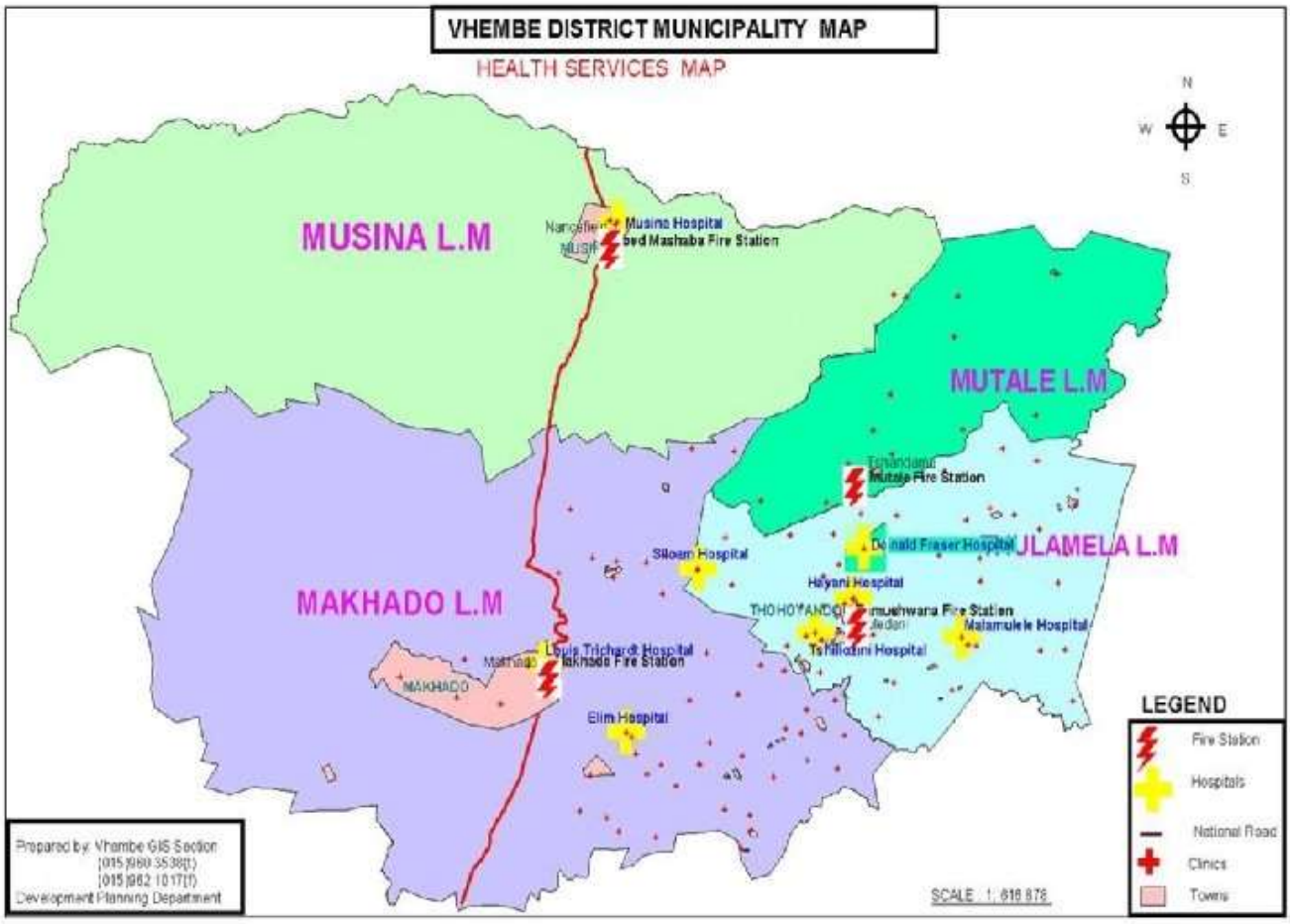

Figure 1: Vhembe district map illustrating public health institutions (Hospitals)

3.4 Study population

According to Brink Vader wait and van Rensburg (2014) population is defined as a complete set of elements (persons or subjects) that have common characteristics.

In this study, the population is composed of professional nurses working in hospital setting who are registered with the South African Nursing Council (SANC). Donald Fraser hospital has 210 professional nurses, 156 enrolled nurses, and 148 auxiliary nurses .Tshilidzini Hospital has 287 professional nurses, 170 enrolled nurses, and 171 auxiliary nurses.

3.4.1 Target population

According to Grove (2019), it is defined as complete sets or elements or individuals who meet the sampling criteria.

In this study, the targeted population was professional nurses who are working at hospitals in the Vhembe district who are registered with the South African Nursing Council (SANC).

3.5 Sample and Sampling

According to Grove et al., (2019) sample is defined as a group of people, objects, or items taken from a larger population.

3.5.1 Sampling

Brink van der Walt and Van Rensburg (2014) defined sampling as the process where the researcher is selecting a sample from a population to obtain information regarding the phenomenon in a way that will be able to represent the population of interest. Burns et al., (2015) define purposive sampling as form of non –probability sampling where the researcher selected the participants based on a variety of criteria which include the knowledge and willingness to participate in the research.

In this study, non-probability, purposive samplings were used because the study mainly focused on factors that contribute to work-related fatigue among hospital nurses.

The two institutions were selected for this study in the Vhembe district because the researcher noted the problem of poor performance, absenteeism, and complaints of work-related fatigue by professional nurses at Tshilidzini and Donald Fraser hospitals, which motivated the researcher to do research at these institutions. The researcher conducted research on nurses working at surgical ward, medical ward and pediatric ward of Tshilidzini and Donald Fraser. The researcher was motivated to conduct research at the selected institutions because the problem of work- related fatigue was a big challenge to professional nurses and management at the hospital. The researcher wanted to know contributing factors to work-related fatigue.

3.5.2 Sample size

The interviews were conducted because the study was qualitative and it was conducted until the data saturation reached; fifteen participants from Tshilidzini and fifteen participants from Donald Fraser hospital participated in this study.

3.6 Inclusion criteria

Criteria that specify the population characteristics of participants have to be regarded to be part of the study.

(a) Professional nurses working at the hospital level at medical ward, surgical ward and pediatric ward.
(b) Professional nurses who are registered with the South African nursing council and permanently employed.
(c) Working experience of three or more years.
(d) Aged twenty-five to sixty-five years.
(e) Male and female professional nurses.
(f) Professional nurses who are willing to participate in the study.

3.7 The exclusion criteria

The exclusion criteria include factors or characteristics that make the recruited population ineligible for the study.

(a) Professional nurses working at the clinics.

3.8 Data collection tool

According to De Vos (2011), the questions in an interview guide are projected to answer the research objectives. The researcher used an interview guide. The first section of an interview guide was comprised of the research topic, aim of the study, demographic information of the participant, period of the interview ,and venue of the interview. The second section was comprised of central question.

Similarly, the central questions were intended to facilitate the interview. This method was chosen because it allowed the researcher to ask additional questions beyond the scope

of the interview in order to gain clarity, which are known as follow-up questions and probing questions.

3.9 Pre-test

According to Shuttleworth (2017), a pre-test is where an interview guide is tested on a small sample of respondents before a full-scale study, to identify any problems such as unclear wording or the interview guide taking too long to administer.

In this study, 10% of the participants used to conduct a pre-test. Participants used in the pre-test did not participate in the main study, which was conducted on non-participating wards, which were maternity ward and casualty at Tshilidzini hospital. An interview guide used to interview the selected participant's at the hospital at their convenient time. The researcher conducted the pre-test to check the effectiveness of the interview guide.

3.10 Data collection method and process

The interviews were conducted face-to-face and on a one-on-one basis. The interviews were unstructured, using an open-ended central question. The open-ended central question allowed participants to divulge information into more detail and allowed the researcher to probe questions as a way of following up. The schedule consisted of dates, pseudo names of participants, addresses, and times of the interview. The field notes and tape recorder were used to collect data, and the recordings were transcribed verbatim. The data was collected on weekdays in the afternoons for the period of three months. The interviews were scheduled for 30 to 45 minutes per participant in the offices of the operational manger.

3.11 Data management and analysis

3.11.1 Data management

The audiotape was used to record an interview, and recorded data transcribed verbatim; also data checked for audibility and completeness.

(a) Confidentiality maintained by not including participants' real name on interview guide.

(b) Data collected will not be made available to any other person other than the authorized person by researcher and will be kept on storeroom locked.

3.11.2 Data analysis

Brink (2012) defined data analysis as the process of systematically applying logical techniques to describe, illustrate, recap, and evaluate data. The main reason for data analysis is to organize data in a way that themes and sub-themes that emerge from data can address the research problem.

In this study, data analyzed using Tesch's eight steps of data analysis, as follows

1. Researcher familiarize himself with the data by reading and re-reading it, take notes ,and makes initial observation about the data .Begin thinking about potential categories or themes that may emerge.
2. The researcher created a system for organizing and managing data and transcribed interviews.
3. After all the data has been analyzed, the researcher makes a list of topics that are similar and cluster them together as major, minor and unique topic. Begin coding the data by assigning labels or tags to segments of information, focus on descriptive coding initially, capturing the content of the data, use inductive reasoning to develop initial categories or themes.
4. The researcher analyzed the coded data to identify patterns, connections, and themes. Compare codes and look for relationships between different codes. Group related codes together to form initial themes or categories
5. The researcher reviewed and refined identified themes and Compared the findings against the original data to ensure accuracy and fit.
6. The researcher described each theme in detail, develop a clear understanding of what each theme represents, and assign appropriate names or labels to the themes.
7. The researcher wrote a coherent narrative that presents the research findings and provided quotes from data to support each theme.

8. The researcher compiled the research findings into a final report, follow the appropriate formatting.

3.12 Measures to ensure trustworthiness

According to Polit and Beck (2014), trustworthiness is defined as the believability of the researcher's findings. Credibility, transferability, conformability, and dependability are regarded as measures to measure trustworthiness.

In this study credibility, transferability, conformability, and dependability were used to measure trustworthiness.

2.12.1 Credibility

According to Brink (2012) credibility establishes whether the research findings represent plausible information drawn from the participants. This was achieved by verbally paraphrasing the participants' responses so that they confirm their responses.

Credibility was achieved by the following

(a) Prolonged engagement: investing lot of time during the process of data collection to have more understanding of the situation, thereby increasing credibility.
(b) The researcher was available in the field until data is saturated.
(c) Probing: asking the follow-up question after asking the main question to get more clarity and detailed explanation to exclude any misunderstanding.
(d) The summary of what the participants said to ensure that information collected is what the participants exactly said.

2.12.2 Transferability

Transferability refers to the ability to apply the findings of research in another context or to participants (Brink, 2012). Finding of the study is transferable if a similar study is done in a population where the background and characteristics are the same.

Transferability was achieved by the following

(a) It was ensured by describing the research setting thoroughly to allow others to assess how transferable the finding will be.

(b) The participants who meet the inclusion criteria were selected using a non-random, purposive sampling.

2.12.3 Confirmability

Refers to whether data collected from the participants represent the actual information provided by the participants, not the researcher's imagination. The data must reflect the participants' voices, not the researcher's perception (Brink, 2014).

Confirmability was achieved through the following

(a) The recorded interviews will be played to confirm and verify what the participants said during an interview.
(b) The findings were supported by comparing them with existing literature.

2.12.4 Dependability

Refer to the provision of evidence that if research study can be repeated can produce the similar findings (Brink, 2012).

Dependability was achieved through the following

(a) Submitting the research for peer examination.
(b) Field notes, voice recordings, and transcripts kept safe for the use for verification.

3.13 Ethical consideration

Polit and Beck (2014) define ethics as a system of moral values that is concerned with the degree to which the research procedures adhere to the professional, legal and social obligations of the study.

3.13.1 Permission to conduct the study

The research proposal was first presented to the Department of Public Health, then to the Faculty of Health Sciences. The proposal was evaluated by the executive Faculty of Health Sciences Committee and forwarded to the University of Venda's Research Ethics Committee for ethical clearance, approval to conduct the research study from the Provincial Department of Health, and the institution where the study was conducted obtained. All participants were informed that their participation in this study was voluntary. The agreement form completed and signed by the participant to show that the researcher and participants have reached an agreement.

3.13.2 Informed consent

Burns and Grove (2012) state that Informed consent is an agreement by a participant to participate in the study voluntarily after the participant has been given full and accurate information about the study. Informed consent means that the participant fully understood, the aims, objectives, data collection method, duration, possible risk, benefits, and expected contribution to the study by the participant

All the participants were given accurate and full information verbally and in writing regarding the study and what is expected from them. All participants signed a consent form and copy of the information sheet, which contains research project information which has the researcher's contact number and supervisor's contact in case they have questions given to them.

3.13.3 Privacy

Burns and grove (2012) defined privacy as the freedom of participants to determine the extent to which confidential information will be shared. Information such as opinions, beliefs, and identity was not shared with the people who were not involved with the study. Information obtained from the research field kept safe to avoid intruders and unauthorized persons from having access to such information. The participant was informed about the

use of a tape recorder, and the participant assured that the information will be kept safe and not shared.

3.13.4 Anonymity and confidentiality

According to Burns and grove (2012), confidentiality refers to managing data in research in such a way that the only researcher knows the identity of the participants and can link them with their responses.

The researcher kept the information obtained in the research field and won't share it with anyone who is not involved with a research project. Coding used instead of participant names.

3.13.5 Participants protected against covid-19 by the following measures

Researcher and participant wore a musk, social distancing of one MITRE between the researcher and participant, washing of hands ,and use of hand sanitizer to prevent the spread of coronavirus.

3.14 Dissemination of the study

(a) After the study is completed, the report will be submitted to the University of Venda library, Tshilidzini Hospital, Donald Frazer Hospital, and the Department of Health.
(b) Findings will be presented to the Limpopo department of Health and other workshops.
(c) Findings will be published in peer review accredited journals for publication.

3.15 Summary

The above chapter focused on the research approach, research design, study setting, study population, sampling method, inclusion criteria, exclusion criteria, data collection tool, pre-test, data collection, data management, data analysis measure to ensure trustworthiness, ethical consideration and dissemination of the study. The next chapter is data presentation and data analysis.

CHAPTER 4
PRESENTATION OF FINDINGS

4.1 Introductions

The current study aimed to investigate and characterize the factors that contribute to work-related fatigue among hospital nurses in Vhembe district, Limpopo Province. The data collection and design were discussed in the previous chapter. In this chapter, the

researcher will present results. Participants expressed their understanding of the factors that lead to work-related fatigue. Data was evaluated and organized into themes and subthemes. Interviews were conducted using a semi-structured interview format, with interviews lasting 30 to 45 minutes each participant.

4.2 Participants demographic information

Demographic data of Participants are shown on the table 1 below.

Table 1: Demographic information of participants

Participant	Age	Gender	Qualifications	Work unit or Ward	Years of experience
1	55	Male	Nursing diploma	Medical ward, Hospital A	21
2	49	Female	Nursing degree	Medical ward, Hospital A	23
3	38	Female	Nursing degree	Medical ward, Hospital A	15
4	52	Female	Nursing degree	Medical ward, Hospital A	25
5	54	Female	Pediatric specialty	Pediatric ward, Hospital A	26
6	46	Female	Nursing degree	Pediatric ward, Hospital A	17
7	41	Female	Nursing diploma	Pediatric ward, Hospital A	14
8	36	Female	Nursing degree	Pediatric ward, Hospital A	13
9	35	Female	Nursing degree	Pediatric ward, Hospital A	10
10	45	Female	Nursing degree	Surgical ward, Hospital A	11
11	50	Female	Nursing diploma	Surgical ward, Hospital A	28
12	42	Male	Nursing degree	Surgical ward, Hospital A	13
13	39	Male	Nursing degree	Surgical ward, Hospital A	9
14	44	Male	Nursing degree	Surgical ward, Hospital B	12
15	49	Female	nursing degree	Medical ward, Hospital B	16
16	54	Female	Nursing degree	Surgical ward, Hospital B	30
17	48	Female	Nursing degree	Surgical ward, Hospital B	23

18	40	Female	Nursing degree. Post graduate	Pediatric ward, Hospital B	15
19	38	Female	Nursing degree	Pediatric ward, Hospital B	11
20	56	Female	Pediatric specialty	Pediatric ward, Hospital B	25
21	47	Female	Nursing degree	Pediatric ward, Hospital B	21
22	34	Female	Nursing diploma	Surgical ward, Hospital B	8
23	38	Male	Nursing degree	Surgical ward, Hospital B	13
24	46	Male	Nursing degree	Surgical ward, Hospital B	17
25	43	Male	Nursing diploma	Medical ward, Hospital B	18
26	36	Female	Nursing degree	Medical ward, Hospital B	10
27	51	Male	Nursing degree	Medical ward, Hospital B	28
28	34	Female	Nursing degree	Medical ward, Hospital B	8

The table 1 illustrates the study participants' demographic data. According to the data in Table 1, participants in this study work in the following wards or units: surgical (10), medical (9), and pediatric (9).The majority of study participants were aged 41 to 50 (12), followed by 34-40(10), with a minority aged 51 to 56(6). According to the data obtained, the majority of the participants (20) held a nursing degree, while 5 held a nursing diploma and 3 were postgraduates in nursing. Regarding professional levels, all participants were registered professional nurses. The participants' work experience ranged from 11 to 20 years (10), followed by 21-30 years (10) and 8-10 years (5).

4.3. Study findings

In this study, data was collected through individual interviews. The collected information was then analyzed using the thematic analysis .The main theme created subthemes such as physical demands, which include types of heavy workloads that require nurses performing heavy chores such as carrying patients. The second subtheme is the personal factors, with categories of caffeine consumption by nurses on their way to work,

depressive experience, and conflict with other staff members, age, work-life imbalance, and lack of breaks and rest. The main theme generated the third subtheme, which is organizational factors, with categories of shortage of nurses, shift and off duties, lack of resources, lack of social support and lack of appreciation of nurses towards contribution to nursing.

Table 2: Themes, sub-themes and categories

Main theme: factors that contribute to work related fatigue among Hospital nurses	
Sub-themes	Category
4.2.1 Physical demands	• Heavy workloads
4.2.2 Personal factors	• Consumption of caffeine • Depressive experience • Conflict with other staff members • Age • Work-life imbalance • Lack of breaks and rest
4.2.3 Organizational factors	• Shortage of nurses • Shift and off duties • Lack of resources • Lack of social support • Lack of appreciation of nurses towards contribution to nursing

4.3.1 Sub-theme 1-physical demands

Most participants stated that nursing is physically demanding work, require physical strength to do activities such as lifting and transferring patients, which can lead to musculoskeletal ailments and fatigue over time.

One of the participants indicated that *"In our male medical unit, the majority of the patients admitted are critically ill, unable to do basic tasks like as bathing and eating. To change bed-ridden patients, you must lift them and change nappies" participant 27, (51 years old).*

Participant 23, 38 years also indicated that "In surgical ward, I spent a large amount of time on my feet, attending patients, wound dressing and repositioning immobile patients"

4.3.2 Sub theme 2- Personal factors

Participants also emphasized that some of the reasons that contribute to work-related fatigue are factors such as drinking caffeine, depressive experience, and conflict with other staff members, age, work-life balance, and lack of breaks and rest.

- **Consumption of caffeine**

Participants reported that lifestyle factors such as taking energy drinks when working night shift help them stay alert during the night, but it does have the negative effect of being fatigued the next day when they go to work. Nurses who do night shifts may find it difficult to fall asleep when they need to sleep. This disturbance may result in chronic fatigue and a decline in general wellbeing.

This was supported by *participant 3: 38 years old." I keep myself energized with energy drinks, but because of drinking energy drinks, sleeping becomes difficult, and this causes me to come to work without adequate rest".*

Participant 12, 42 years also indicated that "I enjoyed energy drinks and coffee since they kept me active while working night shift, but sometimes I go to toilet a lot to urinate and feel dizzy. I guess it is coffee, but I love it since it keeps me active".

- **Depressive experience**

Participants indicated that depressive experience can be a substantial contributor to work related fatigue. A nurse has particular obstacles in their workplace, including emotionally taxing conditions, traumatic situations and, the constant need to make vital judgments.

Participant 26, 36 years old indicated that "Seeing a patient dying it is very depressive experience because when you are nursing a patient you also become emotional involved and all you want as a nurse is to see the patient getting better and go home. When patient die it affects you deeply and stress you make you".

This was supported by *participant 20, 56 years old. "Seeing kids die in pediatric ward is a traumatic experience to us nurses, you feel emotionally exhausted after witnessing a child death".*

- **Conflict with other staff members**

Participants indicated that conflicts among coworkers create an unpleasant work atmosphere, increasing emotional stress for nurses. Constant fights, disagreement, or bad interactions can take a toll on their mental health, resulting in emotional exhaustion.

One of the participants indicated *"Fighting with your colleague contribute to work related fatigue because the work environment become unpleasant leading to emotional exhaustion" participant 18, (40 years).*

Participant 14, 44 years old also indicated that "I and my supervisor once had disagreements and to be honest I was always angry, that lead to job dissatisfaction and emotionally exhausted"

- **Age**

Participants said that as nurses grow older, their physical stamina and resilience deteriorate, making it more difficult to cope with the physical demands of the work.

Participant 1, 55 years old indicated that "being old in nursing career is a big problem, because my nursing require prolong standing, as you can see now I have to do a lot of routine such as bathing patients in the morning, giving medication, doctors rounds and lot of paperwork.my body cannot keep up with this work demands due to my age".

- **Work-life imbalance**

The majority of participants stated that nurses find it difficult to balance their professional commitments with their personal and family lives. Long work hours, unpredictable schedules, and high job demands can lead to less time for rest and self-care, leading to chronic fatigue.

Participant 27, 34 years old indicated that "It is challenging to balance work and personal; life because at home you are mother and wife and there are lot of work that needs to be done at go home, when you come to work there are also lot of work to be done this contributes work related fatigue among nurses".

Participant 9 ,35 years old also indicated that" At work you have to perform your work duties at highest level, at home you have more responsibilities such as cooking, caring for kids and your husband, this led to physical and emotional exhaustion".

- **Lack of breaks and rest**

Participants indicated that nurses frequently have limited opportunity for breaks and recuperation during their shifts. Continuous work without proper rest periods can cause fatigue and decreased performance.

Participant 26, 36 years old indicated that" Due to being busy in the ward sometimes you find that instead of going to lunch at 13h00 you will go at 15h00".

Participant 4, 52 years old also indicated that "I think other reason which contributes to work related fatigue is not having enough time to rest, as you can see our ward is always admitting patients".

4.3.3 Organizational factors

Factors within the healthcare organization such as shortage of nurses, shifts and off duties lack of resources, lack of social support and lack of appreciation of nurses towards contribution to nurses.

- **Shortage of nurses**

Participants stated that when there is shortage of nurses, the workload for each individual frequently increases; they may work longer hours or extra responsibilities, all which contribute to work related fatigue.

Participant 6, 46 years old indicated that "In pediatric medical ward we are only 3 professional nurses working in this shift, there are a lot patients in our ward and we are few, we are not coping. Due to shortage we are going to have more work responsibilities and work overtime".

This was supported by participant 27: 51 years old. "In male medical ward we are only few professional nurses and we have lot of patients who are seriously ill, sometimes you find that we are only 3 and the ward is full , some patients need to be bathed and to be assisted to eat. Professional has a lot of work such as admin work, this put a lot workload to professional nurses".

- **Shift and off duties**

Participants said that nurses frequently work split off duties, giving them few days to rest, and also working 12 hour shit contributes to fatigue.

Participant 28, 34 years old indicated that "The off duties make us to work being 3 professional in our ward because other professional nurses have to rest, if one or 2 professional nurses is on sick leave it forces you as professional nurse to work overtime ,and this lead to fatigue".

Participant 13, 39 years old also indicated that "The 12 hour shift is strenuous; it gives us less time with the family, if one is working a 12 hour shift night, it alters one sleeping

pattern which often results in fatigue as person will sometimes attend to family and other errands".

This was supported by *participant 6, 46 years old who alluded that "working split shift contribute to fatigue because most of us to travel distance to see our loved ones, and we have few days to rest, when you come back to work you will be tired".*

- **Lack of resources**

Participants indicated that lack of resources such as medical equipment, drugs or suitable personal protective equipment contributes to work related fatigue because they will spend a lot of time searching for that particular equipment or they have to improvise.

Participant 10, 45 years old indicated that "Working with limited resources such a proper machines like blood pressure machine that we need to use every day, you will find that we only have two blood pressure machines that need to be used for the whole ward which have 60 patients".

This was supported by *participant 18: 40 years old." When basic resources such as functional medical equipment, drugs, or suitable personal protective equipment are not available, it forces you to improvise or spend lot of time searching for that particular equipment as a result this contributes to fatigue".*

- **Lack of social support**

Participants indicated that social support plays an important role in helping individuals cope with stress and maintain their well-being, and that when support is insufficient, it can intensify the effects of fatigue.

Participant 22, 34 years old indicated that "Lack of support from other colleagues, in situation that require a team work or supporting each other emotionally this contribute to emotional exhaustion, the management does not provide support to the staff because some situation are traumatic experience, it needs a nurse to go to counseling, lack of support lead to being emotionally drained".

Participant 9, 35 years old also indicated that "As nurses we often exposed to traumatic events, due to lack of support from supervisors and colleagues it leads to emotional exhaustion".

- **Lack of appreciation of nurses towards contribution to nursing**

Participant indicated that the lack of appreciation does contribute to work related fatigue among hospital nurses as a result of feeling underappreciated, which leads to emotionally exhaustion.

Participant 19, 38 years old indicated that "As nurses I don't think we are being appreciated enough, when it comes to performance management development system rating, we often given low rating which means you are not recognized as a hard worker d those who were not working word are given high score, when you are given low score it this you won't get grading and money and this lead to emotionally exhaustion"

4.3 Summary

The findings above indicate how participants expressed their understanding of factors that contributes to work related fatigue among hospital nurses. Participants expressed how physical demands contribute to work related, they also indicated that heavy workloads how personal factors and organizational factors contribute to work related fatigue.

CHAPTER 5

DISCUSSION OF THE FINDINGS

5.1 Introductions

The previous chapter presented the results, focusing on the participant's demographics and themes that emerged from the data. This chapter discusses the main findings from the research themes and links the reviewed literature to the research outcomes

The study was guided by the following objectives:

- To explore and describe factors that contributes to work-related fatigue among hospital nurses.

5.2 Discussion of Findings

Most participants stated that nursing is physically demanding work, require physical strength for activities such as lifting and transferring patients, which can lead to musculoskeletal ailments and fatigue over time. This correlate with the study conducted by Choi (2017), who found that nurses experience work-related fatigue due to physical demands of the nursing job. Throughout their shifts, nurses are frequently needed to undertake physically demanding duties, which over time can cause physical tiredness.

Most participants reported that drinking energy drink when working night shift helps to stay alert during the night, but it does have the negative effect of being unable to sleep when you want to sleep, this result in mental exhaustion. Findings correlate with the study done by Wtkoski (2016), caffeine consumption can disturb sleep patterns, particularly when it's near to bedtime or during irregular work hours. This disturbance may result in chronic fatigue and a decline in general wellbeing.

Participants indicated that depressive experience such traumatic situations can be a substantial contributor to work related fatigue. The findings correlate with study conducted by Bum-Sung (2018), nurses operate in a rigorous and high-stress environment that frequently includes lengthy work hours, emotional strain, and exposure to horrific occurrences.

Participants indicated that conflicts among coworkers create stress for nurses. Constant fights, disagreement, or bad interactions can take a toll on their mental health, resulting in emotional exhaustion. The findings correlates with study done by Gibson (2018) conducted a study in Cape Town which states that conflict with coworkers can create a hostile work atmosphere, causing nurses to experience higher emotional stress.

Participants indicated that as you grow older, your physical stamina and resilience deteriorate, making it more difficult to cope with the physical demands of the work. Nnle (2017) conduct a study in the southwest of Nigeria and found that older nurses are more affected by work-related fatigue than younger nurses. Wendsche (2017) found that, older

nurses experience physical and cognitive changes that limit their ability to meet the demands of their jobs.

The majority of participants stated that it difficult to balance professional commitments with personal lives due to long work hours, unpredictable schedules, and high job demands which leads to less time for rest and self-care. The findings correlates with the study done by Caruso (2019) , work-life balance refers to harmony between work and non-work parts of life and is an important notion for workers to continue working healthy and to sustain the ability to receive nursing care. Nursing is a tough career that frequently demands nurses to work long hours, irregular shifts, and even weekends and holidays. As a result, many nurses face work-life imbalances, which can have a substantial impact on their health and personal lives and lead to work related fatigue.

Most participants indicated that nurses frequently have limited opportunity for breaks and rest during their shifts. Continuous work without proper rest periods can cause fatigue and decreased performance. The findings correlates with the study done by Maoskey (2018), lack of breaks and rest can contribute to work-related fatigue among hospital nurses. Nurses operate in a tough and stressful atmosphere that requires continual attention and focus. They frequently work lengthy shifts with unpredictable working hours, which can be physically and mentally stressful. Nurses require breaks and rest periods to recharge and recover from the pressures of their jobs.

Most participants stated that when there is shortage of nurses, the workload for each individual frequently increases; they may work longer hours or extra responsibilities, all which contribute to work related fatigue. The findings correlates with the findings which states that with fewer nurses available, it is difficult to effectively cover all shifts and offer suitable breaks for nurses. With a high patient-to-nurse ratio, nurses may be required to care for many patients at once, compromising the quality of care they can deliver. Increased workload and responsibilities can lead to stress and fatigue (WHO, 2018).

Participants indicated that nurses frequently work split off duties, giving them few days to rest, and also working 12 hour shit contributes to fatigue. This correlates with the study

conducted in the United States of America by Battle (2018) shows that 12-hour shifts lead to poor performance due to physiological strain, fatigue, and burnout, which are consequently negatively impacting patient care and safety, and this study shows that nurses' risk of making mistakes is significantly increased when work shifts are longer than 12 hours, when nurses work overtime, or when they worked more than 40 hours per week.

Participants indicated that lack of resources such as medical equipment, drugs or suitable personal protective equipment contributes to work related fatigue because they will spend a lot of time searching for that particular equipment or they have to improvise. The findings correlates with the study conducted in Malawi by Khamisa (2015) discovered that lack of resources can be a major contributor to work-related fatigue among hospital nurses. The rigorous nature of nursing job, along with inadequate resources, can produce a stressful environment that leads to fatigue. Nurses require adequate equipment and materials to carry out their duties properly and efficiently. Nurse may need to spend additional time looking for resources, devising solutions, or dealing with equipment faults.

Participants indicated that social support plays an important role in helping individuals cope with stress and maintain their well-being, and that when support is insufficient, it can intensify the effects of fatigue. The findings correlate with the study conducted by Laschinger (2018) nurses often face demanding and stressful work environments that can lead to physical and emotional exhaustion. Social support plays a crucial role in helping individuals cope with stress and maintain their well-being, and when support is lacking, it can exacerbate the effects of fatigue. Social support from colleagues and supervisors can provide an outlet for sharing feelings and emotions, allowing nurses to process their experience.

Participants indicated that lack of appreciation does contribute to work related fatigue among hospital nurses as a result of feeling underappreciated, which leads to emotionally exhaustion. Nurses want to be appreciated for their contributions to healthcare; such appreciation fosters a sense of belonging and achievement, whereas a lack of appreciation for nurses' contributions leads to stress and burnout due to depersonalization (Nurse Media Journal of Nursing, 2018. Nelson's (2017), states that

Nurses who feel underappreciated may become distracted and unsatisfied with their jobs, resulting in high turnover rates.

5.3.Sumary

The study described elements that contribute to job-related fatigue among hospital nurses, such as severe workloads and caffeine consumption before going to work, which impairs your sleeping pattern because if you don't sleep the next day, you'll be tired when you arrive at work. Depressive situations, such as seeing a patient die or suffer, have an impact on your mental health. Conflict with other staff members causes a lack of passion for your work, and as a result, you will be unable to perform your duties efficiently. Participants indicated that older nurses experience physical and cognitive changes that limit their ability to meet the demands of their jobs. Another issue that contributes to job-related fatigue is the inability to combine work and social life, which is caused by nurses' demanding work schedules and hectic personal lives.

Participants stated that a lack of breaks and respite, as well as a nurse shortage, forces nurses to perform extended shifts and severe workloads as a result of insufficient staffing. Shifts and off-duty that are not balanced, a lack of resources such as blood pressure machines, participants revealed that a lack of social support from colleagues and management can increase stress and contribute to work-related fatigue, and long work hours such as working extended shifts and overtime can cause physical and mental exhaustion. Participants demonstrated a lack of respect for nurses' contributions to nursing as a contributing factor to work related fatigue.

CHAPTER 6

SUMMARY, LIMITATION, RECOMMENDATIONS AND CONCLUSIONS

6.1 introductions

The previous chapter focused on the presentation of and discussion of the data that was obtained from participants. This chapter will conclude the study with a focus on the study limitation and recommendation.

6.2 summary of the study

The purpose study was to explore and describe factors that contribute to work- related fatigue among hospital nurses. The central question was: ***"What are the factors that contribute to work-related fatigue among hospital nurses".*** The study adopted the qualitative approach with exploratory, descriptive, and contextual designs. The population

was hospital nurses in the Vhembe district. Non-probability, purposive sampling used to select participants until data saturation of 30 participants. An in-depth interview used to conduct the study. In this study data analysis was done using Tesch's eight steps of data analysis. All Measures to ensure trustworthiness applied and ethical considerations adhered to. Based on the study certain recommendation was made.

6.3 Study limitation

The following limitation were identified when conducting the study

Some professional nurses refused to participate in the study, saying they are very busy they cannot attend the researcher.

The study was conducted in Vhembe, Limpopo province, South Africa; the results cannot be generalized across all the nine provinces.

6.4 Study recommendations

The following recommendations were made based on the findings

6.4.1 Recommendations for department of health

The study recommends that the national, provincial and district level have to provide the support to the nurses by ensuring that they are enough staff and enough resources. Hospital management and unit managers should also be knowledgeable about the contributing factors so that they will be able to recognize and have solution. Provide in-service training policy to health care workers, which will refresh their understanding of factors that contribute to work related fatigue.

6.4.2 Recommendations for further research

The present study was conducted in Vhembe, Limpopo province, South Africa focused on professional nurses working in hospital. Future research should also be conducted in other provinces and include other categories of nurses, such as assistant nurses and enrolled nurses .Research on nurses working at primary health care should also be done

.Strategies on how to prevent work related fatigue was not done; future research can also focused on it.

6.5 Conclusion

It is crucial to emphasize that the elements that lead to work-related fatigue interact and impact one another, and resolving work-related fatigue necessitates a multidimensional approach that includes organizational reforms, improved working conditions, and a support system for nurses. Maintaining an acceptable nurse-to-patient ratio and adequate staffing levels can assist reduce workload and fatigue. Offering flexible work schedules that consider nurses' preferences can help to prevent fatigue. Hospitals should focus on nurses' mental health and well-being by providing education and training programs on fatigue management, as well as counseling services. Implementing and maintaining regulations that prioritize frequent breaks, meal breaks, and enough rest time between shifts. Teamwork, collaboration, and mutual support among healthcare professionals helps ease the stress between nurses. Recognizing and appreciating nurse hard work and dedication can boost morale and job satisfaction.

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ANNEXURES

ANNEXURE A

INFORMATION SHEET

Dear participant

Title of the study

Factors contributing to work-related fatigue among Hospital Nurses in Vhembe District, Limpopo, South Africa

Introduction

This study was conducted for the degree of Public Health at University of Venda. Participant requested to participate in the study. Information leaflet given to participants to read so that they fully understand the study, and decide if they want to participate in

the study. Participants were informed that that the study was voluntary and they were given rights to withdraw at any time.

The interview lasted for 30-45 minutes per participant. The participants were requested to respond to central question. Probing and follow up questions were asked to get the in-depth information from the participant. All ethical consideration was followed and consent obtained from provincial department of Health, Vhembe District department of health, selected Hospitals and participants.

The nature and purpose of the study

Is to explore and describe factors that contribute to work-related fatigue among Hospital Nurses in Vhembe District, Limpopo, South Africa.

Confidentiality

The information provided will be kept confidential. All participants were given codes which will be used when transcribing interview. These codes were only known by the researcher. The answers given by participants will be combined and analyzed according to common themes and categories. The combined information written in a form of a report

Risks and discomfort involved

There is no risk in participating in the study

Possible benefits of this study

Participating in the study was voluntary, no compensation/stipend provided for participation. There were no direct benefits to any participant, and there were no penalties if participant want to withdraw from the study.

Recording of interview

Permission to use a voice recorder throughout the interview requested from participants, it was explained that helps the researcher to recall the conversations and make corrections and to recheck if I collected all the important points or information. The voice

recorder and digital data was only listened by the researcher, and both were transcribed, and files kept locked in the computer.

Rights of participating

Participating in this study was voluntary and participant can withdraw anytime without giving reasons.

Ethical approval

Ethical clearance will be obtained from the University of Venda Research Ethical Committee.

Contact person

The contact person of this study is **Mudau Thetshelesani** for any information.

Cell 0762175967

CONSENT FORM

Statement of Agreement to Participate in the Research:

- ……., hereby confirm that, I have been informed by the researchers, about the nature, conduct, benefits and risks of this study - Research Ethics Clearance Number: **FHS/22/PH/24/2604**

- 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 computerized 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 this research which may relate to my participation will be made available to me.

Full Name of Participant	Date	Time	Signature
……	…….	…….	……..

I MUDAU T, herewith confirm that the above participant has been fully informed about the nature, conduct and risks of the above study.

Full Name of Researcher	Date	Signature
MUDAU THETSHELESANI	23/10/2023	: *MudauT*

Full Name of Witness (If applicable)

…… Date …… Signature……

ANNEXURE B

LETTER FOR PERMISSION: LIMPOPO DEPARTMENT OF HEALTH

P.O.BOX 1087
VHUFULI
0971
01 MAY 2023

Department of health

Research unit

Office D36 old building

Polokwane

0700

Dear sir /Madam

REQUEST FOR PERMISSION TO CONDUCT A RESEARCH STUDY AT TSHILIDZINI AND DONALD FRASER HOSPITAL

I Mudau Thetshelesani hereby request to be allowed to conduct a research study under the department of health of the Vhembe district. I am presently a master's degree student at the University of Venda under school of health sciences, my student number is 11631584.

Research topic is as follows**:** Factors that contribute to work-related fatigue among hospital nurses in Vhembe District, Limpopo Province, South Arica. Purpose of the study is to explore and describe factors contributing to work-related fatigue among Hospital Nurses in Vhembe District, Limpopo, South Africa. The data will be collected from professional nurses who are working medical ward, surgical ward and pediatric ward. The data will also be collected at lunch time between 13h00 and 14h00 to prevent disturbance in service delivery and will only take 30 to 45 minutes per participant.

The results may help the above-mentioned units to prevent or reduce work related fatigue, at the end of the study the results shall also be submitted to the provincial office. The participation for this study is voluntary. All information collected will be kept confidential.

For enquiries contact Mr. Mudau T

Contact no: 0762175967

Email: thetshelesani24@gmail.com

Hoping my request is taken into consideration

Yours faithfully

: MudauT *01/05/2023*

LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
HEALTH

Ref : LP_2023-05-007
Enquires : Dr Ramalivhana NJ
Tel : 015-293 6028
Email : Phoebe.Mahlokwane@dhsd.limpopo.gov.za

MUDAU THETSHELESANI

PERMISSION TO CONDUCT RESEARCH IN DEPARTMENTAL FACILITIES

Your Study Topic as indicated below;

FACTORS CONTRIBUTING TO WORK-RELATED FATIGUE AMONG HOSPITAL NURSES IN VHEMBE DISTRICT, LIMPOPO, SOUTH AFRICA

1. Permission to conduct research study as per your research proposal is hereby Granted.
2. Kindly note the following:
   a. Present this letter of permission to the Office of Clinical Executive Director a week before the study is conducted.
   b. This permission is for **TSHILIDZINI HOSPITAL AND DONALD FRASER HOSPITAL.**
   c. In the course of your study, there should be no action that disrupts the routine services or incur any cost on the Department.
   d. After completion of study, it is mandatory that the findings should be submitted to the Department to serve as a resource.
   e. The researcher should be prepared to assist in the interpretation and implementation of the study recommendation where possible.
   f. **The approval is only valid for a 1-year period.**
   g. If the proposal has been amended, a new approval should be sought from the Department of Health
   h. Kindly note that, the Department can withdraw the approval at any time.

Your cooperation will be highly appreciated.

Ramalivhana

14/07/2023

pp **Head of Department** **Date**

Private Bag X9302, Polokwane 0700
Fidel Castro Ruz House, 18 College Street, Polokwane 0700
Tel: 015 293 6000. Fax: 015 293 6211. Website: www.doh.limpopo.gov.za

The heartland of Southern Africa - *development is about people!*

ANNEXURE C

REQUEST FOR PERMISSION TO CONDUCT RESEARCH FROM VHEMBE DISTRICT

P.O.BOX 1087

VHUFULI

0971

01 AUGUST 2023

The chief director

Department of Health

Vhembe District offices

0950

Dear sir /Madam

REQUEST FOR PERMISSION TO CONDUCT RESEARCH

I Mudau Thetshelesani hereby request to be allowed to conduct a research study under the department of health of the Vhembe district. I am presently a master's degree student at the University of Venda under school of health sciences, my student number is 11631584.

Research topic is as follows**:** Factors that contribute to work-related fatigue among hospital nurses in Vhembe District, Limpopo Province, South Arica. Purpose of the study is to explore and describe factors contributing to work-related fatigue among Hospital Nurses in Vhembe District, Limpopo, South Africa. The data will be collected from professional nurses who are working in medical ward, surgical ward and pediatric ward. The data will also be collected at lunch time between 13h00 and 14h00 to prevent disturbance in service delivery and will only take 30 to 45 minutes per participant.

The results may help the above-mentioned units to prevent or reduce work related fatigue, at the end of the study the results shall also be submitted to the District office. The participation for this study is voluntary. All information collected will be kept confidential.

For enquiries contact Mr. MudauT on this number: 0762175967

Email: thetshelesani24@gmail.com

Yours faithfully

Mudau T *01/08/2023*

ANNEXTURE D

LETTER FOR PERMISSION: TSHILIDZINI HOSPITAL

P.O.BOX 1087

VHUFULI

0971

02 OCTOBER 2023

HOSPITAL CEO

TSHILIDZINI HOSPITAL

Private Bag x924

Shayndima

0945

Dear sir/ Madam

I Mudau Thetshelesani hereby request to be allowed to conduct a research study under the department of health of the Vhembe district. I am presently a master's degree student at the University of Venda under school of health sciences, my student number is 11631584.

Research topic is as follows**:** Factors that contribute to work-related fatigue among hospital nurses in Vhembe District, Limpopo Province, South Arica. Purpose of the study is to explore and describe factors contributing to work-related fatigue among Hospital Nurses in Vhembe District, Limpopo, South Africa. The data will be collected from professional nurses who are working in medical ward, surgical ward and pediatric ward. The data will also be collected at lunch time between 13h00 and 14h00 to prevent disturbance in service delivery and will only take 30 to 45 minutes per participant.

The results may help the above-mentioned units to prevent or reduce work related fatigue, at the end of the study the results shall also be submitted your Hospital. The participation for this study is voluntary. All information collected will be kept confidential.

Yours faithfully

Mudau Thetshelesani

Contact details

Contact no: 0762175967

Email:thetshelesani24@gmailcom

LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
HEALTH
TSHILIDZINI HOSPITAL

Ref: 8/1/1
Enquiries: Netshifhefhe L.E
Date: 28 September 2023

To: Mudau Thetshelesani

Subject: Permission to conduct research study on factors contributing to work-related fatigue among hospital nurses in Vhembe District, Limpopo, South Africa.

1. The above matter refers.
2. Your letter received on the 21 August 2023 requesting for permission to conduct a study is hereby acknowledged.
3. Permission is therefore granted for the study to be conducted in Tshilidzini Hospital based on the approval letter you provided from Chief Director Vhembe District Health Services and the Head of department Limpopo Department of Health.

Wishing you success in your studies.

Chief Executive Officer

2023/10/12
Date

Tshilidzini Hospital Private Bag X924, SHAYANDIMA, 0945Tel 015 964 4384, FAX 015 964 1492/015 964 1072
Physical Address: R524 PUNDA MARIA ROAD
An accessible, caring quality health and social development service for the people of Vhembe District

The heartland of Southern Africa – development is about people!

ANNEXURE E

LETTER FOR PERMISSION: DONALD FRASER HOSPITAL

P.O.BOX 1087

VHUFULI

0971

02 OCTOBER 2023

HOSPITAL CEO

DONALD FRAZER HOSPITAL

Private Bag x 1172

Vhufuli

0971

Dear sir/ Madam

I Mudau Thetshelesani hereby request to be allowed to conduct a research study under the department of health of the Vhembe district. I am presently a master's degree student at the University of Venda under school of health sciences, my student number is 11631584.

Research topic is as follows**:** Factors that contribute to work-related fatigue among hospital nurses in Vhembe District, Limpopo Province, South Arica. Purpose of the study is to explore and describe factors contributing to work-related fatigue among Hospital Nurses in Vhembe District, Limpopo, South Africa. The data will be collected from professional nurses who are working in medical ward, surgical ward and pediatric ward. The data will also be collected at lunch time between 13h00 and 14h00 to prevent disturbance in service delivery and will only take 30 to 45 minutes per participant.

The results may help the above-mentioned units to prevent or reduce work related fatigue, at the end of the study the results shall also be submitted your Hospital. The participation for this study is voluntary. All information collected will be kept confidential.

Yours faithfully

Mudau Thetshelesani

Contact details

Contact no: 0762175967

Email:thetshelesani24@gmailcom

LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DONALD FRASER HOSPITAL

REF:4/1/1/1

Enq : Nemanashi N.F

09/10/2023

LIMPOPO PROVINCE
DONALD FRASER HOSPITAL
2023 -10- 09
PRIVATE BAG X1172
0971 VHUFULI
DEPARTMENT OF HEALTH

From Quality Assurance unit/Research unit

TO: **MUDAU THETSHELESANI**

ETHICAL CLEARANCE NO: **FHS/22/PH/24/2604**

Supervisor :Dr AG Mudau

Re: ACCEPTANCE OF COLLECTING DATA AT DONALD FRASER HOSPITAL

RESEARCH TOPIC: **Factors contributing to work related fatigue among hospital nurses in Vhembe District, Limpopo province, South Africa**

This is to certify that the following researcher(s)

MS MUDAU THETSHELESANI

Is granted permission to come and collect data related to her study topic after risk assessment was conducted and was rated medium

You are kindly requested to implement batho-pele principles and patients' rights charter during data collection Implement covid-19 guidelines also

Any adverse or complaints encountered during data collection must be reported to the assistant director quality assurance in this cell number 0822323570

Privacy must be maintained throughout data collection

ACTING CHIEF EXECUTIVE OFFICER.....

Date...09/10/2023.....

Private Bag X1172, Vhufuli, 0971
Tel: (015) 963 1778/9, (015) 963 1791/2, (015) 963 1783/4, Fax: (015) 963 1773, (015) 963 1796
Cell No.-083 248 0181
The heartland of Southern Africa -- Development is about people!

ANNEXURE F

TRANSCRIPT

Date: 2023/10/16

Venue: Tshilidzini hospital (Pediatric ward)

Time: 12H00-12H45

Participant transcript (**R** is the researcher and **P** is the participant)

Participant no 1

R: Good afternoon my name is Mudau Thetshelesani, University of Venda student, doing master's degree in public health. The topic is factors that contribute to work related fatigue among hospital nurses in Vhembe district hospitals.

R: I would like to find out if you don't have a problem to participate in this interview which will be used for research purposes for my research project?

P: Good morning to you too, I don't have a problem we can continue with the interview

R: you will be required to sign a written consent form to show that you agreed to participate in this study voluntarily.

P: yes let me sign

R: please note that this interview shall be recorded and the audio will be transcribed and translated. Your names and sex will not be mentioned in the research report. You have a right to withdraw at any time from this interview. The transcript of this interview will be kept safe in lockable computer and the final report will be made available to you.do you consent.

P: I have no problem.

R: Am going to ask you some personal question to understand you and know you better. You are allowed to not answer if you feel uncomfortable.

R: What are your names?

P: My name is Mulaudzi Elisa

R: what is your age?

P: 52 Years

R: Level of education?

P: Post graduate (pediatric specialty)

R: Work unit?

P: Pediatric ward (Tshilidzini hospital

R: Years of experience?

P: 20 YEARS

R: In your own experience working as a professional nurse what do you think are factors that contribute work related fatigue among professional nurses?

P: Shortage of nurses in our unit it is a major contributing factor and absenteeism.

R: Can you explain how big this challenge of shortage of nurses is?

P: In our unit we are only 3 professional nurses including the operational manager and the word is full, this makes us to become more tired because we don't get enough time to rest .as now you can see it is time for doctors round. I think other reason which contributes to work related fatigue is not having enough time to rest, as you can see our ward is always admitting patients.

R: Any other factors that contribute to work related fatigue?

P: The new off duties.

R: Explain what are those new off duties?

P: The old off duties we used to work 7 days in and 7 days out. The new off duties we only rest 3 days per week. The off duties make us to work being 3 professional in our

ward because other professional nurses have to rest, if one or 2 professional nurses is on sick leave it forces you as professional nurse to work overtime ,and this lead to fatigue.

R: Any other factors that contribute to work related fatigue?

P: I have lot of things that I think contributes to work related fatigue

R: can you elaborate on that?

P: In our male medical unit, the majority of the patients admitted are critically ill, unable to do basic tasks like as bathing and eating. To change bed-ridden patients, you must lift them and change nappies and this leads to physically exhaustion. Seeing a patient dying it is very depressive experience because when you are nursing a patient you also become emotional involved and all you want as a nurse is to see the patient getting better and go home. When patient die it affects you deeply and make you lose energy.

R: How do you cope after witnessing a traumatic situation?

P:Lack of support from other colleagues ,in situation that require a team work or supporting each other emotionally this contribute to emotional exhaustion, the management does not provide support to the staff because some situation are traumatic experience ,it needs a nurse to go to counseling ,lack of support lead to being emotionally drained.

R: Is the anything that you can add that contributes to work related fatigue among hospital nurses?

P: Yes, fighting in the workplace

R: Tell me more about fighting in the workplace?

P: Fighting with your colleague contribute to work related fatigue because the work environment becomes unpleasant leading to emotional exhaustion .Another contributing factor is being unable to balance work and personal; life because at home you are mother and wife and there are lot of work that needs to be done at go home, when you come to

work there are also lot of work to be done this contributes work related fatigue among nurses.

R: Do you still have other factors that contribute to work related fatigue that you want to share with me?

P: Yes lack of resources and consumption of caffeine

R: Can you elaborate on that?

P: When basic resources such as functional medical equipment, drugs, or suitable personal protective equipment are not available, it forces you to improvise or spend lot of time searching for that particular equipment as a result this contributes to fatigue. I keep myself energized with energy drinks, but as a result of drinking energy drinks, sleeping become difficult, and this causes me to come to work without adequate rest

R: Thank you for your time; this is the end of our interview.

P: Okay

ANNEXURE G

ETHICAL CLEARANCE

ETHICS APPROVAL CERTIFICATE

RESEARCH AND INNOVATION
OFFICE OF THE DIRECTOR

NAME OF RESEARCHER/INVESTIGATOR:
Mr T Mudau

STUDENT NO:
11631584

PROJECT TITLE: Factors contributing to work related fatigue among hospital nurses in Vhembe district, Limpopo province, South Africa.

ETHICAL CLEARENCE NO: FHS/22/PH/24/2604

SUPERVISORS/ CO-RESEARCHERS/ CO-INVESTIGATORS

NAME	INSTITUTION & DEPARTMENT	ROLE
Dr AG Mudau	UNIVEN, Public Health	Supervisor
Prof L Makhado	UNIVEN, Public Health	Co-Supervisor
Mr T Mudau	UNIVEN, Public Health	Investigator – Student

Type: **Masters Research**
Risk: **Minimal risk to humans, animals, or environment (Category 2)**
Approval Period: **April 2023 – April 2024**

The Human and Clinical Trails Research Ethics Committee (HCTREC) hereby approves your project as indicated above.

General Conditions
While this ethics approval is subject to all declarations, undertakings and agreements incorporated and signed in the application form, please note the following.

- The project leader (principal investigator) must report in the prescribed format to the REC:
  - Annually (or as otherwise requested) on the progress of the project, and upon completion of the project.
  - Within 48hrs in case of any adverse event (or any matter that interrupts sound ethical principles) during the course of the project.
  - Annually a number of projects may be randomly selected for an external audit.
- The approval applies strictly to the protocol as stipulated in the application form. Would any changes to the protocol be deemed necessary during the course of the project, the project leader must apply for approval of these changes at the REC. Would there be deviated from the project protocol without the necessary approval of such changes, the ethics approval is immediately and automatically forfeited.
- The date of approval indicates the first date that the project may be started. Would the project have to continue after the expiry date; a new application must be made to the REC and new approval received before or on the expiry date.
- In the interest of ethical responsibility, the REC retains the right to:
  - Request access to any information or data at any time during the course or after completion of the project.
  - To ask further questions; Seek additional information; Require further modification or monitor the conduct of your research or the informed consent process.
  - withdraw or postpone approval if:
  - Any unethical principles or practices of the project are revealed or suspected.
  - It becomes apparent that any relevant information was withheld from the REC or that information has been false or misrepresented.
  - The required annual report and reporting of adverse events was not done timely and accurately.
  - New institutional rules, national legislation or international conventions deem it necessary.

ISSUED BY:
UNIVERSITY OF VENDA, RESEARCH ETHICS COMMITTEE
Date Considered: April 2023

Name of the HCTREC Chairperson of the Committee: Prof MS Maputle

Signature

UNIVERSITY OF VENDA
OFFICE OF THE DIRECTOR
RESEARCH AND INNOVATION
2023 -04- 26
Private Bag X5050
Thohoyandou 0950

ANNEXTURE H: EDITING AND PROOFREADING REPORT

10 JUNE 2024

This is to certify that I, Dr kengu, have proofread and edited a mini-dissertation for the Department of Public Health titled : factors that contributes to work-related fatigue among hospital nurses in Vhembe district, Limpopo province ,south Africa by Mudau Thetshelesani, Student Number: 11631584.

I carefully read through this study, focusing on proofreading and editorial issues. The recommended suggestions are highlighted in red ink and can be accepted or rejected using the Microsoft Word Track Changes System. The student must effect these changes before the final submission.

Yours Sincerely

Dr. kengu Y: Ph.D. English Lit, MA (English), BA Honours in

English and Communication

University of Pretoria
Humanities HB 16-31
Gauteng
Cel.: +27 799037112
E-mail: Kenguyvone@gmail.com
kenguyvone@up.ac.za

ANNEXURE I:TURNITIN REPORT

FACTORS CONTRIBUTING TO WORK-RELATED FATIGUE AMONG HOSPITAL NURSES IN VHEMBE DISTRICT, LIMPOPO, SOUTH AFRICA

ORIGINALITY REPORT

16%	14%	3%	9%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	ulspace.ul.ac.za Internet Source	2%
2	vital.seals.ac.za:8080 Internet Source	1%
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