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VIEWS OF SURGICAL NURSES ON FACTORS INFLUENCING POST-OPERATIVE PAIN LEVEL ASSESSMENT IN SURGICAL WARDS AT THE SELECTED PUBLIC HOSPITAL IN GAUTENG PROVINCE

By

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DECLARATION

Student number: 25410611

I declare that the thesis "**Views of surgical nurses on factors influencing post-operative pain level assessment in surgical wards at the selected public hospital in Gauteng Province**" is my original work and that it has not been submitted before for any degree or examination at any other institution.

All the sources that have been consulted or quoted are acknowledged by means of complete referencing in the text and in the attached reference list.

Makou M	19.07.2023
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NNENE MELIA MAKOU	**DATE**

DEDICATION

- In remembrance of my late father, Jim Mogashoa, and brother, Willie Mogashoa. I wish that we could share this moment.
- Thank you to my mother, Sarah Mogashoa, for your faith, prayers and always telling me: “You can do it”.
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“What the mind of man can conceive and believe, it can achieve” Napoleon Hill.

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ABSTRACT

Introduction and background:

The increased rate of inadequate acute post-operative pain level assessment among nurses working in surgical wards is a major concern, worldwide, including in South Africa. Literature confirms that many patients who had undergone surgery experience acute post-operative pain. Hence, pain is regarded as the fifth vital sign to be assessed post-operatively to improve patients' care satisfaction. Despite, the assessment and management of pain post-operatively, many studies reported that patients still report insufficient pain relief post-operatively. Nurses have an important role to play by assessing, effectively communicating, managing and documenting patient's post-operative pain levels.

Aims and objectives:

The aim of the study was to explore and describe views of surgical nurses on factors influencing post-operative pain level assessment in surgical wards at the selected public hospital in Gauteng Province.

Research design:

A qualitative explorative, descriptive, and contextual research design was used for this study.

Methods:

The population were male and female nurses working in surgical wards at the selected public hospital in the Gauteng Province. The participants who meet the inclusion criteria were purposefully selected. Semi-structured interviews were conducted with thirteen purposefully sampled professional nurses to explore their views on factors influencing post-operative pain level assessment in surgical wards at the selected public hospital in Gauteng province. The data was collected face-to-face by the researcher using individual semi-structured interviews with the participants. The audio recorder and field notes were used through the permission of the participants. The researcher used Braun and Clarke's (2006) approach, six-phase of reflexive thematic analysis.

Findings:

Three themes emerged from the study. These themes include ways of assessing post-operative pain levels, factors influencing post-operative pain level assessment and suggestions for improving post-operative pain level assessment. Themes were supported with the literature during discussion. The findings of the current study indicated that lack of standardised pain assessment

tools, nurse-patient ratio, lack of in-service education, lack of commitment and lack of interprofessional communication are the most concerning factors in the surgical wards. These findings were enhanced with direct quotations from the transcriptions as verbalized by surgical wards nurses during semi-structured interviews and affected the participant's quality nursing care in the surgical wards.

Conclusion:

The findings contributed to a better understanding of the surgical nurse's views on factors influencing post-operative pain level assessment in surgical wards. Nurses should remain clinically committed and competent with regard to post-operative pain level assessment to improve the quality of nursing care and patient's satisfaction. The recommendations developed from the findings are relevant and can contribute to a quality nursing care in the post-operative pain level assessment of the patients in the surgical wards.

Key terms /concepts:

Acute post-operative pain, factors, inadequate, post-operative pain management, public hospital, surgical nurse, surgical ward, views.

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Abbreviation /acronym	Meaning
CPD	Continuous Professional Development
GDoH	Gauteng Department of Health
GP	Gauteng Province
POP	Post-operative pain
SANC	South African Nursing Council
SASA	South African Society of Anaesthesiologists
UP	University of Pretoria

CHAPTER 1: OVERVIEW OF THE STUDY

1.1 INTRODUCTION AND BACKGROUND

Post-operative pain is defined as an acute pain which is experienced by patients following surgical intervention; usually this pain is accompanied by a neuroendocrine stress response depending on the intensity (Ferdoush, Chowdhury, Johora, Arifina, Jeenia, Ata, et al., 2021:69). The same authors report that in most cases post-operative pain is unavoidable and many patients - about 80%, reported severe pain after surgery. The increased rates of inadequate post-operative pain assessment in patients led to research about understanding assessment, treatment, and management of post-operative pain (Meissner, Coluzzi, Fletcher, Huygen, Morlion, Neugebauer, et al., 2015:2132; Nasir & Ahmed, 2020:1; Macintyre, Levy & Lobo, 2022:159). Moreover, pain is regarded as the fifth vital sign to be assessed post-operatively to decrease patients' suffering from pain and to improve patient satisfaction (Yang, Hartley, Leung, Ronksley, Jetté, Casha, et al., 2019:1). Therefore, surgical nurses are professional nurses who are registered and who obtain annual licences to practice with the South African Nursing Council. Nurses have an important role to play by assessing, effectively communicating, managing and documenting patients' post-operative pain levels (South African Nursing Council (SANC), R.2598, Act, No. 50 of 1978).

To achieve the goals of acute post-operative pain relief, a systematic pain assessment process is essential. It is believed that the process contributes to the understanding of patients' post-operative pain and effective management (Ferdoush et al., 2021:70). Corke (2013:202) argues that different methods of pain assessment such as the verbal rating scale and numerical rating scale, and management to minimise post-operative pain should be employed perioperatively, depending on the type of surgery performed and individual patients' pain threshold, such as gender and history of substance abuse. In support, Mitsiou (2013:21) suggests that patients should be well informed regarding post-operative pain prior to and after their surgery. In addition, proper counselling should be provided throughout their recovery to improve the actual experience of pain. The (ibid) is of the opinion that the stated factors are correlated with pain management. Wikström, Eriksson, Årestedt, Fridlund and Broström (2014:53), are of the opinion that management of acute post-operative pain is dynamic and includes thorough assessment and reassessment. According to the South African Society of Anaesthesiologists' (SASA), Acute Pain Guidelines (2015) nurses should consider understanding each biological, psychological and social dimension of patients' post-surgery pain experience to alleviate acute post-operative pain effectively.

However, some studies reported that despite the advanced pain assessment techniques, such as the verbal rating scale (VRS) and numerical rating scale (NRS), as well as treatment established to manage acute post-operative pain, an estimated 50%-75% post-operative patients experience insufficient pain relief (Nimmaanrat, Tangtrakulwanich, Wanasuwannakul & Boonriong, 2010:1268; Bajwa, 2017:189). Among the factors contributing to inadequate assessment and management of acute post-operative pain, are barriers related to individual patients, healthcare providers and especially nurses, as well as hospital policies and standards. According to Alnajar, Shudifat, Mosleh, Ismaile, N'erat and Amro (2021:170), pain is a subjective measure, therefore, sufficient or adequate pain assessment and management depends on the ability of patients to report pain accurately to the nurses. Other evidence indicates that insufficient acute post-operative pain relief is caused by inadequate pain assessment and insufficient documentation due to a lack of in-service training on post-operative pain assessment and management guidelines in healthcare institutions. (Menlah, Garti, Amoo, Atakro, Amponsah & Agyare, 2018:2).

Cruz, Kather, Nicolaus, Rengsberger, Mothes, Schleussner, et al., (2021:1), indicate that reasons for the increase in inadequate post-operative pain management, include failure of nurses working in surgical wards to assess post-operative pain levels with a numeric pain-rating scale. Some of the barriers to attain optimal pain relief has been found to be knowledge, attitudes and practices of post-operative pain assessment by the nurses working in surgical wards. For example, a study conducted at selected district hospitals in Ghana, revealed that nurses have insufficient knowledge of assessment and management of post-operative pain (Menlah et al., 2018:2). Adams, Varaei and Jalalinia (2020:2) report that some nurses have a lack of knowledge or a negative attitude towards pain assessment and management. Substandard practices such as not informing patients about pain prior to surgery, as well as nurses' inadequate post-operative pain level assessment were also found to be a serious problem, since post-operative pain is accepted as normal, while relieving acute post-operative pain is not prioritized and at times ignored (van Dijk, Schuurmans, Alblas, Kalkman & van Wijck, 2017:3501; Yang, Xiong, Xia, Kang, Jian, Yang, et al., 2020:1324). It was also identified that increased workload, time constraints and lack of guidelines are common barriers to assess and manage acute pain (Alnajar et al., 2021:176).

It is, therefore, obvious that inadequate acute post-operative pain level assessment is a major challenge for nurses who work in surgical wards worldwide (Olawale, Olorunfemi, Oyewole & Salawu, 2020:134). South Africa is not an exception; a study conducted in the Western Cape province indicates that there is a lack of patients' post-operative assessment, as well as

implementation of management guidelines (Prempeh, Duys, De Vaal & Parker, 2020:6). However, there is a paucity of research on the factors that lead to inadequacy of post-operative pain level assessment in surgical wards, especially in developing countries. Since research on the factors contributing to inadequate acute post-operative pain level assessment is limited, nurses working in surgical wards need to be equipped with more knowledge. Nurses play an important role by systematically assessing and monitoring pain levels, administrating relevant and effective pharmacological treatment, providing non-pharmacological management, and educating patients and their families about pain (Alnajar et al., 2021:171). Nurses' knowledge and skills in this regard, may emphasise important facts that can be used to facilitate a pain free recovery post-operatively.

The researcher has observed that some surgical nurses where not assessing their patients' post-operative pain levels in surgical wards, which resulted in patients feeling fearful, having limited interaction and sleeplessness; as well as experiencing delayed healing. Inadequate post-operative pain assessment contributed to delayed recovery and longer hospital stays in public hospitals, thus increasing the spending of public hospitals' money.

This research will focus on adults' surgical wards, which include general surgery, urology surgery and orthopaedic surgery. The researcher is therefore inspired to explore and describe the views of surgical nurses regarding factors influencing post-operative pain level assessment in surgical wards at the selected public hospital in Gauteng**.** The researcher believes that surgical nurses' views and knowledge on factors influencing post-operative pain level assessment will contribute towards improving patient care.

1.2 PROBLEM STATEMENT

Acute postoperative pain is common in all patients that undergo a surgical procedure (Pogatzki-Zahn, Segelcke & Schug, 2017: 2). Adequate acute post-operative pain management is an integral part of keeping patients free from pain and promoting quality patient care. There are guidelines of best practices in assessment and management of post-operative pain in place, such as a verbal rating scale (VRS) where nurses ask their patients to rate their pain on a five-point scale as "none, mild, moderate, severe or very severe", and numerical rating scales (NRS) which consists of a simple 0-5 or 0-10 scale that measures pain to no pain at zero and worst possible pain at 5 (or 10). According to Tano, ApiribuI, Tano, Boamah Mensah, Dzomeku and Boateng (2021: 2), nurses are expected to follow the available guidelines to assess and manage post-operative pain immediately and effectively. The expectations include nurses to use a pain assessment scale to gauge pain levels,

providing both pharmacological and non-pharmacology interventions according to the level of pain (Alnajar et al., 2021:176). This is believed to be helpful in reducing unnecessary suffering and to prevent complications that might arise. However, there is documented evidence indicating several barriers influencing inadequate post-operative pain assessment and management worldwide (Olawale et al., 2020:134; Prempeh, Duys, De Vaal & Parker, 2020:5).

Despite the available guidelines to assess and manage post-operative pain, a large number of nurses do not follow the guidelines, but render routine basic nursing skills to assess and relieve post-operative pain (Menlah et al., 2018: 7). This increases the incidence of post-operative pain mismanagement in many instances (Nilsson, Gruen & Myles, 2020: e158). A study conducted in Turkey reported that approximately 90% of patients experience post-operative pain after 24 hours of surgery (Bülbüloğlu, Aslan, Kapikiran, Saritaş, Serin & Güneş, 2020: 9). In India it was discovered that the incidence of moderate-to-severe levels of acute post-operative pain was alarmingly high and pain assessment was significantly inadequate (Sharma, Thakur, Mudgal & Payal, 2020: 403). A study conducted in Ghana confirmed that 47–100% of patients who had undergone abdominal surgery, received inadequate post-operative pain level assessment and management (Tano et al., 2021: 2). A South African study conducted in the Western Cape province, which evaluated pain assessment and management of patients in two surgical wards at a tertiary hospital, revealed that there was no pain assessment on 41% of patients post-operatively (Prempeh et al., 2020: 2). The nurses were using pain scales to assess the patient's post-operative pain to improve the quality of nursing care (Olisarova, Tothova, Cerveny, Dvorakova & Sadilek, 2021:1; Porte, Búřilová & Pokorná, 2021:1).

It can be concluded that surgical nurses are giving patients inadequate attention regarding post-operative pain level assessment at public hospitals. In addition, the researcher as a perioperative nurse for two years' experience, observed during post-operative visits that patients were not satisfied with post-operative pain management following abdominal surgery. This motivated the researcher to seek an understanding on the views of surgical nurses regarding factors influencing post-operative pain level assessment at the selected public hospital in Gauteng province.

Inadequate acute post-operative pain level assessment and management influences the patients care dissatisfaction. This dissatisfaction may result from the increased use of opioids, the delay in recovery and longer period of stay in the public hospital, thus increasing the

spending of the public hospital's money (Tano et al., 2021: 2; Yang et al., 2019:1). This negatively affects patients physically and psychologically, while at the same time, the acute pain has the potential of changing into chronic pain, which will have an impact on patients', as well as healthcare systems' financial burdens. In support, SASA (2015: 9) alluded to the fact that chronic pain can develop following mismanaged acute post-operative pain. It is therefore important to ensure appropriate pain control post-operatively to avoid the conversion of acute pain into a chronic pain syndrome (SASA, 2015: 99). It is also documented that if this problem is not attended to, it will lead to patients being restless, irritable, aggressive, having feelings of fear, hopelessness, difficulty to sleep and dissatisfaction with post-operative nursing care (Yuksel, Ay & Yilmaz, 2021: 1637). In addition, inadequate assessment and management of post-operative pain can result in medical complications such as pneumonia, pulmonary embolus, deep vein thrombosis and delayed healing (Schug, Palmer, Scott, Alcock, Halliwell & Mott, 2020:). An increase in heart rate, respiration and blood pressure is also indicated as the biological dimensions of inadequate acute post-operative pain level assessment (SASA, 2015: 10). The proposed study aims to explore and describe the views of surgical nurses on factors influencing post-operative pain level assessment in surgical wards at the selected public hospital in Gauteng province.

1.3 SIGNIFICANCE

This study was aimed at exploring and describing surgical nurses' views on factors influencing post-operative pain level assessment in surgical wards. The benefits of the study may be used by nurses who provide care in surgical wards and by public hospitals' management, to reduce increased post-operative pain mismanagement. The findings of this study may furthermore be used to address the factors influencing post-operative pain level assessment and management, providing quality care in surgical wards at the selected public hospital in GP and to improve the continuity of patient care. The study was conducted in one selected academic public hospital in Gauteng and findings were not generalised to other public academic hospitals in Gauteng province, South Africa. The study might benefit the nursing profession, as well as practice, policy, nursing education and research.

1.3.1 NURSING PROFESSION AND PRACTICE

The hospital management and nurses in surgical wards may use the findings of this study to understand and surmount the factors that negatively influence the assessment of post-operative pain levels at the selected public hospital in Gauteng.

1.3.2 POLICY

The hospital management, nurses who work in surgical wards and researchers might develop a standard approach and update the existing policies on post-operative pain level assessment for adult patients in Gauteng, to improve the quality of nursing care.

1.3.3 NURSING EDUCATION

The hospital management could support the nurses who work in surgical wards to gain more knowledge on post-operative pain level assessment through workshops and seminars. The nurses who provide care in surgical wards could get Continuous Professional Development (CPD) through continuous in-service education on post-operative pain level assessment and management to improve the quality of patient care and reduce extended public hospital stays. The acquired knowledge may be incorporated in the education of nursing students in future.

1.3.4 RESEARCH

The Department of Health may use the findings of this study to improve the quality of nursing care and revise the nursing curriculum, guidelines, policies and standards on post-operative pain level assessment. The study is aimed at contributing towards a better understanding among surgical nurses regarding the factors influencing post-operative pain level assessment to enhance patient care and satisfaction.

1.4 RESEARCH QUESTIONS

The following research questions guided the study:

- What are the views of surgical nurses on factors influencing post-operative pain level assessment in surgical wards at a selected public hospital in Gauteng Province?
- What are their suggestions for improving post-operative pain level assessment in surgical wards?

1.5 RESEARCH AIM AND OBJECTIVES

The study was aimed at exploring and describing the views of surgical nurses on factors influencing post-operative pain level assessment in surgical wards at the selected public hospital in Gauteng province**.**

Objectives of this study:

- To explore and describe the views of surgical nurses on factors influencing post-operative pain level assessment in surgical wards at the selected public hospital in Gauteng Province.

- To suggest ways for improving post-operative pain level assessment in surgical wards at the selected public hospital in Gauteng Province.

1.6 DEFINITION OF KEY TERMS

1.6.1 Acute post-operative pain

Acute pain is defined as “pain of short and limited duration that relates to an identifiable cause such as trauma, surgery or inflammation.’’ (SASA, 2015: 3; Schug et al., 2020: 2). In this study, acute pain refers to pain experienced by patients admitted to surgical wards after the surgery for up to seven days. Post-operative pain is described as an acute pain associated with tissue and muscle injury following a surgical intervention, and it can last up to three months (Small & Laycock, 2020: 70). In this study, it is described as unpleasant sensations that occur following tissue injury associated with surgery.

1.6.2 Factors

According to the Cambridge English Dictionary online (2022), factors are facts or situations that affect or influence a situation. Factors in this study refer to any activity that has an impact on the assessment and management of acute post-operative pain by nurses working in surgical wards of the selected hospital.

1.6.3 Inadequate

Inadequate refers to a situation which is not good enough to produce the acceptable results (Cambridge English Dictionary online 2022:1). In this study, inadequate refers to assessments and management interventions that are too low in quality to relieve acute post-operative pain.

1.6.4 Post-operative pain management

Kidanemariam, Elsholz, Simel, Tesfamariam and Andemeske (2020:2), define post-operative pain management as a comprehensive intentional action of nurses in relieving post-operative pain by both pharmacological and non-pharmacological interventions after surgery. In this study, post-operative pain management refers to the assessment and both pharmacological and non-pharmacology care rendered by the nurses to patients after the surgery.

1.6.5 Public hospital

A public hospital is a hospital owned by a government and operated solely of funds from the government (Young, 2016:4). In this study, it is the selected tertiary or academic hospital funded by the state.

1.6.6 Surgical nurse

A nurse is a person who completed a basic nursing programme and is registered to provide competent health care, which include the promotion of health, prevention of illness, care of the sick and rehabilitation (South African Nursing Council (SANC), Nursing Act, No.33 of 2005). In this study, a nurse is a person registered with the SANC as a professional nurse competent to render quality nursing management to post-operative patients in surgical wards of the selected hospital.

1.6.7 Surgical ward

A surgical ward is defined as a ward that renders pre-operative and post-operative care to patients (The Free Dictionary, 2019:1). In this study, surgical ward refers to the adults; male and female surgical wards, which are general, urology and orthopaedic in the selected hospital where post-operative patients receive care from surgical nurses.

1.6.8 Views

Views refer to how they perceive the situation or what they believe is correct about something (Cambridge English dictionary online 2022:1). In this study, views are what the participants thought or believed the patients received effective post-operative pain assessment from them.

1.7 PARADIGM

Polit and Beck (2021:796) define a paradigm as the way of looking at a natural phenomenon or a worldview that encompasses a set of philosophical assumptions and guides one's approach to enquiry. The researcher used the constructivism paradigm in this study. The constructivist paradigm was appropriate for this study as the researcher intended to understand the specific reality of the factors leading to inadequate post-operative pain level assessment among nurses working in surgical wards (Liamputtong, 2019:1097).

1.7.1 PHILOSOPHICAL ASSUMPTIONS

Brink, van der Walt and van Rensburg (2018:19), and Creswell and Poth (2018:418), describe philosophical assumptions as the researcher's assumptions about reality (ontology), how the researcher knows the reality (epistemology) and the way of knowing about reality (methodology). The researcher used ontology, epistemology and methodology to make assumptions.

1.7.1.1 ONTOLOGICAL ASSUMPTIONS

Ontology refers to "one's philosophical set of assumptions about reality" (Brink et al.,

2018:19). The researcher believed that reality is not known until in-depth meaning from participants was conducted through the semi-structured interviews. The researcher used the qualitative research method to understand the nature of reality of surgical nurses. The surgical nurses were able to describe their views on the factors influencing post-operative pain level assessment in surgical wards. The data obtained from the surgical nurses by the researcher was subject to the individual's views. The participants were interviewed and probing questions were asked to understand their version of the factors influencing post-operative pain level assessment. The researcher ensured that her own views in the study was avoided and that she focused on the views of the participants.

1.7.1.2 EPISTEMOLOGICAL ASSUMPTIONS

Epistemology is defined as a "philosophical underpinnings of researchers' knowledge regarding the nature of reality'' (Brink et al., 2018:19). The researcher obtained subjective data through interaction with the participants. The researcher assumed that interacting with individual surgical ward nurses, provided rich information to describe the factors influencing post-operative pain level assessment. In this study, the surgical nurses may have had more information to share with the researcher through their views on factors influencing post-operative pain level assessment in surgical wards at the selected public hospital.

1.7.1.3 METHODOLOGICAL ASSUMPTIONS

Methodology is defined as "a way of knowing about the reality'' (Brink et al., 2018:19). The researcher used the qualitative research method to explore the views of surgical nurses and the participants were able to reveal their views on factors influencing post-operative pain level assessment in surgical wards. The researcher used the thematic data analysis to obtain the objective of this study to avoid bias. The researcher believed that the constructivism paradigm led to thick a description of the data. The semi-structured interviews were used to collect data from the participants, while the researcher did not formulate her own views.

1.7.1.4 AXIOLOGY ASSUMPTIONS

Axiology is defined as assumptions made about the role of values in understanding meaning, characteristics, aim, and the influence values have on the people's experiences (Gray & Grove, 2021:75). The researcher adhered to and ensured respect in 3.3.5.3 and 3.5 during the semi-structured interview with the participants to explore views on factors influencing post-operative pain level assessment in the surgical wards. The principles of informed consent when communicating with the participants were followed by the researcher (Annexure A). The

researcher followed Braun and Clarke's (2006) approach to conduct reflexive thematic data analysis, as displayed in Table 3.1.

1.8 DELINEATION

The study will only explore and describe the views of surgical nurses on factors influencing post-operative pain level assessment in surgical wards at the selected public hospital in Gauteng province. The target population consisted of professional nurses who are working in three adult surgical wards providing nursing care to the patients who underwent major general, urology and orthopaedic surgery. The purpose of this study was generalised to the selected academic public hospital and not to any other setting.

1.9 RESEARCH DESIGN

The research design is the plan for gathering information with the goal of discovering knowledge (Brink et al., 2018:104; Polit & Beck, 2021:471). A qualitative explorative, descriptive and contextual research design was used for this study to explore and describe the views of surgical nurses regarding factors influencing post-operative pain level assessment in surgical wards. See a detailed description in Chapter 3.

1.10 METHODS

The research methods are techniques used to structure a study, collect and analyse information relevant to a research question (Polit & Beck, 2021:8). In this study, the research methods included setting, population, sampling method and sample size, data collection and organisation, data analysis and rigour control. The method used in this research study is summarised in, Table 1.1 and a detailed description is provided in Chapter 3.

Table 1.1: Summary of the method used in the research study

ASPECT	DESCRIPTION
Setting	Adults' surgical wards, which include general surgery, urology surgery and orthopaedic surgery at a selected adult public hospital in GP.
Population	Male and female nurses providing care in general, urology and orthopaedic surgical wards of a selected academic public hospital in GP.
Sampling method and sample size	A purposive non-probability sampling method was used until data saturation was reached.
Data collection and organisation	The researcher collected data through individual semi-structured interviews. Two (2) participants were pre-tested as part of the pilot study.
Data analysis	Data was analysed using Braun and Clarke's (2006) six phases of reflexive thematic data analysis.

1.11 RIGOUR CONTROL

According to Brink et al., (2018:110), rigour as a research signals openness, relevance, epistemological and methodological congruence, thoroughness in data collection and the data-analysis process and the researcher's self-understanding. The researcher ensured trustworthiness through Guba and Lincoln's (1985) model of five criteria. The five criteria include: credibility, dependability, confirmability, transferability and authenticity. A detailed description is provided in Chapter 3.

1.12 ETHICAL CONSIDERATIONS

According to Brink et al., (2018:28), ethical considerations in research are related to the protection of human rights and social beings. The researcher ensured that the ethical measures were respected following permission to conduct the research study, to ensure respect for human dignity, beneficence and non-maleficence, and justice. A detailed description is provided in Chapter 3.

1.13 DIVISION OF CHAPTERS

The division of chapters are as follows:

Chapter 1: Overview of the study
Chapter 2: Literature review
Chapter 3: Research design and methods
Chapter 4: Research presentation and interpretation of findings
Chapter 5: Conclusion, implications, limitations and recommendations

1.14 CONCLUSION

Chapter 1 covered the introduction and background, the problem statement and the significance of the study, the research questions, the research aim and objectives, definitions of key terms, the paradigm, delineation, a short description of the research design, a short description of the research methods as summarised in Table 1.1, ethical considerations and dissemination of results. In Chapter 2 the literature review will be discussed.

CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

In Chapter 1, an overview of the study process was presented. This chapter discusses a comprehensive literature review on the views of surgical nurses regarding factors influencing post-operative pain level assessment in surgical wards. Polit and Beck (2021:109) define a literature review as “an interpretative, organised and logically written presentation of the sources that have been read’’. The authors further state that a literature review entails finding, reading, understanding and forming conclusions concerning the published research and arranging it in an organised manner. The purpose of a literature review is therefore to generate and familiarise the researcher with current thinking published on a particular topic, in order to identify a knowledge gap that justifies future research into a previously overlooked field.

The pain experienced post operatively is generally predictable and unavoidable following a surgical intervention (Meissner, Huygen, Neugebauer et al., 2018:187). It has been documented that a large number of patients who had undergone surgical intervention, experience pain (Meissner et al., 2018:191; Tamer & Dağ, 2020:1; Small & Laycock, 2020:70). This pain is reported to be the most unpleasant sensory and emotional subjective feeling experienced by the individuals depending on their pain threshold. Since post-operative pain is predictable, it is managed with pharmacological treatments, which are more often combined in multimodal analgesic regimens (Mayoral Rojals, Charaja, De Leon Casasola, Montero, Tamayo & Varrassi, 2022:2).

Nurses are primarily regarded to be in the best position to assess and recognise clinical symptoms of pain and to manage post-operative pain since they spend a lot of time with patients (Tamer & Dağ, 2020:6). If nurses assess the post-operative pain adequately and accurately, there will be effective pain management. Thus, adequate and accurate pain assessment by nurses following surgery, is the essential component towards management of post-operative pain. Effective pain management is, therefore, an essential role and practice of nurses working in surgical wards or units. According to Gupta, Mena, Jin, Gan and Bergese (2021:1085), if post-operative pain is not accurately assessed and managed, recovery time will be delayed, while clinical and psychological changes that increase the risk of morbidity and mortality rates, will take place. Therefore, post-operative pain should be prevented, recognised early and controlled to protect patients from adverse effects and promote recovery.

Nurses are expected to carry the responsibility to effectively assess, recognise, communicate and manage post-operative pain. However, literature reports that despite nurses spending more time with surgical patients, they are often challenged to identify, measure and evaluate patients' post-operative pain, as it depends on the patient's experience and is subjective rather than objective in nature (Ingadóttir & Zoëga, 2017:51; Khatib & Razvi, 2018:51; Mohamed Bayoumi, Khonji & Gabr, 2021:2). During the assessment, nurses fail to identify and prevent 'foreseeable pain' (Coll & Jones, 2020:2). It is also difficult for them to make decisions about administration of post-operative pain treatment due to the ward or unit culture (Denness, Carr, Seneviratne & Rae, 2017:230). Some studies suggest that in certain cases where pain levels are judged and managed, a disparity exists between a patient's perceived level of pain and the nurse's assessment of pain, due to previous experiences and opinions. (Chatchumni, Namvongprom, Eriksson & Mazaheri, 2016:5; Jang, Park & Chang, 2019:2).

On the other hand, Chatchumni et al., (2016:1) argue that nurses fail to assess post-operative pain adequately and accurately because they do not use appropriate pain assessment tools optimally. The same authors report that a lack of time, a heavy workload, prioritisation of other tasks and staff shortages contribute to failure in assessing post-operative pain. Despite the stated factors that can be corrected, there are still reports of inadequate post-operative pain management, and there is limited literature on the views of surgical nurses regarding factors that influence post-operative pain level assessment in surgical wards. Moreover, a review was conducted following the principles of a scoping review to extract peer-reviewed literature related to the views of surgical nurses on factors influencing post-operative pain level assessment in surgical wards. The findings can be used to refine and improve the existing interventions that assess and manage post-operative pain management.

2.2 AIM OF LITERATURE REVIEW

This literature review is aimed at examining and analysing the views of surgical nurses regarding factors influencing post-operative pain level assessment in surgical wards globally. The reviewed literature provides insight into the factors that influence post-operative pain assessment in surgical wards or units. Additionally, controversies, weaknesses and gaps regarding post-operative pain assessment are identified and confirmed.

For the purpose of this review, nurses are professional nurses, registered by a nursing regulatory authority. Student nurses are excluded in the definition. The surgical wards are clinical settings in a hospital that admit and treat patients who undergo surgical interventions.

2.3 MATERIALS AND METHODOLOGY

The researcher conducted a comprehensive review following a scoping literature review methodology. According to Munn, Pollock, Khali, Alexander, Mclnerney, Godfrey, et al., (2022:950), scoping reviews are a type of evidence synthesis that aims to systematically identify and map the breadth of evidence available on a particular topic, field, concept, or issue, often irrespective of source within or across particular contexts. The scoping literature review was found best for this study, because the study aimed to provide a clear and comprehensive overview of existing evidence on the views of surgical nurses regarding factors influencing post-operative pain level assessment in surgical wards and identify knowledge gaps. Munn, Peters, Stern, Tufanaru, McArthur and Aromataris (2018:6) emphasise that rigorous and transparent methods are required when conducting scoping reviews to ensure that the results are trustworthy. Therefore, our review followed scoping review steps by the Joanna Briggs Institute (JBI) (Tricco, Lillie., Zarin, O'Brien Colquhoun, Kastner, et al., 2016:24).

2.3.1 Review question

Peters, Marnie, Colquhoun, Garritty, Hempel, Horsley, et al., (2021:2) indicate that scoping reviews are conducted to address broader questions beyond the effectiveness of a given intervention. The authors further indicate that a scoping review is probably best when research objectives or review questions involve exploring, identifying, mapping, reporting or discussing characteristics or concepts across a breadth of evidence sources (Peters et al., 2021:3). According to Peters, Marnie, Tricco, Pollock, Munn, Alexander, et al., (2020:2122), scoping review questions should incorporate the elements of population, concept, and context, known as ‘‘PCC’’ mnemonic. Our review question is:

- What are the views of surgical nurses regarding factors influencing post-operative pain level assessment in surgical wards?

The objectives were:

- To explore and describe the views of surgical nurses on factors influencing post-operative pain level assessment in surgical wards at the selected public hospital in Gauteng Province.
- To suggest ways for improving post-operative pain level assessment in surgical wards at the selected public hospital in Gauteng Province.

2.3.2 Eligibility criteria

Eligibility criteria was developed based on the ‘‘PCC’’ mnemonic:

- Population: Nurses working in surgical wards/units were included in the study.

- Concepts: The views of surgical nurses on factors influencing post-operative pain level assessment in surgical wards.
- Context: Surgical wards.

Inclusion criteria

- Both qualitative and mixed methods peer-reviewed articles published between 2018 and 2022.
- Studies conducted in English language.
- Global, including local relevant articles were included based to the research questions.

Exclusion criteria

- Quantitative studies were excluded.
- Studies that did not address factors that influence post-operative pain level assessment.
- Studies that did not include nurses as a population.
- Studies published in any other language than English.
- Secondary studies, literature review studies, abstracts, editorials, grey literature, theses and dissertations.

2.3.3 Search strategy

Search strategy is defined as an organized structure of key terms used to search a database (Gray & Grove, 2021:159; IGI Global dictionary online 2023). A comprehensive online database literature search was conducted through Google Scholar, PubMed and the Cumulative Index to Nursing and Allied Health Literature (CINAHL). The search was based on the inclusion criteria. The key terms were defined to provide a clear understanding of the factors influencing post-operative pain level assessment in surgical wards. These include acute post-operative pain, factors, inadequate, surgical nurse, post-operative pain management**,** hospital, surgical ward/unit and views. The search strategy also adopted Boolean operators combined sets of keywords, using “AND” and “OR” terms to select relevant articles (MacFarlane, Russell-Rose & Shokraneh, 2022:3). The keywords search Boolean operators included “views of surgical nurses’’ AND “factors influencing post-operative pain level assessment’’ and “views of surgical nurses’’ OR “factors influencing post-operative pain level assessment’’. The search was done in July 2022 and updated in December 2022, therefore studies published in 2023 were not included. The main search retrieved 418 peer reviewed articles.

2.3.4 Screening and selection of the relevant studies

The retrieved articles were checked for duplicates, and 198 were removed because they were duplicates. In order to minimise inclusion of the non-relevant articles, the researchers created a checklist and the remaining 220 articles were screened by three researchers based on the inclusion criteria and research question (Polit & Beck, 2021:97). The initial screening assessed whether the title and abstract met the criteria and were relevant to the research question. The title and abstract from the articles were read by three researchers and 168 articles were excluded because there were unclear or used quantitative methods. In case of disagreement, the study was checked for inclusion by a third researcher. After the analysis by title and abstract, a total of 52 articles were selected for full reading, and 41 were excluded because the population did not include nurses, and/or the content was not on post-operative pain assessment. A total of 11 articles were included in the review, nine qualitative articles and two mixed method articles. The PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) flow chart was used to summarize the process (Page, McKenzie, Bossuyt et al., 2021:792). See Figure 2.1 for the PRISMA flow diagram of the literature review.

2.3.5 Data extraction

Data was extracted from 11 selected publications and charted on a pre-piloted spreadsheet. Data points included: author, year of publication, country, design and method, population and sample, purpose/aim, quality appraisal and views on post-operative pain assessment and a summary of findings. All data obtained were extracted by one researcher and revised by a second researcher. See Table 2.1 for a summary of extracted data.

2.3.6 Quality appraisal

Quality appraisal confirms the trustworthiness of the synthesis (Long, French & Brooks, 2020:33). Guidance on scoping review does not emphasise the appraisal of methodological quality or risk of bias of the included articles (Tricco et al, 2016:4). However, there is an increased demand for scoping reviews to underpin high-quality knowledge translation, which is consistently in line with a recognised methodology or checklist (Peters et al, 2021:2). Therefore, this study evaluated methodological quality guided by Johns Hopkins Nursing Evidence-based Practice Research Evidence Appraisal tool on a three-point scale as “high”, “low” and “not reported” (Dang, Dearholt, Bissett, Ascenzi & Whalen, 2022:148). Refer to Table 2.1.

2.3.7 Data analysis

The extracted data were analysed and synthesised to answer the review question and objectives. It was important to review literature in order to clarify the researcher's understanding concerning the content (Lourens, Hodkinson & Parke, 2020:2). Two researchers analysed the selected publications independently to understand the context against the review question and objectives, using thematic data analysis. Thematic data analysis was necessary because it provides a systematic approach to organise, analyse and present qualitative data collected from different sources of literature (Kiger & Varpio, 2020:2). Results related to the review question and objectives were highlighted in the publications, summarized and listed in Table 2.1, and used to identify themes and sub-themes. The views of surgical nurses on post-operative pain assessment were first identified from each publication and then combined, if relevant, into categories of commonality that best reflect that text. The results were clustered according to themes and sub-themes. The researchers reached consensus on the themes to describe surgical nurses' views on post-operative pain assessment in surgical wards/units. The following three main themes emerged from the analysis:

- Ways of assessing post-operative pain levels.
- Factors influencing post-operative pain level assessment.
- Suggestions on improving post-operative pain level assessment.

The results of the thematic analysis are discussed below.

Theme 1: Ways of assessing post-operative pain levels

Nurses play an important role in assessing patients post-operative pain levels to improve quality health care. Temesgen, Brihanu and Teshome (2022:4) confirm that nurses should assess patients' post-operative blood pressure, pulse rate, respiration, temperature and pain levels. The authors furthermore emphasise that when nurses encounter difficulties with assessing post-operative pain through self-report and an algorithm pain assessment tool, they use biological indicators, a functional pain assessment tool and a behavioural pain assessment tool to enhance quality nursing care and patient satisfaction.

A study, conducted by Vu, Tran, Le, Do, Vu, Dinh, et al., (2020:3), found that nurses assessed post-operative pain levels only when patients reported pain, rather than performing these duties as routine nursing care after surgery. The authors further indicate that due to a lack of nurses' competence on post-operative pain assessment, some nurses used post-operative

pain assessment tools such as a verbal rating scale (VRS) by asking patients about pain, and a numerical rating scale (NRS).

It was found that despite nurses not using post-operative pain assessment tools due to a lack of standardization, they did administer post-operative pain medication to the patients to relieve pain (Mahama & Ninnoni, 2019:4). Before administering pain medication, nurses should, however, assess their patients' operated site for bleeding and swelling due to the injured tissue post-surgery to prevent shock and promote quality nursing care. According to Angelini, Baranto, Brisby and Wijk (2020:1666), some nurses were unable to listen to and advocate for the patients when they were in post-operative pain. Nurses assessed patients' post-operative pain by using other indicators such as sweating, crying, facial expressions, restlessness, irritability, aggressiveness, and administering post-operative medication accordingly. Furthermore, the authors state that this leads to poor post-operative pain assessment and poor communication with patients.

Nurses were encouraged to assess patients' vital signs, such as increased heart rate, respiration, and blood pressure after surgery to avoid patients experiencing fear, limited interaction, delayed healing and sleeplessness (Xavier, de Lima, Burgos, de Lira & Serrano, 2018: 2438). Ayaz and Sherman (2022:4) assert that levels of post-operative pain tolerance are unique to each patient. They found that some nurses did not assess post-operative pain, which could have a negative impact on the quality of nursing care and delay patients' recovery. Patients indicated through verbal and non-verbal gestures that they were experiencing post-operative pain. They furthermore found that some nurses did not adhere to the post-operative pain assessment routine, which requires them to assess post-operative pain as follows: on the patient's arrival in the surgical ward, twice every fifteen minutes, once every sixty minutes, once every three hours, and then once every four hours for a period of twenty-four hours to prevent shock and promote recovery.

Theme 2: Factors influencing post-operative pain level assessment

This theme has two sub-themes, namely barriers that influence post-operative pain assessment and facilitators that influence post-operative pain assessment:

Barriers influencing POP assessment

Surgical nurses' key role is to assess post-operative pain to improve quality patient care (Chatchumni, Namvongprom, Eriksson & Mazaheri, 2018:7239). Nurses are, however, faced with an increased workload, which has a negative impact on their ability to assess patient's

post-operative pain. Their increased workload leads to high levels of burnout, low morale, emotional exhaustion and job dissatisfaction. The authors further indicate that it is important for the nurses to assess their patients' post-operative pain levels and to administer appropriate pain management. However, nurses become frustrated with their ability to provide quality care to patients as some factors prevent them from doing so. These include factors such as having to prioritize other nursing activities rather than assessing patients for post-operative pain, as well as the nurse-patient ratio, and a lack of understanding of post-operative pain management. This leads to nurses not coping with assessing post-operative pain in their patients due to an increased workload and inadequate post-operative pain assessment guidelines (Vu et al., 2020:3). Consequently, surgical nurses cannot assess post-operative pain adequately in surgical wards. In this study, a conclusion was drawn that the assessment of post-operative pain is influenced by the increased workload and the nurse-patient ratio due to the large number of patients admitted to surgical wards.

In addition, South Africa is facing a challenge in providing total nursing care to patients due to a shortage of nurses. According to WHO (2019:1), the shortage of nursing staff is the main barrier to providing effective healthcare services to patients. There is a challenge in healthcare facilities with regard to staff shortages that result in inadequate post-operative pain assessment (Mahama & Ninnon, 2019:4). The nurse-patient ratio prevents surgical nurses from providing comprehensive post-operative nursing care to patients (Ayaz & Sherman, 2022:7). Hence, the limited number of nurses to assess post-operative pain compared to the increased number of patients, has a negative impact on quality care and increases patient dissatisfaction (Chatchumni et al., 2018:7240). These challenges affect the provision of adequate nursing care and reduce the time nurses can spend with patients after surgery.

According to Angelini et al. (2020:1667), a lack of experienced junior nurses and increased workload prevent them from assessing patients for post-operative pain. The junior nurses were supported by senior nurses through communication to improve the quality of nursing care and increase patient satisfaction (Akbar, Teo, Hj-Abdul-Rahman, Hj-Husaini & Venkatasalu, 2019:192). A study by Temesgen et al. (2022:4) highlights that a lack of knowledge and competence among nurses to assess post-operative pain may lead to inadequate nursing care and may increase patients' risk of developing chronic pain.

The lack of adequate support from nurse managers, influence post-operative pain assessment (Vu et al., 2020:3). As a result, there are no proper post-operative pain assessment guidelines that surgical nurses can use when attending to their patients. Therefore, some nurses do not

assess patients adequately post-operatively. The managing nurses motivated their juniors in the surgical ward to improve post-operative assessment of their patients (Tia, Aziato & Dzansi, 2020:4). Furthermore, the nurse ward manager adequately guided, supervised, supported, and provided constructive feedback to nurses on post-operative pain assessment to boost their morale and improve the quality of patient care. Adequate support from ward managers, enhances team building in the surgical wards. This promotes proper post-operative pain assessment in surgical wards and reduces extended stays for the patients.

According to Vatna and Dahlb (2022:189), there is a lack of communication through meetings between nurses and doctors to discuss matters that could improve quality nursing care in surgical wards. The authors further state that nurses and doctors should have a pre-meeting to discuss patient post-operative treatment plans before surgical ward rounds (Vatna & Dahlb 2022:190). According to Ayaz and Sherman (2022:7), nurses confirmed that doctors did not visit the wards after surgery to assess the patients in order to prescribe pain medication. A lack of meetings between nurses and doctors negatively affects the post-operative pain assessment of patients, which, in turn, leads to inadequate care (Mahama & Ninnoni, 2019:4). In this study, nurses relied on doctors' interventions and did not include non-pharmacological interventions such as educating patients and their families about pain and music therapy post-operatively. A conclusion was drawn from this study, that nurses and doctors should have meetings to discuss patients' needs and improve quality nursing care.

Facilitators influencing POP assessment

The World Health Organization (WHO), state that there must be a safe culture, as well as clinical and managerial leadership skills at healthcare facilities to improve nurses' satisfaction and patient care (WHO, 2021:24). Post-operative pain level assessment in surgical wards could be influenced by various factors that may contribute towards rendering quality patient care.

Nurses need to attend in-service training, and receive continuous education on post-operative pain management. Sharing information with patients regarding post-operative pain assessment may assist nurses to provide quality care and contribute towards patients' positive recovery outcomes (Chatchumni et al., 2018:7238). According to Vatna and Dahlb (2022:190), in-service education may sharpen nurses' competency regarding post-operative pain assessment to improve patient satisfaction. A study conducted by Vu et al., (2020:3), indicates that nurses administer insufficient post-operative pain assessment, which may lead to inadequate quality nursing care and patient dissatisfaction.

Communication among nurses and doctors contributes towards rendering quality post-operative care and, as a result, also enhance patient satisfaction (Akbar et al., 2019:192). The authors found that despite the challenge of the language barrier in some cases, nurses are committed to render post-operative pain assessment and treatment. They found that nurses encouraged patients to verbalise when they experience pain to prevent delays in the administration of post-operative pain medication. Some patients' cultural and religious values prevent them from verbalising their post-operative pain, which may have a negative impact on the quality of care and may eventually cause patients to develop chronic pain (Chatchumni et al., 2019: 7539).

Nurses and doctors should work together, including those from other multidisciplinary teams, such as physiotherapists, to promote quality care and patient satisfaction (Chatchumni et al., 2019:7539). The authors further state that nurses can assess patients for post-operative pain and have discussions in this regard among fellow nurses and doctors to improve their skills in providing quality care. A study conducted by Tia et al., (2020:4) found that collaboration between nurses and doctors enhances their ability to agree on patient care, which leads to better interpersonal communication.

Theme 3: Suggestions on improving post-operative pain level assessment

Chatchumni et al., (2018:7240) assert that more nursing staff can be allocated according to the number of patients in the surgical ward to improve quality nursing care and patient satisfaction. Nurses should have in-service training on post-operative pain assessment to improve the standard of nursing and thus also improve the quality of patient care (National Strategic Direction for Nursing and Midwifery, 2020:19).

In-service and continuous education will assist nurses to improve their skills regarding the assessment of post-operative pain, as well as their interaction regarding patients' cultural and religious diversity, such as language barriers. (Akbar et al., 2019:193). The authors furthermore indicate that to improve their kills regarding language barriers, nurses should attend in-service education to allow smooth communication between the nurse and patients. In-service and continuous education will also lead to enhanced job satisfaction among nurses, improved nursing standards, and improved patient care. A study by Chatchumni et al., (2018:7239) also confirms that nurses should attend in-service education on post-operative pain assessment and management.

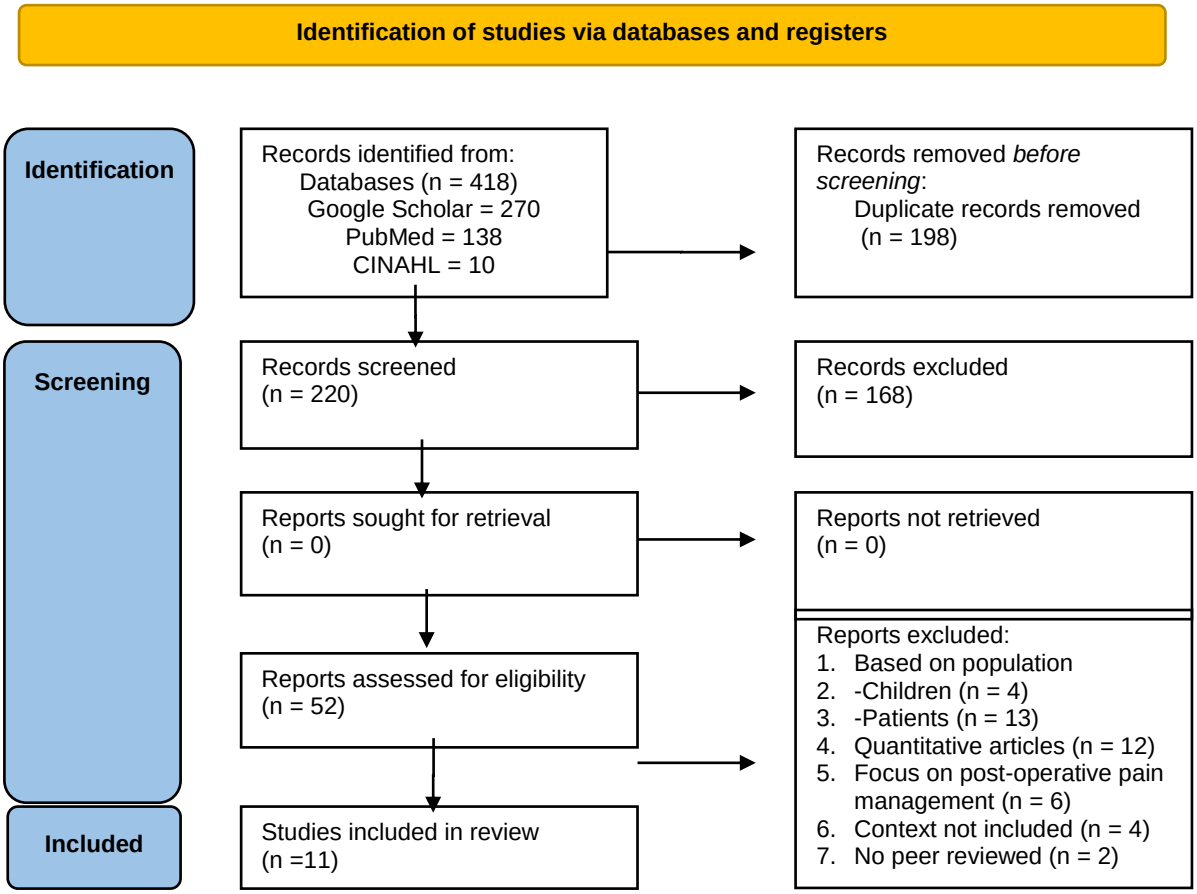
By attending in-service training, nurses will gain further knowledge on the assessment of post-operative pain (Ayaz & Sherman, 2022:7). Nurses suggested that ward managers should develop policies and guidelines for the planning of in-service education requirements for nurses on post-operative pain assessment. This will not only improve the standard of nursing care, but will also boost nurse' morale (Temesgen et al., 2022:4). The authors furthermore recommend that the nurses' managers should ensure the availability and utilisation of post-operative pain assessment tools and guidelines for nurses in order to improve the standard of patient care. The use of self-report pain assessment tools and algorithm pain assessment tools, as well as functional and behavioural pain assessment tools, will assist nurses in rendering total patient care during post-operative pain assessment.

Nurses suggested that there should be cooperation with ward managers to plan meetings with doctors in order to discuss and improve the rendering of post-operative pain assessment and thus enhance quality care (Vatna & Dahlb, 2022:190). The authors furthermore indicate that cooperative meetings with doctors, will equip nurses with a better understanding of patients' post-operative pain assessment to improve the standard of quality care and reduce patient dissatisfaction. According to Xavier et al., (2018: 2438), nurses and ward managers should ensure the availability of post-operative pain assessment tools and post-operative medication to improve nursing care and patient satisfaction. Therefore, in-service education and the availability of post-operative pain assessment tools, as well as policies and guidelines, meetings with doctors regarding post-operative pain assessment and administration of post-operative medication, were identified as ways to improve post-operative nursing care for surgical patients.

2.4 DETAILS OF THE ARTICLES USED TO IDENTIFY THEMES AND SUB-THEMES

The included articles were extracted and are presented in Table 2.2, using the following headings:

- Author(s), year and country.
- Design and method, population and sample.
- Purpose or aim of the study.
- Quality appraisal with the scale as high, low and not reported.
- Summary of findings.



Source: Adapted from PRISMA 2020 flow diagram

FIGURE 2.1: PRISMA flow diagram describing the inclusion process of the scoping literature review

Author(s) Year Country	Design and method, population and sample	Purpose / Aim	Quality appraisal (scale: h = high, l = low, nr = not reported)	Summary of findings (Views on post-operative pain assessment)
Angelini et al., (2020) Sweden	Descriptive qualitative study. In-depth interview, interviews lasted approximately 50 minutes. Purposive sampling of nine participants, n = 3 medical doctors, n = 3 registered nurses and n = 3 physiotherapists.	To explore and describe healthcare practitioners' experiences of post-operative pain management to patients undergoing planned lumbar spine surgery by identifying the healthcare practitioners' behaviours, attitudes and strategies.	(h) Aims and objectives clearly stated (h) Study design adequately described (h) Research methods appropriate (nr) Explicit theoretical framework (h) Limitations presented (h) Implications discussed.	• Lack of listening skills and advocacy. • Lack of experience among nurses. • Support among nurses.
Akbar et al., (2019) UK	Qualitative approach. Semi-structured, in-depth focus groups lasted between 30 and 60 minutes. Convenience sample of n = 17 participants, n = 12 doctors and n = 5 nurses.	To explore healthcare practitioners' views on pain management in the acute care hospital setting.	(h) Aims and objectives clearly stated (h) Study design adequately described (h) Research methods appropriate (nr) Explicit theoretical framework (h) Limitations presented (h) Implications discussed.	• Good communication among nurses. • Barriers in the patient's culture. • Lack of in-service and continuous education. • Suggestion: In-service education on the patient's cultural dimensions and post-post-operative pain assessment

Ayaz and Sherman (2022) USA	Descriptive qualitative study. Structured interview questions, lasting approximately 45 minutes. Purposive sample consisted of a cohort of n = 6 registered nurses (RNs) (n = 2 Hispanic, n = 2 African American, and n = 2 Caucasian).	To examine the attitudes, social norms, and behaviours of a cohort of nurses of various ethnic and cultural backgrounds regarding pain and pain assessment and management.	(h) Aims and objectives clearly stated (h) Study design adequately described (h) Research methods appropriate (h) Explicit theoretical framework (h) Limitations presented (h) Implications discussed.	• Lack of routine care for post-operative pain assessment and non-pharmacological interventions. • Use of verbal and non-verbal gestures. • Lack of doctors in the evaluation of patients. • Suggestion: Development of the policies and guidelines on post-operative pain assessment.
Chatchumni et al., (2019) Thailand	Qualitative triangulation study. Observations (100 hours), in-depth interviews, focus-group and critical incident interviews. Theoretical sampling. Observations in a post-operative pain management setting (100 hours), in-depth interviews (n = 12 nurses), three focus group discussions (n = 18 nurses), and narratives relating to 69 critical incidents gathered during recurrent visits over a period of ten weeks (n = 9	To explore nurses' postoperative pain management practices.	(h) Aims and objectives clearly stated (h) Study design adequately described (h) Research methods appropriate (h) Explicit theoretical framework (h) Limitations presented (h) Implications discussed.	• Willingness to work. • Wait for complaints. • Lack of nursing skills. • Lack of cultural and religious dimensions.

	nurses).			
Chatchumni et al., (2018) Thailand	Qualitative approach. Multiple semi-structured interviews; each interview lasted between 10 and 30 minutes. Purposive sampling. n = 9 nurses, n = 6 female and n = 3 male nurses.	To describe situations of postoperative pain management in a surgical ward in Thailand.	(h) Aims and objectives clearly stated (h) Study design adequately described (h) Research methods appropriate (nr) Explicit theoretical framework (h) Limitations presented (h) Implications discussed.	• Few and overwhelmed of nurses. • Nurse-patient ratio. • Delay in post-operative pain assessment. • Lack of sharing information. • Suggestion: In-service education on post-operative pain assessment and hiring of more nurses.
Mahama and Ninnoni (2019) Ghana	Qualitative study. Semi-structured interview guide. Each interview lasted for approximately one hour. Purposive sampling with n = 12 registered nurses.	To investigate how nurses in a resource-constraint hospital in Ghana assessed and managed postoperative pain.	(h) Aims and objectives clearly stated (h) Study design adequately described (h) Research methods appropriate (nr) Explicit theoretical framework (h) Limitations presented (h) Implications discussed.	• Lack of the use of standardised tools. • Surgical site assessment. • Nurse-patient ratio. • Lack of meetings between nurses and doctors.

Temesgen et al., (2022) Ethiopia	Cross-sectional retrospective study design mixed with quantitative and qualitative study. The checklist was prepared from WHO pain management guidelines and semi-structured questionnaires. Random sampling method was used to select cards that full fill inclusion (365 cards) and convenient sampling technique was used to select hospitals (nurses).	To determine pain assessment documentation, pain management compliance with WHO guidelines, and its barrier.	(h) Aims and objectives clearly stated (h) Study design adequately described (l) Research methods appropriate (nr) Explicit theoretical framework (h) Limitations presented (h) Implications discussed.	• Lack of nurse's knowledge and skills. • Suggestion: Development and utilisation of the post-operative pain assessment policies and guidelines and in-service and continuous education.
Tia et al., (2020) Ghana	Qualitative exploratory descriptive design. Semi-structured interview guide. Each interview conducted lasted for an average of 45 minutes. Purposive sampling with registered general nurses were n = 81 and enrolled nurses were n = 95.	To explore the factors influencing ethical decision making for postoperative pain management among nurses in Ghana.	(h) Aims and objectives clearly stated (h) Study design adequately described (h) Research methods appropriate (nr) Explicit theoretical framework (h) Limitations presented (h) Implications discussed.	• Lack of cohesion between nurses and doctors • Lack of constructive feedback. • Lack of utilisation of policies and guidelines on post-operative pain assessment. • Lack of meetings. • Lack of mentoring and guidance. • Suggestion: Constructive feedback, utilisation of policies and guidelines on post-operative pain

				assessment and holding meetings.
Vatna and Dahlb (2022) Norway	Qualitative design. Semi-structured focus group interviews. Each interview was approximately 60 minutes. Strategic sample with n = 11 nurses and n = 7 doctors.	To generate more knowledge about how nurses and doctors experience interprofessional collaboration on observation and treatment of patients on a surgical ward.	(h) Aims and objectives clearly stated (h) Study design adequately described (h) Research methods appropriate (nr) Explicit theoretical framework (h) Limitations presented (h) Implications discussed.	• Lack of in-service and continuous education. • Lack of nursing skills. • Lack of cohesion. • Suggestion: Teamwork and holding a planned meeting.
Vu et al., (2020) Vietnam	Descriptive cross sectional study design mixed with quantitative and qualitative study. Face-to-face interviews. Each interview lasted between 15 and 20 minutes. Convenience sample of n = 90 nurses	To examine the postoperative pain management practices among registered nurses in an urban hospital in Vietnam.	(h) Aims and objectives clearly stated (h) Study design adequately described (h) Research methods appropriate (nr) Explicit theoretical framework (h) Limitations presented (h) Implications discussed.	• Lack of post-operative pain assessment. • Overwhelmed by nurses. • Insufficient in-service education. • Lack of post-operative pain assessment guidelines.

Xavier et al., (2018) Brazil	Qualitative, descriptive and exploratory study. Semi-structured interview form. Purposive sampling with n = 12 nurses.	To identify the form used by nurses to evaluate and control acute pain in patients submitted to general surgery.	(h) Aims and objectives clearly stated (h) Study design adequately described (h) Research methods appropriate (nr) Explicit theoretical framework (h) Limitations presented (h) Implications discussed.	• Lack of use of the standardised post-operative pain assessment tools. • Lack of nurse's knowledge and skills. • Suggestion: Availability of post-operative pain assessment tools.

Table 2.1: Used to identify themes and sub-themes

Source: Adapted from Dang, D., Dearholt, S., Bissett, K., Ascenzi, J., & Whalen, M. 2022. Johns Hopkins evidence-based practice for nurses and healthcare professionals: Model and guidelines. 4th edition. Sigma Theta Tau International. PDF ISBN: 9781948057899.

2.5 CONCLUSION

The literature review in this chapter, provided a description of surgical nurses' views on factors influencing post-operative pain level assessment in surgical wards. The articles were searched and selected, and those articles that met the inclusion criteria were included in the literature review. This chapter presented relevant literature on ways of assessing post-operative pain levels, factors influencing and suggestions on improving post-operative pain level assessment in surgical wards. Finally, three main themes and sub-themes emerged in this study. These main themes were found to be significantly important for the views of surgical nurses on factors influencing post-operative pain level assessment in surgical wards. Findings were discussed and gaps identified to improve the standard of nursing care in this chapter. In Chapter 3, the research design and methods will be discussed.

CHAPTER 3: RESEARCH DESIGN AND METHODS

3.1 INTRODUCTION

The previous chapter discussed a literature review on the views of surgical nurses regarding factors influencing the assessment of post-operative pain levels in surgical wards. The aim of the study is to explore and describe the views of surgical nurses on factors influencing post-operative pain level assessment in surgical wards at the selected public hospital in Gauteng province. In this chapter, a detailed description of the research design and methods, rigour control and ethical considerations of the study are discussed.

3.2 RESEARCH DESIGN

The research design is described as the plan for gathering information with the goal of discovering knowledge (Brink et al., 2018:104; Polit & Beck, 2021:471). A qualitative explorative, descriptive and contextual research design was used to explore and describe the views of surgical nurses on factors influencing post-operative pain level assessment in surgical wards. The research design guided the researcher in planning the study to achieve the research objectives. The qualitative method was used to collect and analyse data. The aim was to capture rich detailed data on factors influencing post-operative pain level assessment in surgical wards from the surgical nurses at the selected public hospital in Gauteng.

3.2.1 Qualitative

Qualitative research is a scholarly method used to describe the everyday life experiences, cultures, and social interactions from the involved participants (Gray & Grove, 2021:820). A qualitative research design was used to focus on the participants' views and to create new knowledge regarding the research question. The qualitative research method enabled the researcher to gain an in-depth understanding of the factors influencing post-operative pain level assessment in surgical wards as stated by surgical nurses in the selected public academic hospital in Gauteng province. The researcher interacted and gained information from the study participants through semi-structured interviews (Polit & Beck, 2021:514). Participants' views were noted, and recorded by the researcher as they occurred (Creswell & Creswell, 2018:13).

3.2.1.1 Explorative

Explorative research is "a design that increases knowledge of the field of study and is not intended for generalization'' (Gray & Grove, 2021:811). Explorative study attempts to explain the "how" and "why" of a specific social phenomenon and the way behaviour occurs in each situation. Therefore,

this study explored the factors influencing POP assessment in surgical wards, since the researcher wanted to gain and understand insight from the views of surgical nurses. An explorative design was relevant to this study because the researcher wanted to explore systematically as there is limited literature on this topic, especially at the selected public hospital in GP.

3.2.1.2 Descriptive

A descriptive design provides an accurate portrayal or characteristics of a person, event or group in a real-life situation (Gray & Grove, 2021:809). The reason for following a descriptive approach for this study, was to describe the findings that emerged. It was also to document the processes, events, or outcomes in detail for a better understanding of the phenomenon under study. Therefore, a descriptive research design was appropriate for this study.

3.2.1.3 Contextual

Botma, Greeff, Mulaudzi and Wright (2010:195) state that a study can be generalised or contextualised. Howarth, Devers, Moore, O'Cathain and Dixon-Woods (2016:105) argue that contextual research ensures that the research study is conducted within a selected context or setting, and that such context implies participants' natural environment. This study was conducted in the surgical wards of the selected hospital, which was the surgical nurses' natural setting, and the findings were contextualised to the surgical nurses working in the hospital's surgical wards. The research was aimed at exploring and describing the participant's views regarding the management of post-operative pain, in their natural setting.

3.3 METHODS

Research methods are techniques used to structure a study, collect and analyse information relevant to a research question (Polit & Beck, 2021:8). In this study, the research methods included context/setting, population, sampling method and sample size, data collection and organisation, data analysis and rigour control.

3.3.1 CONTEXT / SETTING

A research setting refers to the specific place where data is collected (Polit & Beck, 2021:42). This study was conducted in the natural setting, which is an academic public hospital in the city of Tshwane in the Gauteng province. Despite the proposed research problem being identified by the researcher while working in a similar setting, but different hospital in Gauteng, the researcher did not manipulate or change the environment as stipulated (Gray & Grove, 2021:439). The reason was, the researcher does not work in the selected hospital and never worked as a nurse in any of their surgical wards. The justification in choosing the specific academic public hospital was that it is a referral hospital. The selected hospital provides care to a diverse population across Gauteng and

neighbouring provinces such as North West and Limpopo. This public hospital has 832 beds with twenty-eight (28) wards. Out of all the wards, three are adult surgical wards, in which the study was conducted. Each ward caters for approximately 40 patients, where nine patients are admitted daily in each surgical ward and eight surgical procedures are performed. Each surgical ward has about four professional nurses assigned for day shifts and two night shifts. For each shift, two professional nurses are off duty and two will be on leave per month. The selected adult surgical wards are for both male and female who underwent major general, urology and orthopaedic surgery.

A total of thirty-six (36) male and female nurses currently work in the selected surgical wards. According to the SANC, R.2598, professional nurses assess patients pain post-operatively, provide healthcare education, administer medicine and monitor reactions of administered medication. Enrolled nurses assess patients' pain post-operatively, provide healthcare education and observe the reactions of administered medication. Enrolled nursing assistants assess patients' pain post-operatively and provide healthcare education. In this study, only professional nurses were included because they are responsible for immediate post-operative pain assessment and management, and are expected to supervise all categories of nurses. The selected hospital is situated in the City of Tshwane Metropolitan Municipality in the Gauteng province. Figure 3.1 presents the City of Tshwane Metropolitan Municipality map.

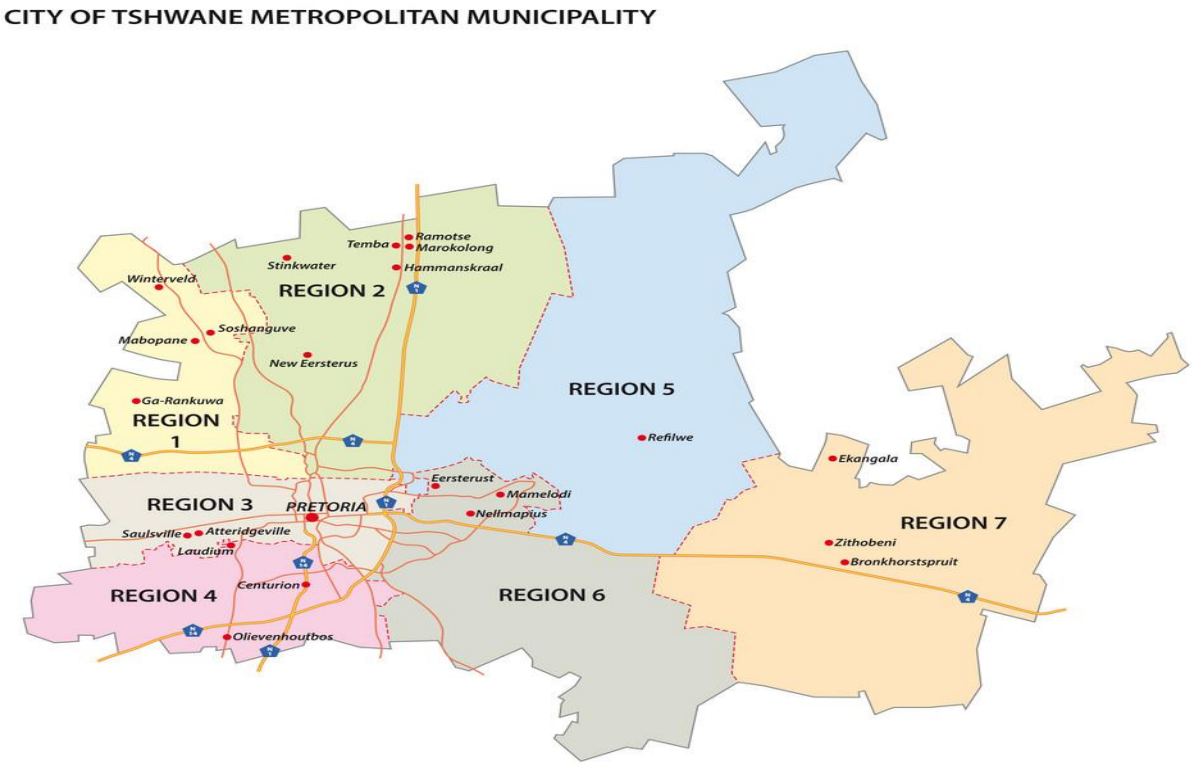


Figure 3.1: The City of Tshwane Metropolitan Municipality map adopted from Vector Stock.

3.3.2 POPULATION

Brink et al., (2018:116) refer to population as the entire group of persons or objects that possess some common characteristic that is of interest to the researcher. In this study the population was male and female surgical nurses providing care in general, urology and orthopaedic surgical wards of the selected academic public hospital. The estimated total number of professional nurses working in these wards are thirty-six (36). Each surgical ward has about four professional nurses assigned for day shifts and two night shifts. For each shift, there are two professional nurses off duty and two will be on leave per month.

3.3.3 SAMPLING METHOD AND SAMPLE SIZE

Sampling involves the selection of a group of people or objects with whom to conduct the study (Gray & Grove, 2021:823). The purposive non-probability sampling was used to select participants in this study, in order to determine the most typical characteristics of the participants that should be included in a sample based on the judgement of the researcher. Therefore, the selected participants were considered to have in-depth knowledge of the study phenomenon (Brink et al, 2018:126). The estimated sample size for this study was fifteen (15) nurses until the data saturation is reached. Data saturation is a point at which there is no new information coming from the participants (Gray & Grove, 2021:437; Polit & Beck, 2021:502). Data saturation was reached at participant number ten (10). However, extra three participants were interviewed to verify that there is no more new information emerging. Therefore, the total number of participants were thirteen (13). The inclusion and exclusion criteria were as follows:

3.3.3.1 Inclusion criteria

- Participants were male and female nurses who have worked at adult surgical wards in the selected hospital for more than one year and are employed by the Gauteng Department of Health as professional nurses.
- The volunteer professional nurses were able to speak English as an official medium of instruction at work and be willing to sign a consent form to participate in the study.
- The participating nurses were professional nurses who are registered and have annual licences to practice with SANC during data collection.

3.3.3.2 Exclusion criteria

- Professional nurses who were on maternity leave, annual or sick leave during the collection of data period.

- Professional nurses who were on temporary and contract work.

Recruitment and introduction of participants to the study

On receiving approval from the ethics committee and permission from the Gauteng Department of Health and the selected hospital's management, the researcher obtained permission from the unit managers (Annexure F) of the selected surgical wards. The researcher subsequently started approaching the participants to take part in the study voluntarily. The interested participants were briefed on the study and interviewed at a convenient time. The researcher was assisted by the unit manager to identify the prospective participants in the ward meeting. Thereafter, prospective participants were guided by the researcher on the intentions and processes of the study. A private and quiet area was identified by the participants through the permission of the unit manager and the researcher provided them with relevant information about the study (Gray & Grove, 2021:203). According to Polit and Beck (2021:272), the researcher established a rapport between her and the participants at the selected academic public hospital. The researcher used semi-structured interviews to gain an understanding of the participants on the factors influencing post-operative pain level assessment in surgical wards. This study was conducted in accordance with the Declaration of Helsinki (Annexure G).

3.3.4 DATA COLLECTION AND ORGANISATION

Data collection is the precise, systematic gathering of information relevant to answer an emerging research question (Brink et al., 2018:133; Creswell & Poth, 2018:211). The researcher anticipated to collect data for a period of three to four months, through individual semi-structured interviews. To gain an in-depth understanding on factors influencing post-operative pain level assessment in surgical wards, the researcher used probing techniques depending on the information provided by each participant. The interviews were conducted face-to-face in a place that suited the participants, preferably in the hospital conference room depending on the availability of the room. The chosen place had a quiet, relaxed atmosphere to avoid distractions. The time frame for each interview was scheduled to last for thirty (30) to forty-five (45) minutes (Annexure B).

The participants were asked the following questions "*What are the views of surgical nurses on factors influencing post-operative pain level assessment in surgical wards at a selected public hospital in Gauteng province"*, and "*What is your suggestion on improving post-operative pain level assessment in surgical wards*". Further probing questions were also asked for clarity. An audio recorder was used to capture the conversation between the researcher and participants in order to reduce the researcher's bias during the data analysis process. Permission for the audio recording

was obtained from each participant. Additionally, field notes were made to note the non-verbal language and for verification of data.

To ensure that there were no interruptions from healthcare services, the interviews were scheduled when the researcher was off duty or during lunch time. The interviews were conducted in English since all the participants were able to read and write in English. The researcher used the same question, the same setting and the same data collection with all participants who met the study inclusion criteria. Member checking was done by confirming the correctness of the researcher's interpretation with the participants during the semi-structured interviews and by using the supervisor and co-supervisor to review the analysis done by the researcher (Polit & Beck, 2021: 573). The collected data was kept under lock and key to maintain the principle of confidentiality (Brink et al., 2018:180). Only the researcher and supervisors were able to access the information.

3.3.4.1 PRE-TEST/PILOT STUDY

A pilot study is defined as a smaller version of a proposed study that is conducted to refine the methodology (Liamputtong, 2019:639). The pilot study was conducted before commencing with the main study. The semi-structured interview questions were pre-tested as part of the pilot study with two (2) participants who met the study inclusion criteria. The researcher used the same questions, same setting and same data collection to conduct semi-structured interviews with the two participants. The participants for the pilot test were excluded in the participation of the main study. The findings of the pilot study assisted the researcher to assess the feasibility and fidelity of implementation of the study. The semi-structured interviews were conducted on the day when the participants were on lunch to avoid interruptions of the healthcare services.

3.3.5 INTERVIEW PHASE

Data collection was conducted through semi-structured interviews with male and female professional nurses working in general, urology and orthopaedic surgical wards of a selected academic public hospital in Gauteng. The interviews were conducted face-to-face in a place that was suitable for the participants. According to Gray and Grove (2021:329), interviews assist the researcher and participants in interacting in a discussion and provides the researcher the opportunity to explore more details with probing techniques depending on the information provided by each participant.

In this study, the researcher used semi-structured interviews to gain an in-depth understanding of factors influencing post-operative pain level assessment in surgical wards from the participants. A

semi-structured interview allowed the participants to provide more detailed information about the study and for the researcher to ask additional questions (Polit & Beck, 2021:514). The researcher conducted semi-structured interviews with thirteen (13) participants based on the main research questions until data saturation was reached at number ten, after which an extra three participants were interviewed to verify that there was no more new information emerging. A detailed description of the interview phase included the physical environment, the role of the researcher during the interview, and the researcher's facilitation during the interview.

3.3.5.1 Physical environment

The interview room was clean and well-ventilated with good lighting to ease participants. To avoid distractions, no telephones were allowed inside. To avoid disturbances during the semi-structured interviews, the academic public hospital staff members and unit manager were informed in advance. A sign was displayed outside on the closed door indicating “RESEARCH INTERVIEWS IN PROGRESS, PLEASE DO NOT DISTURB”. Chairs were placed in such a way to allow sufficient space between the researcher and the participant to respect the participants’ personal space. A low table was placed between the researcher and participant for the bottle of sanitizer, water, consent form, interview guide questionnaires, audio recorder, and field notebook.

3.3.5.2 Role of the researcher during interview phase

The researcher informed the participants about the title of the study (Gray & Grove, 2021:203). The aim of the individual semi-structured interviews was re-explained before handing a consent form to the participants. Consent forms were obtained from the participants in the study on the day of data collection, followed by the semi-structured interviews (Annexure B). The participants were informed that their shared information was important to the researcher, and that anonymity and confidentiality would be maintained.

3.3.5.3 Facilitation of communication skills during semi-structured interview

The researcher ensured that her own views in the study were excluded and that the focus was only on the participants’ views. The saturation of data was verified by the researcher and an independent coder. The time frame for each interview was set for thirty (30) to forty-five (45) minutes (Annexure B). The researcher thanked participants after the interviews for their time and the information they provided. The following facilitation of communication skills were used during the individual interviews: listening skills, probing, clarification, reflecting on the content, and paraphrasing.

- **Listening skills**

The researcher maintained listening skills during the interview session to gain more information from the individual participant (de Vos, Strydom, Fouché & Delport, 2012:345; Liamputtong, 2019:404). There was a good interrelationship between the researcher and the participants during the semi-structured interviews.

- **Probing**

In this study, a probing technique was used during the interviews with participants. Probing is the technique that the researcher uses to gain clarification and additional information on the questions (Gray & Grove, 2021:499; Liamputtong, 2019:406). The researcher asked open-ended questions to gain more detailed information in order to get clarity about participants' viewpoints. An example of a probing question used by the researcher was: "*Tell me more about your views on the factors influencing post-operative pain level assessment in surgical wards"*.

- **Clarification**

Clarification is a technique used by the researcher to understand confusing statements from the participant (de Vos et al., 2012:345; Liamputtong, 2019:406). The researcher used for example: "*When you said people. Who are you referring to?*" The researcher asked the participant a question to gain more clarity on the views of surgical nurses on factors influencing post-operative pain level assessment in the surgical ward. In this study, a clarification gives a better understanding of the surgical nurses' views on factors influencing post-operative pain level assessment.

- **Reflecting on the content**

The participants' exact words were repeated by the researcher to allow them to hear and follow what was said during the semi-structured interview (de Vos et al., 2012:345; Liamputtong, 2019:406). For example, the researcher asked the question: "*Are you saying management to allocate more nurses to care for post-operative patients?*".

- **Paraphrasing**

The researcher used a paraphrasing technique to confirm the understanding of what participants' said by paraphrasing participants' words in a dissimilar form but with the same meaning (de Vos et al., 2012:345; Liamputtong, 2019:406). The word such as "basic needs" was used by the participants, and for other participants, the word had a dissimilar meaning. For example, the

researcher asked question, "*You stated that you were not taking care of the other basic needs of the patients, which basic needs were you talking about*?"

3.3.5.4 FIELD NOTES

Field notes are notes taken by the researcher as unstructured observations in the field (Polit & Beck 2021:525; De Vos, Strydom, Fouché & Delport, 2017: 335), emphasise that field notes should be written during the interviews to record the participants' impressions. Those impressions are a written account of what was heard, seen, felt experienced, and thoughts during the course of the interviews, which the voice recorder could not capture. The researcher informed the participants that in-between the interviews, she would write some notes that would assist her to identify, interpret and understand feelings, ideas and impressions of participants about the questions. The researcher grouped field notes into observational, personal and methodological notes (Polit & Beck 2017:521).

- **Observational notes**

According to Polit and Beck (2017:737), observational notes are objective, in-depth descriptions of events and conversations observed and documented by the researcher. During data collection, some participants' sitting position was upright, especially while they informed the researcher about the methods they used to assess whether the post-operative patients experienced pains. Their upright position showed their confidence in knowing and practicing the methods effectively. On the other hand, some participants showed sadness when sharing factors influencing post-operative pain level assessment, especially when mentioning a lack of commitment and competency.

- **Personal notes**

Personal notes are feelings experienced by the researcher throughout the process of data collection (Polit & Beck, 2017:739). The researcher carefully listened to the surgical professional nurses as they expressed their views on factors influencing post-operative pain level assessment in surgical wards. The researcher felt good to hear how the post-operative pain was assessed and also when hearing about the suggestions on improving post-operative pain level assessment. However, she felt sad to hear that some surgical nurses were not committed to the assessment protocols and some were not competent in assessing the postoperative pain. The researcher controlled her emotions and continued with the interviews.

- **Methodological notes**

Polit and Beck, (2017:735) describe methodological notes as the notes about the researcher's

experiences about the methods used in collecting data. The semi-structured interviews were found to be relevant in this study, because all the participants were comfortable with the method and provided rich data. It was also easy to probe and verify with the participants whenever the information was insufficiently provided or unclear. The researcher maintained anonymity by using numbers as a replacement for the participant's real names.

3.3.6 DATA ANALYSIS

The researcher followed the process of thematic data analysis in this study. Thematic analysis is a method for analysing qualitative data that involves searching for recurring ideas in a data set (Byrne, 2021:2). Thematic analysis was chosen because of the benefits in understanding the subjective meaning. The six phases of Braun and Clarke's (2006) reflexive thematic data analysis were used as displayed in Table 3.1.

Table 3.1: Six phases of reflexive thematic data analysis

Phases of reflexive thematic data analysis	Recent study data analysis
Phase one: Familiarisation with the data	The researcher listened to each audio recorded interview once before transcribing and checked the field notes for gestures and mannerisms (Liamputtong, 2019:852). Each transcript was read and re-read several times to gain understanding of the provided information.
Phase two: Generating initial codes	Byrne (2021:9) indicates that codes are the fundamental building blocks of what will later become themes. The researcher identified aspects of data items that are informative and developing themes by labelling and organizing data items into meaningful groups (Liamputtong, 2019:853). The researcher transferred all codes into the spreadsheet through the labelling of each individual participant's information. Highlighters with different colours were used to mark the identified important patterns (Byrne, 2021:8).
Phase three: Generating themes	According to Byrne (2021:13), this phase

	begins when all relevant data items have been coded. The researcher reviewed coded data and analysed how different codes could be combined according to shared meanings so that they could form themes or sub-themes (Liamputtong, 2019:854). This was discussed with the peer researcher who had not taken part in the coding process.
Phase four: Reviewing potential themes	The researcher identified themes that were not relevant to the research questions and put them aside. The relevant themes were divided into broader categories, after which the themes were separated accordingly (Liamputtong, 2019:854). The researcher at this phase revised or removed codes and themes to facilitate the meaningful interpretation of the data (Byrne, 2021:16).
Phase five: Defining and naming theme	The researcher named the themes in order to organize the participant's factors that influence post-operative pain level assessment (Liamputtong, 2019:854).
Phase six: Producing the report	The researcher wrote the final report including the simple description of the themes about this study (Liamputtong, 2019:857).

3.4 RIGOUR CONTROL

Brink et al. (2018:110) define rigour as a research signal that includes openness, relevance, methodological, and epistemological consistency, completeness in the data collecting and analysis processes, and the researcher's self-understanding. The researcher ensured trustworthiness through Guba and Lincoln's (1985) model of five criteria. The five criteria include credibility, dependability, confirmability, transferability and authenticity.

3.4.1 Credibility

Brink et al. (2018:158) refer to credibility as confidence in truth of the data and interpretations

thereof. In this study, the researcher ensured participants' true reflections by applying prolonged engagement and member checking to achieve credibility (Polit & Beck, 2021:569).

3.4.1.1 Prolonged engagement

According to Polit and Beck (2021:751), prolonged engagement is the process of spending sufficient time with participants during data collection. The researcher conducted semi-structured interviews which lasted for thirty (30) to forty-five (45) minutes to prolong engagement with the participants. Time spent with surgical nurses to build rapport, also ensured prolonged engagement.

3.4.1.2 Member checking

Member checking is a process where the researcher takes the study findings back to the participants in order to confirm the interpretations of the researcher with the participants (Polit & Beck, 2021: 573). The verbatim transcription of the interviews was forwarded through e-mail to an independent coder who specializes in qualitative research techniques to authenticate the findings. Member checking was done by confirming the correctness of the researcher's interpretation during the semi-structured interviews with the participants, and asked the supervisor and co-supervisor to review the researcher's analysis thereof (Polit & Beck, 2021: 573). The participants were probed by asking open-ended and close-ended questions to further elaborate on the phenomenon under study. The information given by the participants were transcribed to gain a full description of the phenomenon in their perspective with no attempt to influence the outcome of this study (Brink et al., 2018:111).

3.4.2 Dependability

Dependability refers to the provision of evidence such that if it were to be repeated with the same or similar participants in the same or similar context, its findings would be similar (Brink et al., 2018:159). The researcher asked the participants to explain and describe the factors influencing post-operative pain level assessment. The researcher ensured dependability by reading and re-reading the data collected to ensure the content correlated with what was explained by the participants in this study. The study supervisors checked transcriptions of the pilot study in order to ensure that the researcher asked relevant questions during the interviews, and that she probed and noted non-verbal communication. They also checked the transcribed data to ensure that all the findings were supported by participants' information. The data collected was revisited, kept on record and the individual codes were used to maintain consistency of data. In addition, the field notes and

transcriptions were shared with an independent coder to analyse, interpret and confirm the emerged themes with the researcher.

3.4.3 Confirmability

According to Brink et al. (2018:159), confirmability refers to the potential for congruency of data in terms of accuracy, relevance or meaning. Confirmability was maintained by involving member checking to ensure that the participants' information was relevant and captured accurately. The findings of the study were based on the participants' views rather than the researcher's bias. In this study, data analysis was confirmed by the supervisor and co-supervisor to ensure that participants' interpretations were not created by the researcher.

3.4.4 Transferability

Transferability refers to the ability to apply the findings in other contexts, or to other participants (Brink et al., 2018:159). In this study, there was no transferability because the study was limited to the selected academic public hospital in Gauteng. The findings may be different if the same study is conducted in another setting.

3.4.4.1 Data saturation

Data saturation occurs when the participants' discussions do not provide new information and themes were insufficient and repeated (Polit & Beck, 2021:543). In this study, ten participants were interviewed until data saturation was reached, after which three extra participants were interviewed to verify that there was no more new information emerging. In addition, data was collected and analysed until the themes were insufficient and repeated.

3.4.4.2 Thick description

According to Polit and Beck (2021:805), thick description is a rich and thorough description of the research context, study participants, and the phenomenon of interest in a qualitative study narrative. In this study, the researcher provided a detailed description of the research design and method. In addition, the individual participants' views were captured verbatim during semi-structured interviews using the audio recorder and field notes.

3.4.5 Authenticity

Authenticity refers to the extent to which researchers indicate a range of realities in a fair and true

manner (Brink et al., 2018:160). The researcher enhanced authenticity by including participants' direct quotes in the findings of this study. The data collected during the semi-structured interviews with the participant was transcribed verbatim by the researcher and forwarded to the independent coder to authenticate the findings.

3.5 ETHICAL CONSIDERATIONS

According to Brink et al. (2018:28), ethical considerations in research are related to the protection of human rights and social beings. Since this study involves human beings, the researcher ensured that the ethical requirements were maintained (Polit & Beck, 2021:55). The researcher further ensured that the participants' confidentiality and anonymity were maintained throughout the study. The ethical clearance certificate was received from the University of Pretoria (UP) Health Sciences Research Ethics Committee prior to commencement of the study (Annexure C). Permission to conduct the study in the selected hospital was obtained from the Gauteng Department of Health (Annexure D) and the hospital's management (Annexure E). The researcher ensured that the ethical measures were respected following permission to conduct the research study, including respect for human dignity, beneficence and non-maleficence, and justice.

3.5.1 Respect for human dignity

Respect for human dignity emphasizes the right to self-determination and the right to full disclosure (Polit & Beck, 2021:134). The participants were willing to participate in this study.

3.5.1.1 The right to self-determination

According to Polit and Beck (2021:803), self-determination refers to a person's right to voluntarily decide whether to participate in a study or not. In this study, the researcher excluded any form of coercion of the participants. The researcher allowed participants to ask questions during the ward meeting so that they could have a better understanding and would be more willing to take part in the study voluntarily. The participants signed informed consent volunteering forms (Annexure A). The participants were informed that they were allowed to withdraw from the study at any time without fear (Brink et al., 2018:29; Polit & Beck, 2021:134).

3.5.1.2 The right to full disclosure

Full disclosure means the researcher communicated complete and accurate information with the participants (Polit & Beck, 2021:134). The participants were given all information about the study using English. Each individual participant received information about the study, including the

purpose of the study, the reason why the participant was chosen, permission to use the audio recorder and to write field notes. The researcher ensured that information would be kept in a safe place by using an electronic filing system that requires an access code. Participants' anonymity was maintained by the researcher to ensure that all findings from the individual participants were not shared.

3.5.2 Beneficence and non-maleficence

Beneficence is the ethical principle of doing good and not exposing others to harm, minimising the risks, ensure benefits and maintain integrity of the study (Polit & Beck, 2021:133). The principle of beneficence is protected by exercising the right to freedom from harm and discomfort and the right to protection from exploitation.

3.5.2.1 The right to freedom from harm and discomfort

The researcher ensured that participants were protected from harm such as physical, psychological, emotional, economic and social harm throughout the study (Polit & Beck, 2021:133). The researcher informed the participants about the risks, discomforts and benefits of the study (Annexure A). The rights of patients regarding nursing care were not interrupted by the researcher.

3.5.2.2 The right to protection from exploitation

The information given by the participants would never be used against participants at any point in the study (Polit & Beck, 2021:133). In this study, the researcher maintained the agreed time for the semi-structured interviews, which was at least thirty to forty-five minutes to avoid exploitation of participants. The interview was scheduled with participants during their day off or during their lunch breaks to avoid interruption of the healthcare services at the selected public hospital. The environment was in a quiet, relaxed atmosphere during the semi-structured interviews to make participants feel at ease while they talked about their views on factors influencing post-operative pain level in the surgical ward.

3.5.3 Justice

This principle states that human subjects have the right to fair selection and treatment (Brink et al, 2018:30; Polit & Beck, 2021:135). The justice principle includes the participants' right to fair treatment and the right to privacy.

3.5.3.1 The right to fair treatment

The researcher ensured that the participants who refused to participate in this study were treated in an unharmed manner. The researcher ensured that information obtained from the participants was relevant and entirely the participants' own view and not the researchers' views. The participants who met the inclusion criteria were interviewed to avoid biasness. The permission was requested from the participants to use an audio recorder and field notes during the interview.

3.5.3.2 The right to privacy

The researcher ensured that the study was not more intrusive than it needed to be and that participants' privacy was maintained (Polit & Beck, 2021:135). The privacy was maintained during the interview and the participants' names were not written down by the researcher. The researcher ensured that all participants that were included in the pilot study did not form part of the main study.

3.6 CONCLUSION

Chapter 3 covered the detailed description of the research design, methods, data collection, data analysis, rigour and ethical considerations of the study. Chapter 4 provides the research presentation, interpretation and discussion of findings with relevant literature.

CHAPTER 4: RESEARCH PRESENTATION AND INTERPRETATION OF FINDINGS

4.1 INTRODUCTION

In the previous chapter, the research design and methods for this study were discussed. The aim of the study was to explore and describe the views of surgical nurses on factors influencing post-operative pain level assessment in surgical wards at the selected public hospital in Gauteng province. This chapter presents, interprets and discusses the findings. The findings are confirmed by quotations from the semi-structured interviews conducted with thirteen (13) participants in the selected academic public hospital in Gauteng up to a point where the data saturation was reached. The discussion of findings was compared with literature relating to ways of assessing post-operative pain levels, as well as influencing factors and suggestions on improving post-operative pain level assessment for surgical nurses.

4.2 THE SOCIO-DEMOGRAPHIC CHARACTERISTICS OF THE PARTICIPANTS

Male and female professional nurses working in general, urology, and orthopaedic surgical wards at a selected academic public hospital were the target population in this study. The interviews consisted of thirteen (13) professional nurses providing care in general, urology and orthopaedic surgical wards of the selected academic public hospital in Gauteng. The interviews were conducted in English since all the participants could understand, speak and write English. Semi-structured interviews were conducted and lasted for about thirty (30) to forty-five (45) minutes for each individual participant. The data was collected until saturation was reached at participant ten (10), whereafter an additional three participants were interviewed to ensure that no new information emerged.

The socio-demographic characteristics of the participants were discussed in terms of gender, age, ethnic group, work experience in the surgical ward, and the name of the surgical ward. Female participants were the largest group compared to male participant, there was only one (01) male, compared to twelve (12) females. All the participants were professional nurses, their ages ranged between 30 and 65 years. Years of working experience in adult surgical wards at the selected hospital ranged between one year and 20 years. Three participants from general surgical wards, three from urology, and seven from orthopaedic surgical wards were interviewed at the selected academic public hospital in Gauteng. The socio-demographic characteristics of the participants are presented, in Table 4.1.

Table 4.1: The socio-demographic characteristics of participants

Standard	Characteristics	Frequency	Percentage
Gender	Male(s)	1	7.69%
	Females	12	92.31%
Age	30 to 45 years	6	46.15%
	46 to 65 years	7	53.85%
Ethnic group	Black	13	100%
	White	Nil	
Working experience in a surgical ward	2 to 10 years	6	46.15%
	11 to 20 years	7	53.85%
Name of surgical ward	General surgical ward	3	23.08%
	Urology surgical ward	3	23.08%
	Orthopaedic surgical ward	7	53.84%

4.3 PROCESS OF DATA COLLECTION AND ANALYSIS

Semi-structured interviews were used to collect data at three (03) surgical wards in a selected academic public hospital in Gauteng province. Thirteen (13) individual interviews were conducted with professional nurses working in surgical wards, and data saturation was reached at participant ten (10), after which an additional three participants were interviewed to ensure that no new information emerged. Purposive sampling was used in this study to gain a better understanding of the factors influencing the selected participants' post-operative pain level assessment at the surgical wards of the selected academic public hospital. In this study, interviews were audio recorded, and field notes were used with the permission of each participant. The interviews were conducted in English at a quiet place with a relaxed atmosphere in the selected public hospital, to avoid distractions. Field notes were written after each individual interview and grouped as personal notes, observational notes and methodological notes.

The six phases of reflexive thematic data analysis were used for data analysis (Byrne, 2021:2). The researcher listened to each interview session and read and re-read the transcribed interviews to become familiar with the data collected. After the interviews, the answers were read several times to gain an understanding of the information. Following the transcription of the interviews, the original transcripts were stored in a safe storage facility under lock and key. The other copies were forwarded through e-mail to a skilled independent coder who specializes in qualitative research techniques and assisted in carrying out the coding.

The codes were developed and divided into themes and sub-themes with the assistance of the independent coder in relation to the research objectives. The themes and sub-themes that arose from the interviews were discussed in a meeting between the researcher and the independent coder. The researcher, the independent coder and the supervisor agreed on the findings of this study and the themes and sub-themes that emerged. The verbatim quotes from the participants were used to support the findings to classify themes and sub-themes. The individual participants' quotes were followed by the number, gender and name of the surgical ward, for example P1F-O. The following three themes emerged from the findings:

- Ways of assessing post-operative pain levels.
- Factors influencing post-operative pain level assessment.
- Suggestions on improving post-operative pain level assessment.

4.4 Themes and sub-themes emerged during data analysis

The themes and sub-themes from the transcribed data are based on the views of surgical nurses on factors influencing post-operative pain level assessment in surgical wards. Three themes and 15 sub-themes emerged during the data analysis of the research findings. A summary of the main themes and sub-themes is provided in Table 4.2.

Table 4.2: A summary of the themes and sub-themes on the views of surgical nurses on factors influencing post-operative pain level assessment in surgical wards

THEMES	SUB-THEMES
4.4.1 Ways of assessing post-operative pain levels	4.4.1.1 Assess through patient questions 4.4.1.2 Observe patient expressions of pain 4.4.1.3 Patients' verbalisation of pain 4.4.1.4 Assess vital signs for pain 4.4.1.5 Use pain level assessment tool 4.4.1.6 Other assessment (level of consciousness/surgical site)
4.4.2 Factors influencing post-operative pain level assessment	4.4.2.1 Human resource related factors 4.4.2.2 Organisational/ management related factors (workload/work delegation)

	4.4.2.3 Nurse related factors: 4.4.2.3.1 Lack of commitment 4.4.2.3.2 Lack of competency 4.4.2.4 Patient related factors 4.4.2.5 Other factors (interprofessional/type of anaesthesia)
4.4.3 Suggestions on improving post-operative pain level assessment	4.4.3.1 Sufficient human resources 4.4.3.2 Improvement of nurses' competency 4.4.3.3 Holistic pain assessment and management 4.4.3.4 Effective inter-professional collaboration and advocacy

4.4.1 THEME 1: WAYS OF ASSESSING POST-OPERATIVE PAIN LEVELS

The ways of assessing post-operative pain levels emerged as the first theme. Nursing assessment is the first stage in the process of giving each patient total quality nursing care. Post-operative pain assessment is defined as techniques used to assess pain levels after surgery with the aid of a verbal rating scale (VRS) and a numerical rating scale (NRS) to relieve patients' pain (Baamer, Iqbal, Lobo, Knaggs, Levy & Toh, 2022: 875). According to Tsegaye, Yazew, Gedfew, Yilak and Yalew (2023:2), pain is regarded as the fifth vital sign and that nurses have the responsibility to assess, prevent, and alleviate post-operative pain after a patient's surgery to improve patient satisfaction and the healing process. Therefore, inadequate post-operative pain level assessment leads to improper pain management, which may cause patients staying longer in surgical wards, and acute pain becoming chronic pain (Tamer & Dağ, 2020:1).

4.4.1.1 Assess through patient questions

The researcher sought in-depth baseline information from participants regarding their assessment of post-operative pain levels after surgery. The participants stated that they asked the patients after surgery about their pain and administered post-operative pain management to relieve the pain.

> *"Take a patient, dump the patient and asked the patient are you in pain and if the patient is in pain, you give medications"* (P2F-U).

> *"I will ask her what is the problem. If she complains of pain, I will give her something."*

(P7F-G).

"Firstly, I will go to the patient and ask if the patient is having pain and I will give analgesics which are prescribed post-operatively" (P8F-O).

Some participants shared with the researcher that they assess patients' post-operative pain through asking questions with the aid of a verbal rating scale (VRS), where patients are asked to rate their pain on a five-point scale as "none, mild, moderate, severe or very severe", and a numerical rating scale (NRS), which measures pain from zero for no pain, with 10 being the worst possible pain.

"You will ask the patient how are you feeling. The patient will respond to you that I am having severe pain or abdominal pain" (P12F-U).

"By asking the patient verbally" (P13F-U).

Another participant expressed that before being questioned about post-operative pain, some patients displayed restlessness.

"... When patients are restless, I ask them what is wrong and they say they are having pains" (P11F-O).

According to the findings, participants asked patients about their post-operative pain after surgery to allay anxiety and promote recovery. The VRS pain rating scale is commonly used by participants to assess post-operative pain through patient questioning to exclude pain (Kolobe, 2022:151; Xavier, et al., 2018: 2438). Furthermore, participants stated that assessing post-operative pain levels through questioning the patient with the aid of a pain scale, enhances the nurse-patient relationship. As such, patients felt free to talk to the participants about their pain after surgery. Communication and relationships between participants and patients assisted in enhancing quality nursing care (Cohen & Gooberman-Hill, 2019:3). A study conducted in South Africa by Nyelisani, Makhado and Luhalima (2023:5), confirm that good nurse-patient relationships prevent patients' extended hospital stays and improve patient satisfaction.

Mahama and Ninnoni (2019:4), confirm that the participants administer post-operative pain medication as prescribed by the doctor to relieve the patients discomfort. None of the participants

mentioned re-assessment of the patient after administration of medication, and utilization of non-pharmacological post-operative pain management, such as patients listening to soft music after surgery in the surgical ward, deep breathing exercises, or educating patients and their families about pain. In South Africa's Gauteng province, assessing post-operative pain through questioning patients after surgery is considered as being a crucial part of quality nursing care.

Therefore, the use of an algorithm assessment pain tools, including asking patients about aggravating factors, quality, radiation, severity, treatment, impact on the patient, and values, as well as the use of non-pharmacological post-operative pain management, are among the key responsibilities of the participants to enhance quality nursing care and improve patient satisfaction.

4.4.1.2 Observe patient expressions of pain

Another way of assessing post-operative pain was identified as observing a patient's facial expressions of pain. Participants noted that observing facial expressions after surgery, assisted them in rendering quality care to the patient and relieving post-operative pain.

> *"And secondly, we check patients' facial expressions to find out if the patient is in pain, because some do not say it, but they can show it through facial expression. That is how we see that a patient is in pain and not using pain tool"* (P2F-U).

> *"You will see the expression of the patient"* (P12F-U).

> *"You can see the patient's expression that he is having pains by frowning"* (P13F-U).

In addition to the facial expressions of pain described by some of the participants, they also mentioned other signs of pain, such as what the patients will do to show that they are in pain as stated in the quotes below:

> *"... and patient will be restless. Patient's face will show pain by frowning"* (P7F-G).

> *"Patients will show pain with the colour of their skin and the patient will sometimes scream or cry that she or he is having severe pain"* (P8F-O).

> *"... and some will be screaming and having uncontrolled pain Err" (*P10F-O).

*"Normally patients show restlessness. Some of them, they cry" (*P11F-O).

Some participants indicated that patients rang the bell for the assistance when they were in pain after the surgery.

"Err… If they don't do that usually you can see the patient is moaning that the patient is in pain" (P4M-G).

Another participant shared that a patient who was unable to raise his voice, conveyed his post-operative pain through facial expressions.

"And if the patient is not able to talk, I can see the patient's facial expressions. I can detect the patient is in pain and I will administer pain medication" (P6F-O).

The findings of this study reveal that most of the participants were able to observe the patients' facial expressions of pain after surgery, also through changes in the skin colour, restlessness, moaning, frowning, screaming and crying. Patients' facial expressions after surgery are regarded as the first expressions of pain that the participants were able to observe (Mahama & Ninnoni, 2019:4). Ayaz and Sherman (2022:5) indicate that when patients are unable to talk, it is difficult for the participants to assess pain after surgery, which leads to inadequate post-operative pain management.

One participant said that she was able to see that the patient was in pain through facial expression and therefore did not use a pain assessment tool. Xavier et al. (2018:2438) confirm that participants who observed patients' facial expressions did not use pain assessment tools. The authors further revealed that participants did not assess patients comprehensively for pain by using self-report pain assessment tools, such as the verbal rating scale and numerical rating scale; or functional pain assessment tools such as whether the patient is able to breathe, walk, turn in the bed and cough; and an algorithm pain assessment tool. Instead, they observed patients' behavioural pain responses.

From the participant's quotes, it can be concluded that some nurses who work in surgical wards observed patients' expressions of pain with the aid of a behavioral pain assessment tool. One participant mentioned that after observing a patient's facial expression and determining that he was

in pain, the patient was administered pain medication. Therefore, the participant never judged the patient's facial expression after the surgery, medications were administered to relieve pain. In support of the finding by Tia et al., (2022:8), it was found that participants should not judge the patients when they display expressions of pain. The participants must observe the patient and administer post-operative pain medication to promote recovery and improve satisfaction. The authors further noted that the participants were showing respect and treating patients as individuals to improve patient satisfaction.

Failure to observe and respond to patients' facial expressions of pain, may lead to serious adverse effects, such as chronic pain and dissatisfaction, which could, in turn, lead to nursing malpractice. Therefore, it is the responsibility of the participant to monitor the patient's biological vital signs, observe patients' expressions of pain and use functional pain assessment tools. When the patient is able to communicate, a self-report pain assessment tool and an algorithm pain assessment tool should be included to improve quality nursing care.

4.4.1.3 Patients' verbalisation of pain

Patients' verbalisation of pain emerged as the third sub-theme of theme 1. Participants indicated that patients have the right to verbalise pain post-operatively. When patients verbalise their pain, it assists nurses in rendering quality nursing care by assessing the pain and administering the prescribed medication post-operatively to their patients.

> *"Usually most of our patients are well orientated and they are not mentally ill. Like they do verbalise that they do have pain, so that is when we know the patients have pain"* (P1F-O).

> *"Patients when awake and orientated they will verbalise that they have pain"* (P3F-G).

> *"Normally patients verbalises that they are in pain"* (P9F-O).

> *"If the patient is awake and still complaining of pain, I administer pain medication as prescribed by the doctor"* (P6F-O).

Another participant expressed that some patients were using non-verbal communication to show that they were having pain by ringing the bell.

"Usually, patients ring the bell for help and verbalise that they are in pain" (P4M-G).

Most participants declared that patients were allowed opportunities to verbalise their pain after surgery while they were awake (Tia et al., 2022:7). The participants reported that they listened attentively, and maintained confidentiality and privacy when their patients verbalised their post-operative pain to improve quality nursing care (National Health Act, 2003:24). According to Angelini et al. (2020:1666) study findings, the healthcare professionals were able to establish a connection with the patients by responding to their phone calls, aiming to foster trust and enhance patient satisfaction. This finding was also supported by Kolobe (2022:152), who indicates that patients who were awake and mentally sound were able to verbalise the pain, while patients who were unable to talk, responded through non-verbal communication and behavioural pain responses.

Participants were able to communicate with patients after surgery, hence, most of the patients were able to verbalise pain. A study conducted in Thailand by Chatchumni et al. (2018:7238), confirmed that the participants had a good relationship with the patients, which led to patients feeling free to verbalise pain after surgery to promote recovery. Another author, supported the finding by stating that participants had a pleasant relationship with their patients when they were able to verbalise their pain to improve quality nursing care and promote patient satisfaction (Eshete, Baeumler, Siebeck, Tesfaye, Wonde, Haileamlak, Michael, Ayele & Irnich, 2019:10). One participant stated that the patient, after verbalising the pain, was given pain medication. Participants therefore did not delay administering pain medication to relieve their patients' pain.

The findings indicate that some participants adhered to non-verbal reassurance since they knew that patients were in pain by listening to them and thus administered medication to relieve the pain. None of the participants stated verbal reassurance, whereby they educate the patient on how to cope with post-operative pain.

4.4.1.4 Assess vital signs for pain

Pain is defined as a major healthcare problem and a subjective phenomenon (Mahama & Ninnoni, 2019:2). Lourens et al., (2022:1) confirm that there is inadequate evidence of pain assessment in South African healthcare facilities. The participants indicated that the patient's post-operative pain was shown by the elevated blood pressure and increased pulse rate.

"The vital signs show that a patient is in pain; especially when the blood pressure is high, we treat patients individually because they are not the same" (P2F-U).

"We can also tell by the vital signs if the blood pressure is elevated or the pulse is elevated that could be sign that the patient is in pain" (P4M-G).

"But if they are sleepy, we can see vital signs such as increased pulse and blood pressure, which indicate that the patient is in pain" (P3F-G).

"For those that are not verbalising, you will see the vital signs which include their blood pressure that will be elevated, as well as their heart rate" (P9F-O).

Participants reported that immediately after receiving the patients from theatre, they checked the blood pressure, pulse, respiration, temperature and oxygen saturation to compare with the baseline data. Furthermore, the participants said that they assess the patient's vital signs prior to administering prescribed post-operative medication to exclude low blood pressure, decreased oxygen saturation and to relieve pain.

"Okay, initially when the patient comes back from theatre, we check the vital signs to find out if the patient is in pain, because blood pressure will be high and we do exclude hypertensive patients. Blood pressure can be higher due to the patient being hypertensive" (P2F-U).

"If the blood pressure is high, it indicates that the patient has pain, especially post-operatively when the baseline was normal. And we check the blood pressure and give medication as prescribed" (P3F-G).

"Post-operative pain. Normally we check the blood pressure.... We check the vitals, the blood pressure will be elevated. Some we do all - blood pressure, pulse, respiration and temperature. Normally we concentrate on the blood pressure and pulse" (P10F-O).

"Blood pressure, heart rate, respiration and ... Err saturation. Sometimes there is anaesthesia and it affects their saturation" (P9F-O).

Most of the participants stated that they assessed vital signs immediately after the patient had been received back from the theatre, to relieve pain (Kolobe, 2022:151). The findings were supported by Xavier et al., (2018:2438), who indicated that participants assessed patients for blood pressure,

pulse, respiration and temperature. If these were found to be elevated, it indicated that the patient could be in pain. The authors furthermore added that after participants found that the patient's blood pressure, pulse, respiration and temperature were elevated, they administered medication to the patient as prescribed to relieve pain. Ayaz and Sherman (2022:6), confirmed that pain assessment is a vital step towards ensuring that patients receive proper post-operative pain treatment.

The findings reveal, however, that there was concern in the healthcare facilities about proper assessment of patients' vital signs post-operatively. One participant revealed that patients' blood pressure and pulse were assessed post-operatively to compare it with baseline vital signs to exclude elevated blood pressure (Nazon, St-Pierre & Pangop, 2023:2419*)*. Some participants assessed the patient for blood pressure, pulse, respiration and temperature without including pain assessment as the fifth vital sign post-operatively (Mahama & Ninnoni, 2019:4). In support of these findings, Chatchumni et al., (2019: 7539) confirmed that the participants were not including pain assessment as the fifth vital sign post-operatively to promote patient satisfaction and improve quality nursing care.

The current study further found that participants do not assess patients' vital signs as part of routine nursing care after surgery. Kjellberg, Plante, and Seezs (2021:2) state that routine assessment of patients' vital signs post-operatively should be carried out as follows: on arrival of the patient in the surgical ward, twice every fifteen minutes, once every sixty minutes, once every three hours, and every four hours for up to twenty-four hours to exclude shock and promote recovery. The study recommendations are aimed at ensuring that participants attended in-service education about assessment of patients' vital signs post-operatively to reduce extended stays in hospital, prevent chronic pain, and improve patient satisfaction.

4.4.1.5 Use pain level assessment tool

It was found that the participants considered pain level assessment tools as playing a significant role in assessing and administering adequate pain medication to the patients. Tia et al., (2020:3) confirm that commonly used pain level assessment tools for assessing pain intensity in healthcare facilities, are numeric rating scales and verbal rating scales. Participants reported that they asked patients to rate pain post-operatively through the use of the pain level assessment tools to identify the pain score.

"We usually ask. Like, we got … a pain score level that they rate from 1 to 10. Usually we tell the patient like if the pain is 1 to 3 it is not severe, when it starts to be 4 to 6 pain it is moderate and when it is from 7 to 10 it is very severe. That is when we use what we call pain scale. And the patient will tell you if the pain is like … extremely severe, if it ranges from 2 to 3 we just give "Tramadol" or "Panado" and if pain is 0 to 1 the patient can cope without pain medication" (P1F-O).

"When the patient verbalises that there is pain, there is a pain assessment score that we use which is 1 to 10; 1 to 3 is mild pain, 4 to 6 is moderate pain and 7 to 10 is severe pain. We then give medication as prescribed" (P4M-G).

"And ask the patient about pain according to pain scale which is 1 to 10" (P5F-O).

A participant expressed that in the surgical ward, a pain level assessment tool was available to assess the patient's pain post-operatively, which assisted them in rendering quality nursing care to the patients.

"We do have a tool. We use it depending on patient procedure performed. ... a patient level assessment scale" (P6F-O).

The findings of the current study indicate that the participants used pain level assessment tools to assess post-operative pain. These include the numerical rating scale (NRS), which consists of zero for no pain to 10 for the worst possible post-operative pain (Chatchumni et al., 2019:7539). One participant revealed that patients were asked to rate pain with the aid of the numeric rating scale. The participant noted that one patient felt that she respected him as he was given the opportunity to be responsible for his own health when asked to rate the pain post-operatively (Ayaz & Sherman 2022:7). Another participant confirmed that the patient was administered "Tramadol" or "Panado" depending on the severity of the pain to promote recovery. This finding confirmed the findings of Mahama and Ninnoni (2019:4), who state that the daily use of a routine pain level assessment tool assisted the participants in administering proper post-operative pain medication and thus improving patient satisfaction.

Similar to the current study's findings, a study conducted by Akbar et al., (2019: 191) revealed that a pain level assessment tool reduces patients' extended hospital stays, and prevents patients from

developing chronic pain. Chatchumni et al., (2018:7238) support these findings by confirming that participants must carry out pharmacological pain interventions and should also include non-pharmacology interventions, such as educating the patient about post-operative pain.

It became evident in the findings that most participants used a numerical rating scale rather than a verbal rating scale to assess patients' post-operative pain levels. However, it is the responsibility of participants to be also familiar with self-reporting tools, such as numerical and verbal rating scales, and to utilise the biological vital signs, functional pain assessment tool, and behavioural pain assessment tool to improve quality nursing care.

4.4.1.6 Other assessments (level of consciousness/surgical site)

Participants indicated that the assessment of level of consciousness and the surgical site provides them with the ability to assess patients comprehensively and to render quality nursing care, such as ensuring their safety, assessing the surgical site, and administering medication post-operatively to promote recovery.

> *"Most of the time. Yes, if we check level of consciousness, we also check their mental status"* (P3F-G).

> *"You do patient assessment. Patients post-operatively on arrival you need to check the operation. I check the level of consciousness and gave the post-operative medication"* (P6F-O).

> *"I check whether the operated site is not bleeding, or if there is swelling on the operated site"* (P5F-O).

The participants responded that they assessed patients' levels of consciousness and surgical sites to improve quality nursing care (Akbar et al., 2019:193). Mahama and Ninnoni (2019:4) confirmed that level of consciousness depends on individual reactions to stimuli, such as eye opening, verbal response, and motor response. The authors furthermore, added that after assessment of a patient's level of consciousness and the surgical site post-operatively, the participants administered medication to relieve pain.

The participants practiced other post-operative pain assessment, such as assessing the patient's level of consciousness and surgical site to improve quality nursing care and preventing shock (Ayaz

& Sherman, 2022:5). The participants thus assessed the surgical site to exclude bleeding and surgical site inflammation, including swelling, immediately after receiving the patients from the theatre. Chatchumni, Eriksson and Mazaheri (2022: 4); Vatna and Dahl (2021:190), agree that the participants' assessment of the level of consciousness and the operated site improves patients' cognitive domain and increases patients' recovery. The participants thus continue to assess their patients' level of consciousness and surgical site post-operatively to improve quality nursing care and patient satisfaction.

4.4.2 THEME 2: FACTORS INFLUENCING POST-OPERATIVE PAIN LEVEL ASSESSMENT

Factors influencing post-operative pain level assessment emerged as the second theme. Five sub-themes were identified as follows: human resource related factors, organisational/management related factors, nurse related factors, patient related factors, and other factors.

4.4.2.1 Human resource related factors

Human resource related factors are a serious challenge in healthcare facilities. Participants indicated that they were not attending to patients on time due to a shortage of staff. This has a negative effect on the rendering of quality nursing care, such as not assessing post-operative pain and failing to administer pain medication to the patients.

> *"... I will say sometimes is shortage of staff. So when there is shortage, people do not have time to do everything they're supposed to do on patients. Lack of knowledge"* (P4M-G).

> *"So, the first one will be shortage of staff. According to me, because of the high nurse-patient ratio, we do not give enough time to patients post-operatively so that we can be able to assess pain, assist the patient and give the patient medication as it should be for pain"* (P13F-U).

> *"Lack of staff. We just fetch the patients and put them there on the bed and do not assess the patients thoroughly"* (P10F-O).

> *"... In this ward, we always have shortage because we nurse thirty patients in the ward. We do not give patient quality care"* (P7F-G).

Other participants also indicated that nurse-patient ratio contributed to the poor quality of nursing care where there is minimal staff on duty and thirty-two patients in the surgical wards.

"... due to shortage. Remember like ..., our ward admits 39 patients. According to patient-nurse ratio, there must be one nurse for six patients. And the shortage will lead to one nurse nursing eighteen patients. And due to shortage of nurses sometimes there is no one that can influence managing patients pain" (P1F-O).

"Okay. ... The ratio of nurse-patient does not match because you find that there are two registered nurses, two enrolled nurses and two enrolled nursing assistants to take thirty patients" (P4M-G).

"... Sometimes you find that there are only two sisters on duty neh. These juniors, normally they fetch the patients from theatre. They just fetch the patients from theatre and they do not even assess for pain. Sometimes they will inform you and you find that you are busy with other patients because it is the big ward" (P10F-O).

".... Whenever I will give an example with ICU where the ratio is one to one... A nurse with one patient whereby you can see, do everything on that patient one time. Unlike in the general surgical ward you find that you have forty two patients and you are eight staff members. So there is no way to attend to patients with regard to pain management on time" (P9F-O).

Another participant expressed that despite a shortage of staff, they had to multitask their duties, such as assisting doctors in the patients' ward rounds. They also prepare the patients for surgical procedures and to receive them after surgery from theatre.

"Even a shortage of staff as we'll get in, because you find that we are not enough staff in the ward and routine of the ward must be done at the end of the day. ... the patients must be prepared for theatre and patients must be fetched from theatre. There are really a lot of things to be covered. ... but we are not well staffed in the ward, you find that it goes back to patients are not taken care of adequately" (P2F-U).

"The barriers we are facing in the hospital is shortage of staff, because the theatre calls to come and fetch the patient and only to find that the staff on duty they are busy at that time. They cannot go to theatre immediately" (P8F-O).

"..., is shortage of staff. ..., I fetch patients from theatre, but I failed to come back on time and it's because of a shortage of staff" (P5F-O).

Most of the participants indicated that there is a serious shortage of nursing staff in the surgical wards, and this has a negative effect on the quality of nursing care to the patients. According to Mahama and Ninnoni (2019:5), the shortage of staff leads to the participants not managing their patients post-operatively, such as assessing post-operative pain, administering pharmacological and non-pharmacological treatment, and educating patients and their families about pain. The participants further revealed that due to a shortage of staff they were unable to reassure the patients in the surgical ward (Tamata, Mohammadnezhad & Tamani, 2021: 6). The authors further indicate that participants were neglecting their duties and responsibilities, which had a negative impact on the quality of nursing care provided to the patients.

According to Chatchumni et al., (2018:7239), due to shortage of staff, most of the participants were unable to balance their patients' needs such as preparing them for surgical procedures and assessing them for post-operative pain. A study conducted in South Africa by Nyelisani et al., (2023:4), confirm that patients do not receive quality nursing care due to shortage of staff. The authors further state that a shortage of staff leads to participants' feeling frustrated and having low morale. One participant confirmed that the patients were fetched from theatre and placed in their bed without being assessed for pain due to a shortage of staff. In this study, the participants confirmed that a shortage of staff had an impact on the nursing culture in which some patients returned from theatre, were not assessed for post-operative pain and were given medication to relieve their pain (Chatchumni et al., 2019: 7538).

The findings of the current study indicate that nurse-patient ratio is the most concerning factor in the surgical wards. A study conducted in India by Sharma and Rani (2020:2633), confirms that the minimum nurse-patient ratio in the surgical ward should be 1:5 to prevent nursing malpractice and extended hospital stays of patients in surgical wards. In this study, it was found that only two sisters are on duty, with a patient bed capacity of thirty-nine, which has a negative effect on the participant's' ability to carry out their duties and responsibilities (Tamata et al., 2021: 5). Participants were multitasking their duties in the surgical ward, which had a negative impact on their rendering of nursing care to the patients (Thapa, Subedi, Ekström-Bergström, Josefsson & Krettek, 2022:9).

It became evident in the findings that the participants were not coping with their daily nursing activities due to the shortage of staff and the nurse-patient ratio in surgical wards. This may lead to increased burnout, a high rate of absenteeism, a feeling of frustration, a lack of in-service education and inadequate documentation of nursing activities in the patients' files.

4.4.2.2 Organisational/ management related factors (workload/work delegation)

The increased workload due to the shortage of staff in the surgical ward, has an impact on the participant's quality of work satisfaction. Participants expressed their concern regarding the busyness of the ward, which means there is an increased workload, which leads to inadequate quality of nursing care to the patients.

> *"Number one, it can be a busy ward. When the ward is busy, we as nurses can turn not to care like giving our patients rightful care because the ward is too busy, for example, I am admitting the patient that side and I needed to fetch other patients from theatre. And it is not only one patient, it is more, for example in the ward, every day we do operations to patients. Here, I have to attend to pre-ops patients and they want the patient as like now. They want to take the patient to theatre when the theatre calls come to fetch the patient. I go fetch the patient from theatre, I need to attend to the patient, but I am busy… laughing… so we do attend to the patient but is not how it should be"* (P2F-U).

Participants revealed that despite the nurse-patient ratio, they are multitasking nursing activities, which leads to an increased workload.

> *"So, it does not work because there is administration of medication, wound care and theatre cases. On average, it is like eight patients goes to theatre a day in our ward"* (P4M-G).

> *"Activities, especially in the morning. The bed bathing of patients, making beds for patients, taking vital data that makes us to be very busy in the morning and then also there are doctors' rounds. Doctors are here from different places and they are coming in at the same time"* (P8F-O).

> *"In this ward we can operate ten patients a day, so it becomes difficult to give patients full attention and assess patients' post-operatively, because when you are still busy you need to fetch the other patient from theatre and in between you might resuscitate a patient, and you need to do other nursing duties and it becomes difficult to fully assess the patients"* (P3F-G).

"... Like for instead I am busy when the patient complains of pain. I request one of the nurses to give the patient pain medication and you will find that the nurse is busy attending to other patients. Then you find the timeframe... that we give the patient medication after he had complained a lot about pain" (P11F-O).

The participants stated that they are not coping with the increased workload in the surgical ward.

"I am not coping because I am doing ..., three activities and I am only one sister doing vital signs, fetching patients from theatre, I give medication and I admit the patients. We are admitting every day in surgical ward and we are operating every day. It is very difficult for us" (P5F-O).

"Like when we have thirty-nine patients and we are three in the ward -sister, staff nurse and nursing assistant. During the bed bath, all of us are working and during medication, only one person will give medication" (P12F-U).

"Because of too many patients, after fetching patient from theatre, a nurse will call and you have to attend to other patients, so you do not really get enough time to be with this one particular patient just to give him care" (P13F-U).

A participant revealed that they are not working according to their scope of practice due to the increased workload.

"Delegation if we are short staffed, ... We do not delegate according to our scope of practice. We do the jobs, we run around in the ward" (P7F-G).

A participant said that the nurse ratio to render quality care to the patients creates a serious concern when other participants are on leave, such as annual and sick leave.

"For example, in our ward three nurses ..., are already on pension and they were never replaced. And on our leave profile, we allow two nursing categories, meaning that only two sisters, two EN and two ENA, can request leave and already we are short staffed. People will be on leave and those who had resigned in the ward, are not replaced and we that get those who went on pension, are not replaced. We are overwhelmed and it is too much. And we end

up not doing what we are supposed to do actually on patients, the workload is too much" (P1F-O).

Participants expressed that problems are raised and there is a lack of support from the managers in the surgical ward.

"Actually, we raise problems every day, nothing is happening with our managers" (P8F-O).

"No, there is no support. If you tell them that you are four they do not, ..., book overtime. They said there is no money for overtimes" (P5F-O).

Most of the participants indicated that due to the busy ward and nurse-patient ratio, they were unable to balance their daily nursing activities (Chatchumni et al, 2018:7239). These conditions lead to burnout, low morale, emotional exhaustion and job dissatisfaction. According to Eshete et al., (2019:12), it has been confirmed that the nurse-patient ratio has a negative impact on rendering quality nursing care to the patients. Furthermore, the authors stated that participants developed emotional exhaustion by not coping with the increased workload.

The findings reveal that participants were not coping with their increased workload in the surgical ward (Jakobsson, Jangland, Engström, Malmström & Drott, 2023:7). Participants were not fulfilling their patients' needs on time, which led to delayed assessment of post-operative pain and management (Nyelisani et al., 2023:5). Findings, supported by Baumhour, Nyirigira, Wilson, Nsabiyumva, Parlow, Johnson and Egan (2022: 54) indicate that participants had to multitask nursing activities. For example, they were bed-bathing patients in the morning, administering medication, attending to wound care, preparing patients for surgical procedures and receiving them from theatre.

The current study further found that participants were not working according to their scope of practice due to the increased workload (Nazon et al., 2023:2418). According to Rahmah, Hariyati, Sekarsari and Pakasi (2022:567), a shortage of staff had increased the participants' workload, decreased the safety of the patient and limited the time for them to be in-contact with the patients. One participant revealed that the nurse-patient ratio was a serious concern when other participants were on leave. It was found that there are fewer participants on daily duty and an increased number

of patients for post-operative pain assessment and management (Tamata et al., 2021:5; Nazon et al., 2023:2421).

Furthermore, the authors revealed that participants were lacking support from their managers after they informed them that they were requesting overtime nurses. Participants were advocating for their patients' needs with the managers to improve quality nursing care and patient satisfaction (Tia et al., 2022:9). A study conducted by Thapa et al. (2022:7) confirms that participants lacked support from managers to book overtime nurses. This had a negative impact on their daily nursing activities and reduced patient satisfaction.

It became evident in the findings that most participants revealed that the increased workload and nurse-to-patient ratio in the surgical wards compelled them not to assess post-operative pain and manage patients according to their individual needs. The managers are aware of the increased workload in the surgical wards, they should therefore develop a nurse-patient ratio policy to prevent participants' dissatisfaction and burnout. It is the responsibility of surgical ward managers to book participants for overtime to reduce workload and thus support their participants.

4.4.2.3 Nurse related factors:

This sub-theme identifies the nurse-related factors regarding a lack of commitment and competence.

4.4.2.3.1 Lack of commitment

Participants stated that they had never used a pain assessment tool and are not aware of the policy regarding the management of patient's post-operative pain in surgical wards.

> *"Wards are not the same but rightfully we should use it, but theoretically we do learn about the pain assessment. We do not use it in the ward"* (P2F-U).

> *"But there is a policy on how to manage patients' post-operatively and there is not awareness that all staff are aware of that policy"* (P1F-O).

Participants reported that they are not coping with work overload.

> *"Actually, we are not coping. We are working because we come to work. The quality of nursing care we give to our patients is zero; that is why we are having a high rate of*

complaints in the unit due to poor nursing care. We like to provide high quality care, but it is highly impossible due to overload, it's too much for all of us actually" (P1F-O).

"So, if you are tired physically and mentally you would not give proper nursing care to patients. You need refreshments to open your mind" (P2F-U).

"Mmh. If a person is not delegated to work in that cubicle where you are nursing post-operative patients, you find that they not come and assist. They will say I am delegated in this cubicle I will not come to that cubicle" (P11F-O).

The participants stated that burnout promotes absenteeism in the surgical ward.

"Burnout, I am talking about tiredness and it promotes absenteeism as well because when you are tired you cannot even care for patients properly" (P2F-U).

"... instead, we do not have hours for overtime any more in our areas, that is burnout. You have to come to work, there is shortage and you do not have anyone to come" (P2F-U).

The findings of this study indicate that the participants did not correlate theory and practice in the surgical ward. Some of the participants stated that there were no standards for the use of assessment tools to assess patients' post-operative pain, hence they never used it (Mahama & Ninnoni, 2019:4). Nyelisani et al. (2023:4) confirm that participants should use the standard post-operative pain assessment tool and adhere to the policy regarding the management of patients to improve quality nursing care.

The findings of this study furthermore confirm that the participants were unfamiliar with the post-operative pain assessment tool and the policy to manage patients, which led to them lacking the capacity to render quality nursing care to the patients (Nazon et al., 2023:2421). Participants were not fully participating in rendering quality nursing care, because they were physically and mentally tired. Thapa et al., (2022:10), indicate that to keep the participants alert in the surgical ward, activities outside the work environment such as listening to music and performing yoga exercises will assist them in being committed to their nursing activities. This confirms that time to relax, as well as physical exercise, will assist nurses to unwind and be more alert.

Participants indicated that burnout has a negative impact on their ability to provide quality care and leads them to be absent from work (Tamata et al., 2021:10). The authors furthermore, confirm that the high absenteeism rate among the participants tends to influence others to stay away from work, which promotes nursing malpractice and patient dissatisfaction. Participants require in-service education to familiarise them with policies pertaining to their scope of practice on the management of patients' post-operative pain to enhance quality nursing care (Eshete et al., 2019: 13).

4.4.2.3.2 Lack of competency

Participants stated that they lack knowledge due to having not attended in-service education on post-operative pain assessment and management.

> *"I can say lack of knowledge, or not given in-service training on how to manage patients in unit. Remember like, if I am from another department not knowing that I must elevate the limb, we will keep on giving medication and patients complain of pain because the medication is not working; only to find that is because of swelling"* (P1F-O).

> *"Maybe I will say the more junior staff will not be knowledgeable in assessing level of pain on patients"* (P4M-G).

> *"Other barriers can be... like lack of knowledge where you do not get enough of in-service training about the care of the post-operative patients"* (P9F-O).

One participant indicated that the dates for in-service education do not always suit everyone since some are on duty during the training session; In-service training should therefore be scheduled to accommodate those who are on duty, as well those who are not on duty.

> *"The in-service training, they are having dates maybe ... they do not suit us that day we are off and we are missing the in-service training. So actually they supposed to do in-service every day because we are sometimes off duty and they are coming on duty and in-service training has already done"* (P8F-O).

The findings of this study indicate that the participants were providing inadequate quality nursing care to patients due to a lack of knowledge and competence. This led to participants neglecting or not showing interest in their patients. They furthermore did not assess and manage patients for post-operative pain according to their individual needs (Eshete et al., 2019:8). According to Dahlberg,

Sundqvist, Nilsson and Jaensson (2022:5), the level of competency in post-operative pain assessment is crucial. Knowledgeable participants will therefore be better equipped to render quality nursing care than the junior participants.

Furthermore, the findings of this study show that while scheduled in-service education dates are available, they do not accommodate participants who are off duty or on leave. Thapa et al. (2022:7), highlight that in-service education keeps participants up-to-date and supports and educates the junior participants regarding the latest post-operative pain management, thus improving the quality of nursing care and patient satisfaction. The authors indicate that the participants need in-service education on patients' post-operative pain assessment and management to prevent nursing malpractice and prevent patients from staying in healthcare facilities for longer periods.

It became evident in the findings that participants who lack competency, are not able to provide patients with quality care according to their individual needs. This may lead to increased nursing malpractice in surgical wards. The participants should therefore be instructed to plan, attend and participate in the in-service education sessions to improve the quality of patient care.

4.4.2.4 Patient related factors

Participants stated that some patients' cultures and religious beliefs do not allow them to verbalise or show that they are feeling pain.

> *"Let me talk about cultural and religion, there are some people that will not verbalises that or give facial expressions that they have pain, but you will see it. If the nurses are not there to observe, like it can be another factor that influence patient pain level"* (P1F-O).

> *"Because what I have noticed mostly our patients, elderly patients due to cultural dimension"* (P13F-U).

A participant stated that some participants did not administer post-operative medication when the patients were asleep, but rather when they were awake.

> *"If the patient is sleeping, we sometimes delay giving analgesics. If the blood pressure is low, we might also not give analgesics. We delay until blood pressure is within normal ranges"* (P4M-G).

Participants expressed that they were unable to communicate with the patients due to language barriers.

> *"The other manageable, for instead is language barriers; you find we are not able to communicate with patients and we are assisted on that one"* (P3F-G).

> *"Language barrier for example may be the patient is coming to the doctor and I cannot talk to the patient maybe you find that the patient does not understand English"* (P12F-U).

> *"They normally do not want to talk about the pain. They are having pain and they do not want to appear that they cannot handle pain, because they were oriented "man" not to cry. Some of these patients ... because of age they are not well educated and there is a language barrier even when you want to assess pain there is misunderstanding between nurse and patient"* (P13F-U).

Some patients' cultural and religious beliefs made it difficult for the participants to communicate with them regarding post-operative pain assessment and management (Kwamea & Petrucka, 2020:18). This resulted in participants rendering inadequate nursing care to their patients. A study conducted in Ethiopia by Eshete et al. (2019:10), highlights that participants should increase their knowledge of different cultures, such as learning others languages to improve nurse-patient communication.

A study conducted in Ghana by Tia et al. (2022:7), confirmed that participants were showing kindness to the patients, by not administering post-operative pain medication when they were asleep, hence, they were administered to them when they were awake. In this study, it was found that some patients did not verbalise or show pain through their facial expressions. It is crucial that the participants should be aware and not judge the patients because they do not verbalise post-operative pain. They should also be aware that some patients are able to tolerate pain better than others (Ayaz & Sherman, 2022:6). Furthermore, the authors highlight that language barriers are a serious concern between the patients and participants as this may have a negative impact on the quality of nursing care.

In addition to these findings, it was found that healthcare facilities should have an ad hoc interpreter, and participants should attend courses and workshops on the use of sign language to assist with overcoming language barriers (Olani, Olani, Muleta, Rikitu & Disassa, 2023:5). In cases where

patients are unable to verbalise their pain, nurses should be able to use the functional pain assessment tool to assess their patients who are unable to verbalise post-operative pain, in order to improve patient recovery.

4.4.2.5 Other factors (interprofessional communication/type of anaesthesia)

Participants expressed that there is a lack of interprofessional communication among nurse-nurse and nurse-doctor.

> *"And again, when the patients go for surgery for any kind of procedure, usually like on the report we get information about kind of anaesthesia given to patients; if is a nerve block or maybe spinal block or anything we know that the patient will not complain immediately post-operatively. But if the patient done under general anaesthesia, the patient obvious coming from surgery they do verbalise that they have pain"* (P1F-O).

> *"Another thing will be the type of procedures that doctors do on the patients. For instead you find that the doctor not writing the whole information done on the patients in theatre"* (P3F-G).

> *"Most in surgical ward, ... the patients via spinal analgesia operation and when they come back, they do not feel pain. They feel pain after 6-8hours. That is the challenge. You tell the patient to tell you when there is a pain so that you can give medication. You cannot give immediately because they are still under anaesthesia"* (P5F-O).

Participants stated that patients verbalise that they have pain, while they actually do not have pain.

> *"... challenges I am talking about because the patients will tell you that they have pain but meanwhile there is no pain, because he is under spinal anaesthesia but he knows is in his mind that he is from operation site"* (P5F-O).

> *"Normally if we do not get intern doctor, the register doctor who performed the surgery is busy operating it takes time to come and prescribe medication for the patient"* (P11F-O).

The findings of this study indicate that that there is a lack of interprofessional communication among nurse-nurse and nurse-doctor about the type of anaesthesia that they are going to perform on the patient (Ylitörmänen, Kvist & Turunen, 2021:5). There is a lack of interprofessional communication

between the participants and doctors concerning the patients' care, which leads to poor collaboration between them (Vatna & Dahl, 2022:189). The participants indicated that patients who underwent surgery under general anaesthesia were able to verbalise pain better than under spinal anaesthesia. The participants highlighted that the lack of interprofessional communication can lead to inadequate quality nursing care rendered to the patients.

The findings of this study, furthermore revealed that participants were informed by some patients that they had pain, while they did not actually feel the pain. Participants should therefore listen attentively to the patients and avoid judging them to improve patient safety (Angelini et al., 2020: 1666). The authors furthermore highlight that the participants should trust what their patients are telling them to improve communication and patient recovery. In this study, it was found that it was sometimes difficult to determine whether the patients were actually feeling pain, since only patients are able to inform the participants about post-operative pain (Mahama & Ninnoni, 2019:4).

In a study by Ayaz and Sherman (2022:6), participants stated that it was the responsibility of the doctor who performed the surgery to prescribe post-operative pain medication for the patients. The participants highlighted that the doctors rarely communicated the entire procedure in patients' files (Nazon, 2023:2419). This finding is supported by Angelini et al. (2020:1668), who confirm that the procedures not documented by doctors in patients files, has a negative impact on nurse-nurse and nurse-doctor communication, which leads to inadequate quality patient care. Participants indicated that it was difficult for them to render quality nursing care when doctors had not noted relevant information in patients' file (Patterson, Roberts & Bail, 2023: 535). This confirms that it is the responsibility of the nurse-nurse or nurse-doctor to improve interprofessional communication and collaboration, by, for example, having interprofessional meetings.

4.4.3 THEME 3: SUGGESTIONS ON IMPROVING POST-OPERATIVE PAIN LEVEL ASSESSMENT

Theme three relates to suggestions on how participants can improve post-operative pain level assessment to enhance quality nursing care. This is discussed under four sub-themes that emerged namely: sufficient human resources, improvement of nurses' competency, holistic pain assessment and management, and effective inter-professional collaboration and advocacy.

4.4.3.1 Sufficient human resources

Most of the participants expressed the need for additional staff to be employed in surgical wards to

ensure quality patient care.

"So, yes. Because of shortage we need more staff so that we can do the job perfect" (P7F-G).

"*We must have staff where is a policy written one nurse is to six patients and we do not have that policy"* (P1F-O).

"… the coping you find yourself …okay, when there is shortage of staff in the ward and we know that someone is gonna stay sick is that day… you have to work that day without that person. But if the person is on sick leave for longer time or few days that is when we can plan to get the other one staff member for overtime, provided you still have hours for overtime" (P2F-U).

"Okay. I will suggest that there be more than three nurses to concentrate on post-operative care, then it will be better because they will be concentrating on patients" (P3F-G).

"So, we need more staff so that we can render better patient care" (P5F-O).

"In this ward my suggestion is if we can have enough staff so that we can take care of our patients, due to better nursing care in our patients. Attend our patients on time so our patients must not complain and when they ring the bell, we must be there for them always" (P8F-O).

"At least we know that in the cubicle there is someone at all times. Sometimes you find that there is no nurses in the cubicle due to shortage of staff" (P10F-O).

"Improvement, suggestion to talk with matrons that we have shortage of staff in the ward and to hire enough staff" (P12F-U).

"The first one, I will say to be well staffed" (P13F-U).

Some of the participants suggested that there should be a written policy on the nurse-patient ratio.

"I want something written in black and white to say at least one nurse is responsible for six patients, one nurse is responsible for eighteen patients there is nothing written in black and white" (P1F-O).

"No, rather to have more people on duty, rather not to have six on duty at least nine people on duty and three will be delegated to do operative cases" (P3F-G).

"If they can hire more nurses then I can be able to assess the patient thirty minutes observations and ask if she is still having pain" (P5F-O).

Some of the participants recommended that there should be daily delegation of nursing activities, such as preparing patients for surgery.

"Suggestion, more staff hiring because of shortage and number two … because this one of staff wants to help with lots of things. When we are well staffed, we will prepare our patients, delegate who is preparing this, who is taking patients from theatre and who is giving medication. It will not be the same people; I am giving medication for the whole ward and I am fetching patients from theatre. At least when a ward is well-staffed we will be able to reach patients care" (P2F-U).

"I think, if ever when we are doing delegation or off-duties ... At least enough staff to be available a day. We have six room, each to have a sister, enrolled nurse and enrolled nursing assistant" (P10F-O).

The participants recommended that sufficient human resources may prevent shortages of staff, thus improving quality nursing care and patient satisfaction. A study conducted in South Africa by Nyelisani et al. (2023:4), highlighted that sufficient human resources are needed to render quality nursing care to the patients. Sufficient human resources will assist the participants in adhering to the written policy on nurse-patient ratio and to work according to daily delegated nursing duties.

There is a need for sufficient human resources to adequately assess patients and render pharmacological and non-pharmacological management post-operatively for pain; this will avoid patients staying longer in the healthcare facility and will prevent them from developing chronic pain.

Sufficient human resources in surgical wards, will also reduce patient dissatisfaction and nursing malpractice, such as delayed administration of patients' post-operative pain medication,

4.4.3.2 Improvement of nurses' competency

One participant recommended that an educational plan for staff should be developed, based on the assessment and management of patients' post-operative pain in the surgical wards.

> *"Call staff and draw the nursing care plan. Share with all nursing staff"* (P4M-G).

Participants recommended that there should be in-service education plan for the nursing staff.

> *"Give in-service training on assessment of pain in the surgical ward post-operatively"* (P4M-G).
>
> *"Maybe we can do in-service training to our staff nurses and nursing assistants so that they can help us"* (P5F-O).
>
> *"What can we do…. In-service training, give in-service directions to staff"* (P9F-O).

Some participants suggested that we also have continuous in-service education.

> *"My suggestion in the ward actually was to choose a day for in-service training to nursing staff, but it is not practiced. We want something that will be consistent and continuous, if we do it for all staff"* (P1F-O).
>
> *"Like, remember nursing is like a continuous thing. We learn everyday so sometimes you find that you did things long ago. So, I need to get in-service training, like refresh my mind like … so this is how we nurse the patient from theatre so that I can nurse the patient in totality"* (P9F-O).

The participants suggested that there is a need to develop an educational plan for surgical nurses, such as attending and participating in-service training, including a programme which provides continuous in-service education regarding patient assessment and management of post-operative pain to improve their competency and quality nursing care. An in-service plan will improve participants' competency, which is a key factor in boosting their confidence and a positive attitude in the surgical ward (Thapa et al., 2022:10). According to Eshete et al. (2019:13), the participants familiarize themselves with, and implement policies and guidelines regarding patients' assessment

and management of post-operative pain to improve quality nursing care and improve patient satisfaction.

Sharing the information received among participants from the in-service training sessions and continuous in-service education will improve participants' knowledge, skills and attitudes regarding assessment and management of patients' post-operative pain (Jakobsson et al., 2023: 9; Nyelisani et al., 2023:5). This will reduce malpractice in nursing by reducing delays in rendering pharmacological and non-pharmacological care.

4.4.3.3 Holistic pain assessment and management

Most of the participants recommended the use assessment tools to manage post-operative pain.

> *"And number two, is the tool should be used and we are not using it in this ward"* (P2F-U).

> *"And you need to know where do you classify the pain of our patient whether, is 2 or 5"* (P6F-O).

> *"I think we can have ... make our own assessment tool to be able to assess the pain level of patient post-operatively without may be … not to be disturbed by patients not understanding and maybe we can have sign language"* (P13F-U).

One participant expressed the importance of continuing to assess patients' post-operative pain.

> *"It is for you, registered nurse to continue assessing the level of pain post-operatively because pain is important assessment that you need to take care of a post-operative patient"* (P6F-O).

A participant recommended that they should render emotional support to the patients.

> *"You must take time to nurse a patient. You have …, what can I say. You must interview a patient because some patients in our surgical ward they come with problems from home and they do not cope in the ward. So sometimes the patient can cry saying he is having pain, meanwhile there is a problem at home. Maybe he was supposed to go to a new job, now he is lying in the hospital"* (P8F-O).

The participants recommended that rendering holistic pain assessment and managing patients' pain, will improve quality nursing care and patient satisfaction. Holistic pain assessment and management is a critical, if it is not rendered to the patient, it will have a negative impact on the patient's recovery and increase morbidity and mortality. According to Akbar et al. (2019:193), participants should understand patients' language when they need help to improve quality nursing care and assist patient's recovery.

A study conducted by Ayaz and Sherman (2022:7) confirms that the participants should assess, continue to re-assess, educate, and manage patients' post-operative pain to ensure holistic pain management. These will reduce malpractice in nursing, such as not using self-report pain assessment tools, an algorithm pain assessment tool or functional and behavioural pain assessment tools.

4.4.3.4 Effective inter-professional collaboration and advocacy

Participants suggested that patients should use patient-controlled analgesia pump infusions post-surgery to relieve pain.

> *"According to my view, I am thinking actually all patients post-operatively especially done long bones operations should have patient-controlled Analgesia (PCA'). When the patients feel pain, they just press administer medication. I think it should be done to all patients to relieve pain, but I don't know why there are specific patients that do PCA, while with others you have to give pain medication to relieve pain. My suggestion is that all patients post-operatively should have PCA at least one or two days"* (P1F-O).

A participant recommended that they should support the patient's during the post-operative period.

> *"And for nurses, … I think nurses need to advocate for the patients. Like not to ignore patients especially when they complain of pain"* (P1F-O).

> *"Okay. When you advocate for patient, if medications is not working how about to tell the doctor to write some more medication. I think if we start advocating for our patients for doctor to prescribe strong medications to relieve pains"* (P1F-O).

Most of the participants suggested that there should be collaboration between nurses and doctors.

> "*The surgeon should come back and discuss with nurses about the full procedure done to patient in theatre. I mean to have a collaborative meeting with doctors after operated patients.*

With doctors to have collaborative meetings to discuss the patients with nurses. I mean to discuss one by one patient from theatre daily at afternoon in the ward with multidisciplinary team, for example a physiotherapist to understand that the patient not mobilize today rather to do passive exercises'' (P3F-G).

"Is for the doctors to prescribe the strong pain medication to patient'' (P11F-O).

Participants suggested that effective inter-professional collaboration and advocacy to the patients post-operatively may improve communication, interpersonal relationship and commitment between the participants and doctors. A lack of awareness of the participants' and doctor's competency and responsibilities in the surgical ward is identified as a serious concern that has an impact on the inter-professional collaboration and advocacy. Geese and Schmitt (2023:9) recommend that interprofessional meetings assist participants and doctors to enhance their interprofessional skills when rendering care to the patient post-operatively. Participants recommended that after surgery, patients should be on patient-controlled analgesia medication to relieve pain and to reduce the nursing activity, such as administration of post-operative medication to the patients.

In support of the findings, Tia et al. (2022:9) recommend that the participants should advocate for the patients when they are not able to speak up for themselves, such as by asking the doctor to prescribe different post-operative medications. It remains the responsibility of the participants to monitor blood pressure, pulse, respiration, temperature and post-operative pain assessment to exclude respiratory depression. A study conducted in Botswana by Sabone, Mazonde, Cainelli, Maitshoko, Joseph, Shayo et al., (2020:216), recommend that there should be regular collaborative meetings between participants and doctors with regards to quality post-operative care. Effective inter-professional collaboration and advocacy between the participants and doctors will not only assist them to gain their patients' cooperation, but also promote recovery.

4.5 CONCLUSION

Chapter 4 presented the results obtained from the data collected through the semi-structured interviews. The socio-demographic characteristics of the participants were summarised and themes and sub-themes that emerged from the verbatim transcribed data were discussed. Chapter 5 outlines the discussions of findings and limitations.

CHAPTER 5: CONCLUSION, IMPLICATIONS, LIMITATIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

In the previous chapter, the presentation, interpretation and findings of the study were discussed. This chapter presents the conclusion, implications, limitations and recommendations.

5.2 RESEARCH QUESTIONS

The following research questions guided the study:

- What are the views of surgical nurses on factors influencing post-operative pain level assessment in surgical wards at a selected public hospital in Gauteng province?
- What is your suggestion on improving post-operative pain level assessment in surgical wards?

5.3 RESEARCH AIM AND OBJECTIVES

The aim of the study was to explore and describe the views of surgical nurses on factors influencing post-operative pain level assessment in surgical wards at the selected public hospital in Gauteng province.

The objectives of this study were:

- To explore and describe the views of surgical nurses on factors influencing post-operative pain level assessment in surgical wards at the selected public hospital in Gauteng Province.
- To suggest ways for improving post-operative pain level assessment in surgical wards at the selected public hospital in Gauteng Province.

5.4 SUMMARY OF THE RESEARCH DESIGN AND METHOD

A qualitative explorative, descriptive and contextual research design was used for this study to explore and describe the views of surgical nurses on factors influencing post-operative pain level assessment in surgical wards. Research methods were setting, population, sampling method and sample size, data collection and organisation of data analysis and rigour control. Semi-structured interviews were used to collect data at three (03) surgical wards in a selected academic public hospital in GP. The selected adult surgical wards are for both male and female patients who underwent major general, urology and orthopaedic surgery. Thirteen (13) individual interviews were conducted with professional nurses working in surgical wards; data saturation was reached at

participant ten (10) and extra three participants were interviewed to verify that no more new information emerged. Each interview lasted for thirty (30) to fourty-five (45) minutes.

5.5 CONCLUSION

This study provided an understanding of the views of surgical nurses on factors influencing post-operative pain level assessment in surgical wards at a selected public hospital in Gauteng province. The study has shown that there is inadequate post-operative pain level assessment in surgical wards. These have a negative impact on the participants' ability to render quality nursing care to the patients.

5.5.1 THEME 1: WAYS OF ASSESSING POST-OPERATIVE PAIN LEVELS

The study discovered that most of the participants did not assess patients for routine post-operative pain levels. Some of the participants assessed post-operative pain with a verbal rating scale (VRS). The participants who observed the patients' facial expression post-operatively indicated that the patients were experiencing pain, including those who were unable to raise their voices. Such patients were thus given post-operative medication to relieve the pain.

The participants indicated that patients who were awake, were given the opportunity to verbalise that they were feeling pain. When patients rang the bell to indicate that they felt pain, participants responded to build trust and promote patient satisfaction. Participants confirmed that they had a good relationship with the patients, which led to patients feeling free to verbalise pain after surgery, which promoted recovery. Most of the participants adhered to non-verbal reassurance by listening to the patients and administering pain medication to relieve pain.

The majority stated that they had to assess blood pressure, pulse rate, respiration, temperature and oxygen saturation immediately after they received the patients back from the theatre to compare with the previous baseline data. Patients who were found to have elevated blood pressure were administered medication as prescribed to relieve the patients' pain. Some participants indicated that they assessed the patient for blood pressure, pulse, respiration, and temperature, but did not include pain assessment as the fifth vital sign post-operatively. It was found that routine vital signs were not monitored post-operatively on arrival of the patient in the surgical ward, twice every fifteen minutes, once every sixty minutes, once every three hours, and every four hours until twenty-four hours, to exclude shock.

The participants confirmed the use of pharmacological pain intervention without including non-pharmacology intervention such as educating the patient about post-operative pain. It was found that most of the participants were using a numerical rating scale rather than a verbal rating scale to assess patient's post-operative pain level. Participants responded that they assessed the patient's level of consciousness and the surgical site to improve quality nursing care. They indicated that immediately after they received a patient from the theatre, they assessed the patient's surgical site to exclude bleeding and inflammation, such as swelling.

Therefore, it is the responsibility of the participants to monitor the patient's biological dimensions, assess level of consciousness, and surgical site post-operatively, as well as familiarise themselves with self-report pain assessment tools; algorithm assessment pain tool; functional pain assessment tool; behavioural pain assessment tool; adhere to non-verbal reassurance and verbal reassurance to enhance quality nursing care and improve patient satisfaction.

5.5.2 THEME 2: FACTORS INFLUENCING POST-OPERATIVE PAIN LEVEL ASSESSMENT

The findings of the study indicate that participants did not attend to patients on time due to a shortage of staff. They indicated that a shortage of staff could have a negative impact on the rendering of quality nursing care to the patients. This can be avoided if more staff is employed in the surgical ward to assess post-operative pain, administer pharmacological and non-pharmacological treatment, and educate patients and their families about pain. They added that due to a shortage of staff, participants were unable to balance their patients' needs, such as preparing them for surgical procedures and assessing them for post-operative pain. The nurse-patient ratio is the most concerning factor in the surgical wards; hence, the participants are multitasking nursing responsibilities to promote patient satisfaction. Participants indicated that they were not coping with daily nursing activities due to the shortage of staff and the nurse-patient ratio in the surgical wards.

The participants highlighted that, due to the busyness of the surgical ward, they were not coping with the increased workload. It seemed that most of the participants did not work according to their scope of practice due to the increased workload. The majority of participants revealed that the nurse-patient ratio was a serious concern when other participants were on leave. Participants indicated that there was a lack of support from the managers when booking participants for overtime. The increased workload and nurse-patient ratio led to participants developing burnout.

The finding was that the participants displayed a lack of commitment and competency when rendering post-operative pain assessment and management. Participants indicated that pain

assessment tools were not used, and they were not aware of a policy on the management of patient's post-operative pain in the surgical ward. The participants were unfamiliar with the post-operative pain assessment tools and the policy to manage patients for post-operative pain. It was suggested that participants should attend in-service training sessions, as well as continuous in-service education to familiarise themselves with the policy that is within their scope of practice regarding the management of patients' post-operative pain.

The participants revealed that not being able to attend in-service education on post-operative pain assessment and management, had a negative impact on the rendering of quality nursing care to the patients. The findings indicated that planned in-service education dates were available, but the date did not accommodate the participants who were off duty or on leave. The participants highlighted that in-service education should be done on a daily basis regarding post-operative pain management to keep them abreast of new developments and to improve patient recovery.

The cultural and religious beliefs of some patients had an impact on the participants' rendering of quality care. It was found that language barriers between the patients and participants is a serious concern for rendering post-operative pain assessment and management. The findings revealed that there was also a lack of interprofessional communication among nurse-nurse and nurse-doctor about the type of anesthesia performed on the patient, which resulted in nursing malpractice.

Despite the participants' challenges with doctors not noting the full surgical procedure performed on patients, they continued to administer post-operative pain medication to relieve pain. It was further noted by participants that the doctor who performed a surgical procedure on the patient was accountable and responsible for prescribing post-operative pain medication. Therefore, there is a need for in-service education for the participants to familiarise themselves with policies that are within their scope of practice regarding the management of patient's post-operative pain, and to have interprofessional meetings with other participants and doctors to improve quality nursing care.

5.5.3 THEME 3: SUGGESTIONS ON IMPROVING POST-OPERATIVE PAIN LEVEL ASSESSMENT

The findings indicated that the participants recommended that more nursing staff should be employed in surgical wards to prevent malpractices. They suggested that there should be a written policy on the nurse-patient ratio and daily delegation of nursing activities, such as preparing patients for surgery to improve quality nursing care to the patients.

The participants recommended developing an educational plan for the staff based on the assessment and management of patient's post-operative pain. It was suggested that it is important for the participants to attend in-service and continuous in-service education on post-operative pain management to improve patient satisfaction, despite the challenge that some are off duty or on leave. The findings recommended that the participants should familiarise themselves with and implement policies and guidelines on patient's assessment and management of post-operative pain to improve quality nursing care.

The findings highlighted that the majority of participants recommended the use of standardized patient assessment tools for managing post-operative pain. It was suggested that the surgical ward managers should develop policy guidelines for post-operative pain management, and participants should familiarise themselves with such guidelines to improve recovery time and patient satisfaction. The nurse-patient relationship will be improved by providing quality nursing care.

Participants indicated that there is a need for them to advocate for the patients when they are experiencing post-operative pain. The findings of the study indicate that there is a need for interprofessional meetings to assist participants and doctors in enhancing their interprofessional skills when rendering post-operative care to patients.

5.6 IMPLICATIONS

The findings revealed that there is serious concern about patients' post-operative pain level assessment in surgical wards. Professional nurses and public hospitals' management should develop and implement policies and guidelines regarding patients' post-operative pain assessment and management, and develop a nurse-patient ratio policy for the surgical ward. Surgical ward nurses should furthermore attend in-service sessions, as well as continuous in-service education regarding patients' post-operative pain assessment and management. They should familiarise themselves with pain assessment tools, and attend interprofessional meetings with doctors to enhance quality nursing care and promote patients' satisfaction. If professional nurses provide proper post-operative care in surgical wards and public hospitals, they will be able to reduce the increase in post-operative pain mismanagement.

5.7 LIMITATIONS OF THE STUDY

A limitation of the study was the fact that only participants who worked in adult general, urology and orthopaedic surgical wards of a selected academic public hospital in the Gauteng province were chosen for this study. Furthermore, only participants on day duty were included in the study, while night duty participants were excluded because they could not be withdrawn from their duties while rendering post-operative pain assessment and management to take part in the study. The study cannot be generalized to the entire population and other healthcare facilities as it was only conducted in one public hospital in South Africa's Gauteng province.

5.8 RECOMMENDATIONS

Based on the findings of the study, the following recommendations were made to the nurses and public hospital management. It was envisaged that should these recommendations be implemented, they will enhance the assessment of patients' post-operative pain levels in surgical wards at the selected public hospital in Gauteng province, as well as in other provinces and their healthcare facilities.

5.8.1 NURSING PROFESSION AND PRACTICE

The findings of this study were based on the information that participants shared with the researcher during the semi-structured interviews.

The following recommendations are based on the findings of the study:

- Hospital management should write a motivation to the Gauteng Department of Health and request more professional nurses to be appointed in the surgical wards.
- The Human Resources Department of the academic public hospital in Gauteng province should fill vacant positions to meet the needs of the patients and to improve patient satisfaction.
- A policy on nurse-patient ratio in surgical wards should be revised to enhance quality nursing care.
- Develop a policy on the importance of pain assessment tools, including self-report pain assessment tools, algorithmic pain assessment tool, functional pain assessment tool, behavioural pain assessment tool, non-verbal reassurance and verbal reassurance to enhance quality nursing care and improve patient satisfaction.
- Develop a policy and guidelines for patients' post-operative pain level assessment to improve recovery.
- Develop policy guidelines on post-operative pain level assessment that is within the nurses' scope of practice.

- Hospital management should ensure that nurses attend and participate in in-service training and continuous in-service education on post-operative pain assessment to improve their professional skills and patient satisfaction.
- Hospital management should ensure that in-service education, workshops and feedback are given to their colleagues within seven days after working in surgical wards.
- Nurses should be encouraged to display their clinical competency by rendering quality post-operative nursing care to improve patient satisfaction.
- Nursing staff should be encouraged to engage in interprofessional communication between nurse-nurse and nurse-doctor.

5.8.2 POLICY

- Hospital management, nurses working in surgical wards, and researchers should develop a standard approach and update the existing policies on post-operative pain level assessment for adult patients in Gauteng Province to improve the quality of nursing care.
- Nursing education institutions should support hospital management and nurses regarding the development of policy on post-operative pain level assessment for adult patients in Gauteng Province to improve the quality of nursing care.
- Nurses should familiarise themselves with the post-operative pain level assessment tools before exposure to the clinical healthcare environment.

5.8.3 NURSING EDUCATION

- Nursing education institutions should ensure that facilitation and integration on the post-operative pain assessment level and management are included in the curriculum of nursing students at all levels, that is, undergraduate and postgraduate nursing programmes in nursing colleges and universities, to improve quality care and patient satisfaction.
- Emphasis should be placed on the need for nurses to be familiar with standardized pain assessment tools and on performing routine post-operative pain care.
- Nurses should be organised and encouraged to attend in-service training and continuous education, workshops and seminars about post-operative pain assessment tools.
- Nurses should be supported financially and psychologically to motivate them to attend and participate in in-service and continuous education, workshops.
- Nurses should be encouraged to correlate the theory into practice in post-operative pain assessment and management to improve patient satisfaction.

- Collaborative meetings should be held once every three months between the hospital management, nurses, and doctors to share information regarding post-operative pain level assessment and the improvement of quality care for surgical patients.

5.8.4 NURSING RESEARCH

- The Department of Health should revise the nursing curriculum, guidelines, policies and standards on post-operative pain assessment to improve the quality of nursing care.
- Based on the research findings, it is evident that there is potential for further research to explore and describe the factors influencing post-operative pain level assessment in surgical wards.
- Research was conducted in one academic public hospital in South Africa's Gauteng province, and it is recommended that the study should be conducted on a larger population and in other academic public hospitals, tertiary institutions, and private hospitals in Gauteng Province to compare the findings.
- Another study could be done on the implementation of post-operative pain level assessment tools and guidelines.
- Guidelines should be developed to assist surgical nurses with post-operative pain assessment tools to improve quality nursing care.
- An investigation should be undertaken to identify gaps in current practices, as nurses are still rendering inadequate nursing care on the assessment of post-operative pain levels of patients in surgical wards.

5.9 FINAL CONCLUSION

The aim of the study was to explore and describe the views of surgical nurses on factors influencing post-operative pain level assessment in surgical wards at the selected public hospital in Gauteng province. The findings will contribute towards a better understanding of surgical nurses' views on factors that influence post-operative pain level assessment in surgical wards. The researcher became aware of post-operative pain and what needed to be done to implement an adequate post-operative pain level assessment. Nurses should remain clinically committed and competent to improve the quality of nursing care and patient satisfaction. The recommendations developed from the findings are relevant and can contribute to the quality of nursing care in post-operative pain level assessment of patients in surgical wards.

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ANNEXURE A: PARTICIPANT'S INFORMATION LEAFLET & INFORMED CONSENT DOCUMENT FOR AN INDIVIDUAL SEMI-STRUCTURED INTERVIEW RESEARCH STUDY

Principal Investigator: Makou NM

Supervisor: Prof. M.M Rasweswe, Prof. R.S Mooa

Institution: University of Pretoria

DAYTIME AND AFTER-HOURS TELEPHONE NUMBER(S):

Daytime number/s: 082 844 4211

Afterhours number: 082 844 4211

DATE AND TIME OF FIRST INFORMED CONSENT DISCUSSION:

				:
date	**month**	**year**		**Time**

Dear Prospective Participant

Dear Mr. / Mrs. .....……..

You are invited to volunteer for a research study. I am doing this research for Clinical Master's Degree at the University of Pretoria. This document gives information about the study to help you decide if you would like to participate. Before you agree to take part in this study, you should fully understand what is involved. If you have any questions, which are not fully explained in this document, do not hesitate to ask the investigator. You should not agree to take part unless you are completely happy about what we will be discussing during the interview.

2) THE NATURE AND PURPOSE OF THIS STUDY

The aim of the study is to explore and describe views of surgical nurses on factors influencing post-operative pain level assessment in surgical wards at the selected public hospital in Gauteng Province. By doing so, I wish to learn more about the views of surgical nurses on factors influencing post-operative pain level assessment in surgical wards at the selected public hospital in Gauteng Province. You will be interviewed by the researcher in a place that is private and easy for you to reach.

3) EXPLANATION OF PROCEDURES AND WHAT WILL BE EXPECTED FROM THE PARTICIPANTS

If you agree to participate, you will be asked to participate in an individual semi-structured interview which will take about thirty (30) to forty-five (45) minutes. The individual interview will be a one-on-one meeting between the two of us. I will ask you several questions about the research topic. This study involves answering some questions such as:

1. What are your views on the factors influencing post-operative pain level assessment in surgical wards?

2. What is your suggestion on improving post-operative pain level assessment in surgical wards?

With your permission, the interview will be recorded on an audio recorder and field notes will be used to ensure that no information is missed.

4) RISKS AND DISCOMFORTS INVOLVED?

We do not think that taking part in the study will cause any physical or emotional discomfort or risk. For this study to be authentic, your personal data will be anonymous. The researcher will not disclose any of your personal information to anyone. The interview questions will not pose any risks to the participants.

5) POSSIBLE BENEFITS OF THE STUDY

You will not benefit directly by being part of this study. But your participation is important for us to better understand factors influencing post-operative pain level assessment in surgical wards. The information you give may help the researcher to improve quality patient care in surgical wards.

6) COMPENSATION

You will not be paid to take part in the study. There are no costs involved for you to be part of the study.

7) VOLUNTARY PARTICIPATION

The decision to take part in the study is yours and yours alone. You do not have to take part if you do not want to. You can also withdraw at any time during the interview without giving a reason. If you refuse to take part in the study, this will not affect you in any way.

8) ETHICAL APPROVAL

This study will be submitted to the Research Ethics Committee of the Faculty of Health Sciences at the University of Pretoria, Medical Campus, Tswelopele Building, Level 4-59, telephone numbers 012 356 3084 / 012 356 3085 and written approval will be given by that committee. The study will follow the Declaration of Helsinki (last update: October 2013), which guides doctors on how to do research in people. The researcher can give you a copy of the Declaration if you wish to read it. The Department of Health, Faculty of Health Sciences' Research Ethics Committee at University of Pretoria and hospital management will give the researcher a written approval for this study.

9) INFORMATION ON WHO TO CONTACT

The contact persons for the study Ms. NM Makou and Prof. M.M Rasweswe. If you have any questions about the study, please contact them at the following telephone number: Ms. NM Makou: 082 844 4211; alternatively, you may contact my supervisor at telephone number: Prof. M.M Rasweswe: 084 668 0056.

10) CONFIDENTIALITY

Your input to this research will be kept confidential as you will not need to indicate your real name during the semi-structured interview. Your name and contact details will not be passed to anyone other than a researcher. Although the interviews will be recorded and this is for analysis purposes. The recordings will be deleted after analysing results will be published and presented in such a manner that you as a participant will remain anonymous.

The records from your participation may be reviewed by people responsible for making sure that research is done properly, including members of the Research Ethics Committee. All of these people are required to keep your identity confidential. Otherwise, records that identify you will be available only to people working on the study, unless you give permission for other people to see the records.

All hard copy information will be kept in a locked facility at the University of Pretoria, for a minimum of three (03) years and only the research team will have access to this information.

ANNEXURE B: SEMI-STRUCTURED INTERVIEW GUIDE

Proposed interview questionnaires for the study

Main questions

What are your views on the factors influencing post-operative pain level assessment in surgical wards?

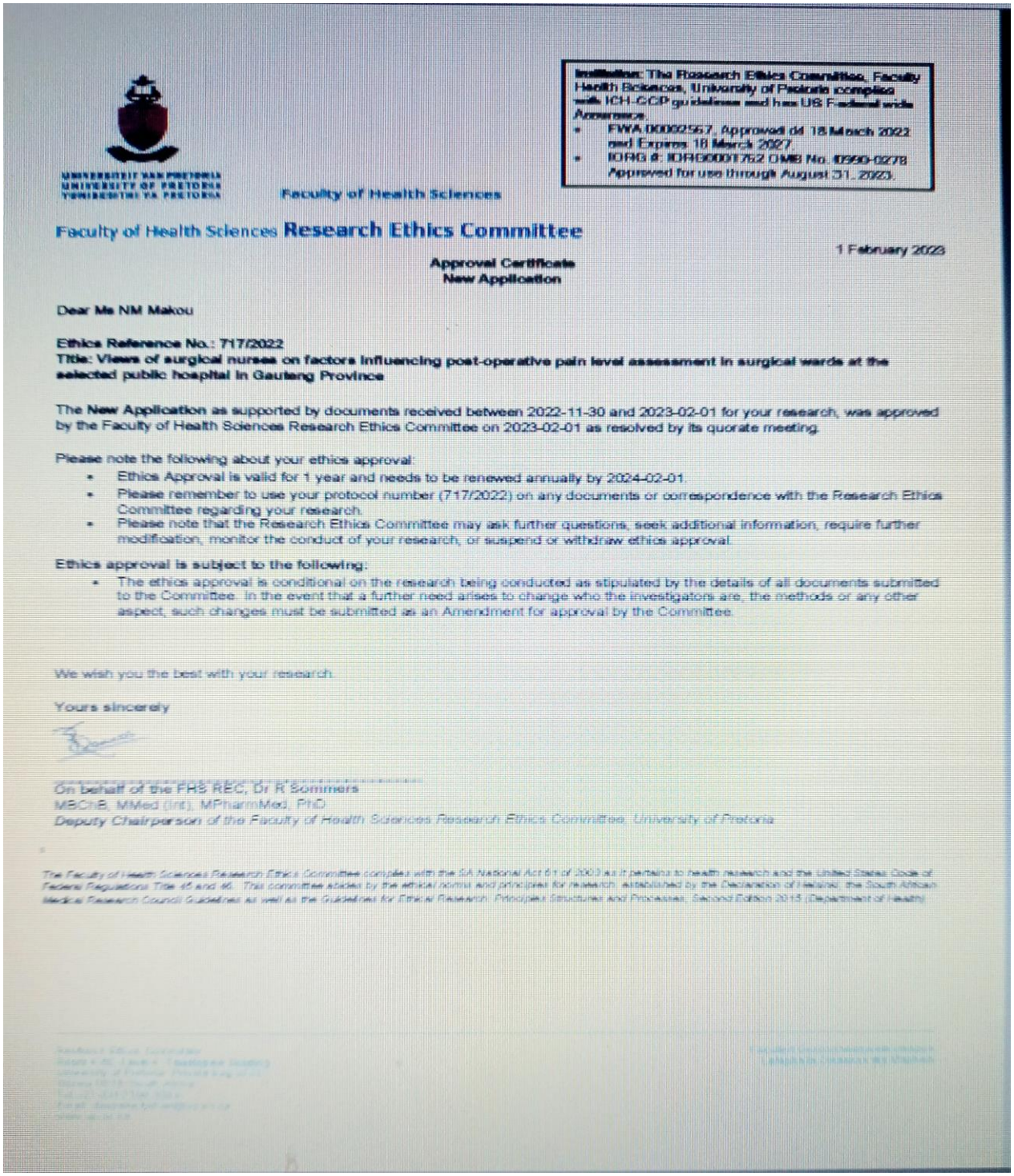
What is your suggestion on improving post-operative pain level assessment in surgical wards?

Probing questions

Tell me more about views on the factors influencing post-operative pain level assessment in surgical wards.
Is there any information you would like to share with me regarding the factors influencing post-operative pain level assessment in surgical wards?
Elaborate your suggestion on improving post-operative pain level assessment in surgical wards.
What can be done to improve post-operative pain level assessment in surgical wards?

Thank you for your participation. Your inputs are appreciated.

ANNEXURE C: UNIVERSITY ETHICAL CLEARANCE LETTER



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Health Sciences

Institution: The Research Ethics Committee, Faculty Health Sciences, University of Pretoria complies with ICH-GCP guidelines and has US Federal wide Assurance.
- FWA 00002567, Approved dd 18 March 2022 and Expires 18 March 2027.
- IORG #: IORG0001762 OMB No. 0990-0278 Approved for use through August 31, 2023.

Faculty of Health Sciences **Research Ethics Committee**

1 February 2023

Approval Certificate
New Application

Dear Ms NM Makou

Ethics Reference No.: 717/2022
Title: Views of surgical nurses on factors influencing post-operative pain level assessment in surgical wards at the selected public hospital in Gauteng Province

The **New Application** as supported by documents received between 2022-11-30 and 2023-02-01 for your research, was approved by the Faculty of Health Sciences Research Ethics Committee on 2023-02-01 as resolved by its quorate meeting.

Please note the following about your ethics approval:
- Ethics Approval is valid for 1 year and needs to be renewed annually by 2024-02-01.
- Please remember to use your protocol number (717/2022) on any documents or correspondence with the Research Ethics Committee regarding your research.
- Please note that the Research Ethics Committee may ask further questions, seek additional information, require further modification, monitor the conduct of your research, or suspend or withdraw ethics approval.

Ethics approval is subject to the following:
- The ethics approval is conditional on the research being conducted as stipulated by the details of all documents submitted to the Committee. In the event that a further need arises to change who the investigators are, the methods or any other aspect, such changes must be submitted as an Amendment for approval by the Committee.

We wish you the best with your research.

Yours sincerely

On behalf of the FHS REC, Dr R Sommers
MBChB, MMed (Int), MPharmMed, PhD
Deputy Chairperson of the Faculty of Health Sciences Research Ethics Committee, University of Pretoria

The Faculty of Health Sciences Research Ethics Committee complies with the SA National Act 61 of 2003 as it pertains to health research and the United States Code of Federal Regulations Title 45 and 46. This committee abides by the ethical norms and principles for research, established by the Declaration of Helsinki, the South African Medical Research Council Guidelines as well as the Guidelines for Ethical Research: Principles Structures and Processes, Second Edition 2015 (Department of Health).

ANNEXURE D: PERMISSION TO CONDUCT THE RESEARCH STUDY AT THE SELECTED PUBLIC HOSPITAL IN GAUTENG PROVINCE

Faculty of Health Sciences
Department of Nursing
University of Pretoria
Private Bag X323
Arcadia
0007
01 February 2023

The manager
Gauteng Department of Health
Pretoria
0001

To whom it may concern

Re: Application letter to conduct a research study

We hereby request permission to conduct a research study at Steve Biko Academic Hospital. The study is for the purpose of fulfilling the requirements of the MNur degree at the University of Pretoria. The topic of the study: **VIEWS OF SURGICAL NURSES ON FACTORS INFLUENCING POST-OPERATIVE PAIN LEVEL ASSESSMENT IN SURGICAL WARDS AT THE SELECTED PUBLIC HOSPITAL IN GAUTENG PROVINCE.**

A qualitative explorative, descriptive and contextual research design will be used for this study. The researcher will use individual semi-structured interviews to explore and describe the factors influencing post-operative pain level assessment in surgical wards at the selected public hospital in Gauteng Province. The researcher will disseminate the results at the selected academic public hospital nursing executives, ward managers and nurses working in the selected hospital through a workshop to improve the patient's quality care.

This study was approved by the University of Pretoria ethics committee and the reference number is: 717/2022 for the duration of 1 year ending 2024-02-01. My research supervisor is Prof. M.M

Rasweswe and co-supervisor is Prof. R.S Mooa from the Department of Nursing Science, UP, email is ramadimetja.mooa@up.ac.za.

Thank you for your consideration.

Yours sincerely

Makou NM (Ms)
Email: melia.makou@gmail.com
Cell: 082 844 4211

Signature: …….

Date: ……..

Time: ……

ANNEXURE E: REQUEST FOR PERMISSION TO CONDUCT A RESEARCH STUDY AT THE SELECTED PUBLIC HOSPITAL IN GAUTENG PROVINCE

Faculty of Health Sciences
Department of Nursing
University of Pretoria
Private Bag X 323
Arcadia
0007
19 February 2023

Chief Executive Officer
Steve Biko Academic Hospital
Private Bag X 169
Pretoria
0001

To whom it may concern

Application letter to request permission to conduct a research study

I hereby request permission to conduct a research study at Steve Biko Academic Hospital, adults general, urology and orthopaedic surgical wards. The study is for the purpose of fulfilling the requirements of the MNur degree at the University of Pretoria. The topic of the study: **VIEWS OF SURGICAL NURSES ON FACTORS INFLUENCING POST-OPERATIVE PAIN LEVEL ASSESSMENT IN SURGICAL WARDS AT THE SELECTED PUBLIC HOSPITAL IN GAUTENG PROVINCE.**

A qualitative explorative, descriptive and contextual research design will be used for this study. The researcher will use individual semi-structured interviews to explore and describe the factors influencing post-operative pain level assessment in surgical wards at the selected public hospital in Gauteng Province. The data will be collected from volunteered male and female professional nurses working in surgical wards at Steve Biko Academic Hospital. The researcher will disseminate the results at the selected academic public hospital nursing executives, ward managers and nurses working in the selected hospital through a workshop to improve the patient's quality care.

This study was approved by the University of Pretoria ethics committee and the reference number is: 717/2022 for the duration of 1 year ending 2024-02-01. My research supervisor is Prof. M.M Rasweswe and co-supervisor is Prof. R.S Mooa from the Department of Nursing Science, UP, email is ramadimetja.mooa@up.ac.za and cell phone number 071 559 1327.

Thank you for your consideration.

Yours sincerely
Makou NM (Ms)
Email: melia.makou@gmail.com
Cell: 082 844 4211
Signature: …….
Date: ……..
Time: ……

PERMISSION TO CONDUCT A RESEARCH STUDY AND ACCESS GRANTED

Name & Initials print: ……..
(CEO of Hospital)
Signature: …….
Date: ……..
Time: …….

Hospital official stamp

GAUTENG PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

Enquiries: Dr LMB Majake-Mogoba
Tel: No: +2712 354 2336/1141
Email-lehlohonolo.majake@gauteng.gov.za

STEVE BIKO ACADEMIC HOSPITAL

For attention: Ms Nnene Melia Makou

NHRD Ref Number: GP_202302-009

Re: REQUEST FOR PERMISION TO CONDUCT RESEARCH AT STEVE IKO ACADEMIC HOSPITAL

TITLE OF RESEARCH PROJECT:

Views of surgical nurses on factors influencing post-operative pain level assessment in surgical wards at the selected public hospital in Gauteng Province.

Permission is hereby grated for the above-mentioned research to be conducted at Steve Biko Academic Hospital. This is done in accordance to the "Promotion o access to information act No 2 of 2000". Please note that in addition to receiving approval from Hospital Research Committee, the researcher is expected to seek permission from all relevant department. Furthermore, collection of data and consent for participation remain the responsibility of the researcher. The hospital will not incur extra cost as a result of the research being conducted within the hospital.

You are also required to submit your final report or summary of your findings and recommendations to the office of the CEO.

Approved

Dr LMB Majake-Mogoba
Clinical Director

Date: 8. 3. 2023

ANNEXURE F: REQUEST FOR PERMISSION TO CONDUCT THE RESEARCH STUDY IN SURGICAL WARDS

Faculty of Health Sciences
Department of Nursing
University of Pretoria
Private Bag X 323
Arcadia
0007
08 March 2023

Staff Development and Clinical Education and Training Unit (CETU)
Steve Biko Academic Hospital
Private Bag X 169
Pretoria
0001

Dear Sir/Madam

Application letter to request permission to conduct a research study

My name is Nnene Melia Makou, student number 25410611. I am studying towards a Masters Degree in Nursing, Clinical field at the University of Pretoria. I am requesting permission to conduct research at your hospital in the adults general, urology and orthopaedic surgical wards.

The main purpose of this study is to explore and describe views of surgical nurses on factors influencing post-operative pain level assessment in surgical wards at the selected public hospital in Gauteng Province. The data will be collected from volunteered male and female professional nurses working in surgical wards at Steve Biko Academic Hospital.

Participants will be asked to give consent to take part and requested the permission to use the audio recorder and to write field notes during the interview. The individual semi-structured interview which will take about thirty (30) to forty-five (45) minutes. Data will be collected until data saturation is reached. The researcher will ensure that information is kept in a safe place by using electronic filing system that require access code.

The researcher will ensure that the ethical measures that are respect for human dignity, beneficence and non-maleficence and justice are maintained during the interview. As a researcher, I will ensure that my work will not interrupt healthcare services.

My research supervisor is Prof. M.M Rasweswe and co-supervisor is Prof. R.S Mooa from the Department of Nursing Science, UP, email is ramadimetja.mooa@up.ac.za and cell phone number 071 559 1327. Please let me know if you require any further information. I will be grateful if my request is taken into consideration and looking forward to a pleasurable communication.

Yours sincerely
Makou NM (Ms)
Email: melia.makou@gmail.com
Cell: 082 844 4211
Signature: ……
Date: ……..
Time: ……

PERMISSION TO CONDUCT RESEARCH STUDY AND ACCESS GRANTED

Name & Initials print: ……..
(Staff Development and CETU Manager)
Signature: ……
Date: ……..
Time: ……

Hospital official stamp

ANNEXURE G: DECLARATION REGARDING PLAGIARISM: UNIVERSITY OF PRETORIA

The Department of Health Sciences places great emphasis upon integrity and ethical conduct in the preparation of all written work submitted for academic evaluation.

While academic staff teaches you about referencing techniques and how to avoid plagiarism, you too have a responsibility in this regard. If you are at any stage uncertain as to what is required, you should speak to your lecturer before any written work is submitted.

You are guilty of plagiarism if you copy something from another author's work (e.g. a book, an article or a website) without acknowledging the source and pass it off as your own. In effect you are stealing something that belongs to someone else. This is not only the case when you copy work word-for-word (verbatim), but also when you submit someone else's work in a slightly altered form (paraphrase) or use a line of argument without acknowledging it. You are not allowed to use work previously produced by another student. You are also not allowed to let anybody copy your work with the intention of passing if off as his/her work.

Students who commit plagiarism will not be given any credit for plagiarized work. The matter may also be referred to the Disciplinary Committee (Students) for a ruling. Plagiarism is regarded as a serious contravention of the University's rules and can lead to expulsion from the University.

The declaration which follows must accompany all written work submitted while you are a student of the Department of Health Sciences. No written work will be accepted unless the declaration has been completed and attached.

Full names of student: Nnene Melia Makou

Student number: u25410611

Title of study: Views of surgical nurses on factors influencing post-operative pain level assessment in surgical wards at the selected public hospital in Gauteng Province.

Declaration

1. I understand what plagiarism is and am aware of the University's policy in this regard.
2. I declare that this dissertation is my own original work. Where other people's work has been used (either from a printed source, Internet or any other source), this has been properly acknowledged and referenced in accordance with departmental requirements.
3. I have not used work previously produced by another student or any other person to hand in as my own.
4. I have not allowed, and will not allow, anyone to copy my work with the intention of passing it off as his or her own work.

SIGNATURE

ANNEXURE H: INDIVIDUAL INTERVIEW TRANSCRIPT EXAMPLE

ACADEMIC PUBLIC HOSPITAL: PARTICIPANT 6 (P6F-O)

DATE: 23 MARCH 2023

KEYS: O = ORTHOPEADIC SURGERY WARD AND F = FEMALE

Researcher: Good day Sister.

Participant: I am good and how are you.

Researcher: During the ward meeting, I have discussed about the purpose of the study which is to explore and describe views of surgical nurses on factors influencing post-operative pain level assessment in surgical wards at the selected public hospital in Gauteng Province, reason on why I have chosen you and the permission was requested to use audio recorder and field notes.

Participant: Yes.

Researcher: Also I have explained about the procedure and what is expected from you, risks and discomforts for this study, benefits and that you will not be paid for participating in this study, if you want to withdraw during the interview session you can do that without giving any reasons and privacy and confidentiality will be maintained. Are you still OK.

Participant: Yes. You can continue.

Researcher: If you agree, here is the consent can you kindly signed it.

Participant: Okay.

Researcher: Thank you for volunteered to take part in this study. Are you still OK.

Participant: Okay. You can continue.

Researcher: Do you remember the title of the study?

Participant: Yes.

Researcher: What is the title of the study?

Participant: To explain Err. Post-operative patients and that is expected out of me as registered nurse.

Researcher: The tittle of the study is “Views of surgical nurses on factors influencing post-operative pain level assessment in surgical wards at the selected public hospital in Gauteng Province”.

Participant: Okay.

Researcher: The estimated time for the interview session will be 30-45 minutes. Instead of using your name I will use number to maintain anonymity and confidentiality.

Participant: Is Okay.

Researcher: I have two main questions from the same two questions I will be asking several questions depending on your response. Can we continue.

Participant: Yes, you can continue.

Researcher: How do you when the patient is in post-operative pain?

Participant: You do patient assessment. Patient on post-operatively on arrival you need to check the operation. I check the level of consciousness and give the post-operative medication. If the patient is awake and still complaining of pain, I administer pain medications as prescribed by the doctor. And if the patient not able to talk, I can see the patient facial expressions. I can detect the patient is in pain and I will administer pain medications.

Researcher: Okay. What are the nursing activities that impact on post-operative pain level assessment in this ward?

Participant: Err, shortage of staff.

Researcher: Can you tell me more about shortage of staff.

Participant: If you are delegated in a heavy busy ward, you cannot be able to do other nursing duties to patients.

Researcher: Okay. I heard you talking about other nursing duties. Which other nursing duties are talking about.

Participant: I mean to assessment patient post-operatively.

Researcher: Okay. Is there any information you would like to share with me regarding to nursing activities that impact on post-operative pain level assessment in this ward?

Participant: No. There is none.

Researcher: What is your suggestion on improving post-operative pain level assessment in this ward?

Participant: Is for you registered nurse to continue assessing the level of pain with post-operatively because pain is important assessment that you need to take care post-operative patient.

Researcher: Okay. What can be done to improvement post-operative pain level assessment in this surgical ward?

Participant: You need to have a control sheet that indicate that you use pain scale for pain management that rate pain from 0-10.

Researcher: Okay.

Participant: And you need to know where do you classify the pain of our patient whether, is 2 or 5. If for example patient is prescribed paracetamol orally and he is continuing vomiting I had to consult with the doctor, may be advise if she can give Perfalgan intravenously which will work effectively for pain management. So, if we have tool that guide us will be easy to continue with patient management.

Researcher: Are you saying in this ward you do not have a post-operative assessment tool.

Participant: We do have a tool.

Researcher: Are you using that tool.

Participant: We are using it depending on patient procedure performed. Er, patient level assessment scale and even after giving prescribed analgesics you need to check the level of pain management if the prescribed medication is not effective, I need to consult with the doctor for a stronger pain management according to hospital protocol.

Researcher: Which hospital protocol are you saying.

Participant: I mean protocol for pain management.

Researcher: Thank you for sharing your views of surgical nurses on factors influencing post-operative pain level assessment in surgical wards.

Participant: Okay. Thank you.

ANNEXURE I: CO-CODER LETTER

Dr Annatjie van der Wath (M Cur, PhD) annavdw@mweb.co.za

CODING CERTIFICATE

Qualitative Data Analysis

This serves to confirm that Annatjie van der Wath has co-coded the following qualitative data: 13 interviews for the study:

Views of surgical nurses on factors influencing post-operative pain level assessment in surgical wards at the selected public hospital in Gauteng Province

I declare that the candidate, Melia Makou, and I have reached consensus on the major themes and categories as reflected in the findings during a consensus discussion.

Annatjie van der Wath (M Cur, Ph D) annavdw@mweb.co.za

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ANNEXURE J: LANGUAGE EDITOR'S LETTER

06 June 2023

Louise Pretorius
Editing, writing and translation services

Tel: 082 854 4657
Email: louisevn@mics.co.za

CONFIRMATION OF LANGUAGE EDITING

To whom it may concern:

This letter serves to confirm that I have edited a dissertation for English language usage by Nnene Melia Makou, titled:

Views of Surgical Nurses on Factors Influencing Post-Operative Pain Level Assessment in Surgical Wards at the Selected Public Hospital in Gauteng Province.

for the degree:

Magister Curationis (MCur) in Advanced Perioperative Nursing Science in the

Faculty of Health Sciences, Department of Nursing Science, University of Pretoria.

Yours sincerely

Louise Pretorius