

Orthopaedic and gynaecology patients' satisfaction with perioperative care at Chris Hani Baragwanath Academic Hospital

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A research report submitted to the Faculty of Health Sciences, University of the Witwatersrand, Johannesburg in partial fulfilment of the requirements for the degree of Master of Medicine in the branch of Anaesthesiology.

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Declaration

I, Lebogang Martin Matsane declare that this research report is my own unaided work. It is being submitted for the Degree of Master of Medicine in the branch of Anaesthesiology at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at any other University.

Signature

13 January 2020

Abstract

Background

The WHO vision of healthcare includes equal access to safe, effective and high quality care for all. Central to this quality care is patient satisfaction. There is limited research in South Africa regarding patients' perioperative satisfaction. The aim of this study was to describe orthopaedic and gynaecology patients' perioperative satisfaction at Chris Hani Baragwanath Academic Hospital (CHBAH) using the adapted Leiden Perioperative Patient Satisfaction questionnaire (LPPSq).

Method

This was a prospective, contextual and descriptive study. The sample consisted of 100 patients, 50 patients from each department. Patients were asked to complete the LPPSq 12–48 hours post-surgery.

Results

The overall patient satisfaction with the perioperative care was 80%. Staff-patient dimension received the highest score at 92% while the the service dimension received the lowest score, 65%. Postoperative pain (94%), feeling thirst (91%) and hunger (72%) were the most commonly reported discomforts. Only 53% of patients stated that they were operated on the agreed date and time.

Conclusion

The overall patient satisfaction with the perioperative care at CHBAH was high. The highest patients' satisfaction scores occurred in the staff-patient relationship dimension followed by the fear and concerns, information and discomfort and needs dimensions.

Keywords: Patient Satisfaction, Orthopaedic, Gynaecology, Perioperative care, Leiden Perioperative Patient Satisfaction questionnaire (LPPSq).

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Abbreviations

CHBAH	Chris Hani Baragwanath Academic Hospital
EVAN	Evaluation du Vecu de l'Anesthesie
IOM	Institute of Medicine
LPPSq	Laiden Perioperative Patient Satisfaction questionnaire
NHI	National Health Insurance
PSAC	Patient Satisfaction with Anaesthesia Care
SAJAA	Southern African Journal of Anaesthesia and Analgesia
SD	Standard Deviation
WHO	World Health Organization

Statement

The Research Report consists of a literature review, draft article, study proposal and appendices. The study proposal is included for background reference and is not for examination.

The formatting of this Research Report complies with the University of the Witwatersrand's Style Guide for Theses, Dissertations and Research Reports. The formatting of the draft article may differ from the rest of the Research Report in order to comply with the author guidelines of the [Southern African Journal of Anaesthesia and Analgesia \(SAJAA\)](#), the journal to which it is intended to be submitted.

Section 1: Review of the literature

The following section discusses the literature reviews relevant to our study focussing on the topics of interest in the following order; background and history of patient satisfaction, definition of patient satisfaction, the importance of patient satisfaction measurement, factors influencing patient satisfaction, satisfaction theories, satisfaction measurement, patient satisfaction with anaesthesia, and Leiden Perioperative Patient Satisfaction questionnaire.

1.1 Background and history of patient satisfaction

The release of “To Err Is Human” report by the Institute of Medicine (IOM) in United States, highlighted the vital importance of safety to health care consumers (1). In 2001 the IOM followed with the report “Crossing the Quality Chasm: a New Health System for the 21st Century” (2) conceding that a major, radical health transformation was needed in order to provide excellent health services to its citizens. A patient-centred approach was reported as one of the six areas identified for improvement. Patient-centred care is “providing care that is respectful of and responsive to individual preferences, needs, values and ensuring that patient values guide all clinical decisions” (2).

The South African National Health Insurance’s (NHI) goals on health by the White paper report of 2017, are in line with the United Nations Sustainable Development Goals for 2030 and the World Health Organisation’s vision for health that “all citizens have a right to quality healthcare that is easily accessible, affordable, efficient and appropriate” (3). The NHI report recognizes the shortcomings that already exist in both the public and private health institutions and aims to transform both sectors to improve on quality of care services while reducing the cost of the rendered care to citizens (4). Fundamental to this care are the concepts of quality of care and patient satisfaction, borrowed from marketing research.

A 2009 review by Gill and White (5) on patient satisfaction revealed how Hood’s (6) reports on the “new public management” and “the rise of the health consumer movement” and William’s (7) report on the “patients’ rights movement”, transformed the significance of determining and measuring patient satisfaction as

it is currently known. Over the decades researchers described, debated, criticised and refined the meaning and measuring of patient satisfaction and quality of care, concluded that measuring patient satisfaction is an indicator of quality of healthcare (5).

Any discussions about quality of care are incomplete without mentioning the “Father of the quality assurance”, Avendis Donabedian, following his work in the 1960s about the concept and advances on quality assurance measurement (8). The subject for many years remained topic of interest despite the disputes, but led to better understanding of its significant components of the concepts and especially its practical usage to many areas in healthcare settings (9). Some disputes regarded the absence of a suitable and united description and approaches to measurements (10), and patients’ ability to judge precisely the quality of healthcare given their limited knowledge in the medical field, especially with regards to the technical aspects (8). It is known that patients do have views about some aspect regarding delivered health services and not only the medical interventions (8,11,12).

1.2 Definition of patient satisfaction

Patient satisfaction is one of the important outcome measures (13–17), it is therefore important to define and identify factors that influence satisfaction. The term satisfaction is derived from Latin roots with “satis-”, meaning enough (18) and “-faction” meaning to make happen (19). This implies fulfilling expectations or wishes but it does not equate to “superior services” per se but that satisfactory “standard was achieved” leaving little room for disappointment (18). Other version explains customer satisfaction referring to personal opinions of happiness with services or disappointment as feelings of sadness that result from judging services (20). Satisfaction depends on the patients’ expectations and perceived service levels of the provider (18). If such levels are reached then satisfaction exists but dissatisfaction will correspond with lower levels reached than expected (13,18).

1.3 The importance of patient satisfaction measurement

Medical service providers are under enormous pressure for sustainability due to demands for information from their well-informed patients (21), general public, health authorities, media and health insurers. These demands for information facilitates informed decision making regarding them and their clients (22). This is even vital for the private sector as it relies on its consumers for survival, keeping customers satisfied is also important for competitiveness (18,22). Dissatisfied patients are known to either leave the health facility or voice their complaints (23,24), and one of the best way to capture these complaints early is through regular surveys, as an additional means to direct communication.

Ilioudi et al. (22) is of the opinion that higher patients' satisfaction levels are associated with efficient services from healthcare providers and also cost reduction as there is little time wasted addressing dissatisfied customers' complaints or dealing with malpractice claims. The authors further concluded that satisfied patients are easier to treat as they are in control of their illness, more compliant to treatment regimens, suffer fewer complications resulting in reduced hospitalisation and overall healthcare costs.

As an important outcome measure of quality, customer satisfaction gives useful information on providers' attempts at meeting their clients' needs and also standardises the care provided (9,13,25,26). Measurements of patients' satisfaction are useful for research purposes, management and growth of facilities since the information can be helpful in selecting alternative strategies of healthcare delivery (20,22) or used for monitoring the success of such strategies (18,27). Measurements can also be useful for marketing related purposes, especially in private facilities (28).

Patients satisfaction evaluation results may serve as a cause for celebration of achievements, motivation for performance bonuses, an educational tool for staff , boost staff confidence and improvements in areas that will enhance service delivery (22).

1.4 Factors influencing patient satisfaction

According to Ilioudi et al. (22), factors contributing to patient satisfaction can be classified into three categories namely patient characteristics, healthcare facility characteristics and patient-staff relationship characteristics.

Patient satisfaction characteristics include perceived care expectations and socio-demographic factors like age, gender, social status, education and professional status (22,28). Patient satisfaction studies have shown higher satisfaction levels in the elderly compared to younger age group patients, perhaps because of their lower expectations (22,28). In the same light, due to lower expectations, patients with lower education or financial status express higher satisfaction scores (22). Patients satisfaction results between genders are controversial but importantly, patient satisfaction is associated with the extent to which patients expectations are fulfilled, when demands are met satisfaction is high (22).

Characteristics related to healthcare facilities help consumers to select a particular healthcare provider. These include factors such as administration, clean facilities, convenient access, user friendliness, ease of communication, cost and continuity of services (22).

The last category deals with the nature of relationships between staff and patients. It is influenced by factors such as good attitude, respect and compassion, giving time, good communication and professionalism (22). The quality of good interaction is important for informing and empowering patients, reducing patient anxiety and contributing to fulfilment of patient-centred care (22).

1.5 Satisfaction theories

Numerous elements are identified which influences patient satisfaction, these are grouped by Donabedian (29) into process, structure and outcomes categories. Studies commonly focus on the process items, neglecting patients' perceptions of care (30), which are crucial for satisfaction to exist. As part of patient-centred care, patients' views are helpful in evaluation of quality of received healthcare (12), research purposes and may possible be useful for quality improvement purposes (12,20,22), these are linked to better clinical outcomes (28).

There are numerous assessment tools mentioned in the literature and many have been criticised for being too simple and straight forward in their attempts to assess satisfaction (30). Much of the criticism is that they barely include concepts in their designs and hence produce results which are questionable and do not inform changes (23). The theory behind patient satisfaction measurement is not easy (30). This is partly explained by the lack of agreement between researchers regarding the most suitable concept that accurately clarifies patient satisfaction in healthcare due to its multidimensional nature (12,18). The several approaches that exist were adopted from marketing related studies and will be briefly discussed under the following headings; disconfirmation theory, fulfilment theory, consumer theory and the sociological perspective on satisfaction.

Disconfirmation theory of satisfaction

This is the most commonly used theory in satisfaction studies and it was based on the socio-psychological and marketing studies, developed by Oliver in 1993 (30,31). It emphasises the judgements between consumer expectations of service and the perceived performance of the received services (18,30,31). In marketing studies, this theory explains that a customer will be satisfied with purchased goods when the goods performance meet their expectations (31). Any discrepancies between the experienced service and expectations results in lower satisfaction (18). Simply put, a patients' expectations will be confirmed if services perform as the patient expected them to (18,30). This will make it difficult to satisfy a customer with very high expectations while higher performance makes it simple to satisfy (31).

The disconfirmation theory from the job satisfaction studies includes two adopted theories, the discrepancy theory and equity theory. The discrepancy theory describes the differences between needs and perception (32), while the equity theory describes the difference between what is likely to happen and what actually happens. According to the discrepancy theory, any variation from the expected results in less satisfaction, irrespective of how excellent the outcomes are (30).

Fulfilment theory of satisfaction

The fulfilment theory is also adopted from the marketing related satisfaction researches. It describes satisfaction as an outcome of the experienced services irrespective of the perception of the services. Whilst it was the predictor of satisfaction in marketing researches, the theory practically failed in healthcare as it assumes that outcomes alone determine satisfaction (30).

Consumer theory of satisfaction

Following failures of both the disconfirmation and fulfilment theories to account for the satisfaction discrepancies in healthcare, the consumer approach was introduced into the healthcare context to account for the discrepancies (30).

Initially it comprised of two types, the contrast theory and the assimilation theory:

- contrast theory: magnifies the perceived differences that exist between outcomes and expectations.
- assimilation theory: reduces and adjusts for the perceived differences between expectations and outcomes (30).

It was therefore the interplay between the contrast and assimilation judgement which determines satisfaction, depending on the differences that exist.

Unfortunately it is practised less in healthcare as there is little evidence supporting its use (30).

The consumer approach was expanded by Oliver (33), by combining all the above mentioned theories, the fulfilment, the discrepancy and equity-disconfirmation and the assimilation-contrast theories with addition of an affect as an element in attempts to defining the satisfaction model, as he believed that satisfaction emerged from the consumer approaches with cognitive and emotional contributions (30). Practically, this approach also had shortcomings because of the many factors at play between patients and healthcare services (30). It also failed as it did not address the existing connection between patients, healthcare providers and the numerous social contexts (30). This was addressed by the sociological perspective approach (30).

Sociological perspective on satisfaction

This theory explores the type of link that exists between expectations and satisfaction (30). It was developed to address social influences on healthcare which are not accommodated by the other theories described. It questions the consumer applications' approach to healthcare users and argues that the assumptions of labelling patients as consumers does not hold because true consumers have options, are free to select services, have views and right to challenge decisions, which is not always practical in healthcare (30).

Using the "zone of tolerance" from the assimilation and contrast approaches, it explains why patients would cope with healthcare shortfalls in an optimistic manner (30). It is influenced by whether patients have choices or not. The zone is smaller or larger respectively depending on whether patients have or do not have choices (30).

The difficulties in conceptualisation shows how complex satisfaction is in healthcare (30). Despite all the complexities and limitations it does not lower the validity of patients' satisfaction as a measure of quality care but illustrates certain components in defining satisfaction in healthcare (18). As surveys are continuing, it is advised that researchers should be aware of the complexities in the conceptual framework of satisfaction with healthcare and take good care when developing assessment tools (34).

1.6 Patient satisfaction measurement

It is widely accepted by many researchers that patient satisfaction is an important outcome of healthcare quality (7,13,30). The reported outcome measures are used for several purposes by clinicians, managers and health insurers, and serve as an aid in clinical practises, including informed decision making, performance bonus and in improving quality of care (22).

Historically, patient complaints were the main means of evaluating patient dissatisfaction and it is only in the past few decades that surveys are being used in evaluation of healthcare standards (15). Patient complaints and satisfaction measurement are useful for identifying factors that brings about the balance

between quality of services and patients expectations (22). Usefulness of these measures relies on their construct execution, practicality and applicability as indicators of change (12).

Satisfaction measurements using questionnaires have been the most commonly used method in previous surveys as noted by Gonzales et al.(35). However it is only in the last decade that researchers began to recognise the importance of ensuring reliability and validity of their assessment tools (5). Many of these measuring tools were constructed from the clinical point of view only, excluding patients' perspectives regarding their experience of healthcare (5). This contributed to poor instrument designs and falsely overestimated the survey results with misleading consequences (34,36).

Hawthorne (37), in a 2006 study, indicated that several patient satisfaction surveys used tools which were profit orientated, supported by Heidegger et al. (38), found that many tools lacked psychometric testing. The Mpinga and Chastonay (8), concluded that many tools were not convincing and strongly suggested the need for validity confirmation during studies. Sitzia (36) confirmed this conclusions. In addition to validity and, Beattie et al. (21), added that this instruments need to reliable.

The poor quality in evaluation of patient satisfaction surveys has led to high satisfaction rates (7,29). The high satisfaction rates were disputed by authors like Jenkins et al. (11) and Worthington (30), who blamed it on the measurement tool (questionnaires, rating scales and data collecting tools). They found that in simply designed surveys, participants were all highly satisfied when overall satisfaction was assessed (11).

Some critiques believed users of healthcare have limited medical knowledge to make these judgements, so their involvement can be flawed and at times, hazardous (34). This thinking is faulty as patients are now knowledgeable and actually demands information relating to their health (21,39). This empowers them to take charge in managing their health and forms part of patient-centered care. Some grievances were concerning how satisfaction can be influenced by factors outside the delivered services. Patients may judge quality of care services based

on how healthy they feel despite the perceived services (34). It is a mentality like this that interferes with the principle of patient-centered care. Another concern was the individual nature of satisfaction which may become influenced by personal awareness, beliefs and attitudes making satisfaction difficult to standardise (27).

Sitzia (36) found faults in both the methodology and participant-related factors. Indeed errors may arise from participant related characteristics like “age, expectations, gratitude and educational attainment” and or measurement related factors like “sampling strategy, response rate and data collection procedure”. Cleary et al. (41) pointed out difficulties with health surveys in assessing patients’ satisfaction as many studies fell short by not including aspects of care like “respect for preferences” and values, comfort, information sharing, compassion and involvement in treatment decisions which influence the perception of care received.

To measure satisfaction accurately one must begin by defining what it means and comprehend its determining elements (18). Measuring tools differ greatly by type (surveys, questionnaires, critical incidence reporting) and purpose (22).

Regardless of the numerous attempts aimed at improving satisfaction measurements, literature shows that many challenges still exist (22). Maintaining satisfaction measurements and improvement is one of the major limitations experienced especially when resources are constrained (22). Lack of standardised measuring tools is a contributor to some of the difficulties in the evaluative processes (34).

1.7 Patient satisfaction with Anaesthesia

Patient satisfaction with anaesthesia care model

Patient satisfaction with anaesthesia care (PSAC) model was adapted from psychology and marketing related research and was found to also have numerous applications healthcare. The PSAC model development was based on the already mentioned satisfaction theory of disconfirmation about quality (42). As stated, the disconfirmation concept theorises that expectations and perceptions interplay to give rise to emotional reactions that influence satisfaction (42). Patients will be satisfied when their experience matches their prior expectations of care (42).

The PSAC model also suggests that patient-provider interaction, prior experiences and provider influences and patient beliefs, have considerable influence on overall patient satisfaction (42). In the perioperative period patients' expectations can be influenced by factors such as surgery type, previous surgical or anaesthetic experience and physical status as classified by the American Society of Anaesthesiologist (42).

The PSAC model is important in giving anaesthetists an opportunity to recognise and adjust some of the factors that influence perioperative satisfaction (42). This highlights the importance of preoperative visits. It was shown, that patients who have seen an anaesthetist before their surgery and engaged with anaesthetic planning, options, complications and procedure had higher PSAC scores (42).

The most appreciated factors determining anaesthetic satisfaction were giving information, good staff-patient relationship and continued post surgery visits (43). This was confirmed by Changtong et al. (44), Heidegger et al. (45), Whitty et al. (46) and Auquier et al. (47), further stressing the importance of pre and post surgery visits by the anaesthetist.

It is already known that evaluation of services by patients is an essential component of continuous quality improvement in clinical medicine (7,13,30) and this also applies to the practice of anaesthesia as a part of the health delivery system. Maurice-Szamburski et al. (48) stated that measuring patient satisfaction with regards to anaesthesia care is very complex and can be unreliable (49). Contributing factors include the short period of time interaction between patients and anaesthetists for a relationship to develop (50), the combined effects of sedative drugs and the high emotional tension often associated with the perioperative period (43,44). Wilkinson and Slatter (50) raised similar concerns over the restricted period of interaction between anaesthetist and patients. Patients feel less connected and are not reassured, while postoperative anaesthetic visits have been shown to improve satisfaction scores as it shows care.

Le May et al. (51), a systematic review of over two decades regarding patients' experience with anaesthetic care, they discovered that there were few available

studies about patients satisfaction with regards to anaesthesia. Only 14 relevant studies were found in the specified period, showing that research is lacking in this field. Similar findings were confirmed by Whitty et al. (46), Auquier et al. (47) and Myles et al. (52) in their studies.

Satisfaction with anaesthesia is reported in numerous studies to be associated with high, but biased scores which are unreliable and meaningless to inform anaesthetic outcomes (32,44,45,48,53). This raised concerns about the nature of instruments used and their validity (32,51), as mentioned.

Caljouw et al. (43), in their review, noted that the existing patient satisfaction tools of measurements are limited and omitted important aspects of patient satisfaction which include professional competence, information provision and staff-patient relationship. Furthermore, these tools were difficult to compare because of the differences in aspects of patient satisfaction measured and as previously mentioned, they produced questionable results (43). Carey and Posavac (54) agreed with these conclusions and also concluded that the tools made it difficult to improve on quality of care. A review by Fung and Cohen (55) also showed that surveys largely demonstrated poor evaluation of quality in anaesthesia and were biased.

Jenkins et al. (11) also confirmed that patients' satisfaction scores were inaccurately optimistic and suggested that detailed questions about specific aspects of patient experience are more useful for monitoring performance of various hospitals delivery of healthcare services. Development of psychometrically sound measures are needed if it is to enlighten healthcare practises was suggested by Heidegger et al. (56). This implies that healthcare workers need to recognise the value of patients' involvement in matters regarding their health and take into account their experiences (48,49).

1.8 Leiden Perioperative Patient Satisfaction questionnaire

Leiden Perioperative Patient Satisfaction questionnaire (LPPSq) is a self reporting, multi-dimensional, validated and reliable questionnaire that assesses patient satisfaction with perioperative anaesthesia care (43). It was developed at Leiden University in the Netherlands in 2008 by Caljouw et al. (43). This was modified

from the original Dutch to English and validated by Jlaala et al. (57), following concerns in the literature about the credibility of many of the measuring tools which falsely resulting in higher patients' satisfaction measurements. It combines questions about perioperative information that the patients received, professional competence, the staff-patient relationship and the quality of service rendered, in one questionnaire, after taking into consideration the concerns and recommendations of earlier researchers such as Le May et al. (51), Auquier et al. (47) and Heidegger et al. (45).

The LPPSq was developed based on the Evaluation du Vecu de l'Anesthesie (EVAN) questionnaire, a French developed questionnaire by Auquier et al. (47) which has six dimensions comprising of anxiety, fear, embarrassment, pain and discomfort, perioperative information and physical needs. The information dimension of the EVAN's questionnaire was extended by adding questions about the operation, theatre and the amount of information given. Besides information, Heidegger et al. (56) recommended the inclusion of patient participation in decision making, contact, respect or confidence with staff, and these were incorporated into the dimension staff-patient relationship.

Six people were involved in the development of LPPSq. This included two anaesthetist, two psychologists and two researchers. Patients were involved only during the piloting stage and they were also asked to give supplementary comments and suggestions about additional relevant issues regarding healthcare services (43).

Briefly, Caljouw et al. (43) development process of the LPPSq was as follows:

- expert consultation
- construction of pilot questionnaire
- statistical analysis of pilot study results
 - validity testing
 - reliability testing
 - factor analysis
- compilation of the ultimate questionnaire
- conduct of the main study

- repeat statistical analysis
 - validity testing
 - reliability testing
 - factor analysis.

LPPSq is made up of five dimensions which measure patients' satisfaction by assessing the amount and level of information provided to the patient, their perioperative discomfort and needs, fear and concern, their interaction with staff, and satisfaction with offered services (43,58).

The information dimension assesses the explanation and amount of information given to patients with regard to their procedure and information about operating room stay (43,58). Both studies found significant correlations between perioperative information and degree of staff-patient interaction. Part of the LPPSq modification by Jlala et al. (57) was the extension of this domain to include questions regarding anaesthesia information. Studies have shown the information domain to be one of the most important determinant of patient' satisfaction (56).

In the study by Jlala et al. (57) the satisfaction score was 81%, in the Caljouw et al. (43) study scored 86%, and Manjubala and Anandalakshmi (59) in a 2018 study, showed a high score of 88% in this dimension. Nabil et al. (60) in a 2017 study in Yemen, showed 70% of patients complained about the lack of adequate preoperative information about anaesthesia which contributed to overall patient dissatisfaction. Gebreegziabher and Nagaratnam (61) 2014 study, also showed high anxiety levels in patients who had not received preoperative information regarding anaesthesia care and this contributed to poor satisfaction scores of 65%.

The discomfort and needs domain was also modified from the original questionnaire by adding common side effects of anaesthesia like nausea and headache (57). This dimension evaluates the undesirable effects of anaesthesia which have an impact on satisfaction (43,58). Discomfort was associated with dissatisfaction in Moura et al. (62) study, while Walker et al. (63) in the large 2016 United Kingdom study showed no connection between discomfort, their severity

and overall satisfaction levels. Caljouw et al. (43) suggested this to be due to good staff response in managing the discomforts.

The Fear and concern dimension assesses patients' anxiety levels with regards to awareness and pain resulting from the anaesthetic or surgical procedures. It is reported that fear and anxieties are common features associated with surgery (21,64) and an occurrence of 99% was reported by Masjedi et al. (64). Their patients had more anxieties related to anaesthesia (62%) compared to surgery (15%), especially in non-life threatening surgeries (64).

Showing empathy, good preoperative information, education and preparation were shown to reduce patient anxiety, pain scores, improves overall patients' satisfactions and reduces hospitalisation and cost (58,64). Fear contributed to dissatisfaction in the Portuguese study by Moura et al. (62). The participants in Caljouw et al. (43) scored 93% while Jlala et al. (57) participants scored 84% satisfaction for the dimension. Jlala et al. (57) found the following factors; age, type of anaesthesia, history of previous operations and amounts of complaints, to have influenced their patients' satisfaction scores.

Shah et al. (21) found significantly higher anxiety levels in females and in surgeries under general anaesthesia. Masjedi et al. (64) concluded that age, gender, education, preoperative visit by the anaesthetist and previous surgery affected patients' anxieties. El Nasser and Mohamed (58) showed having previous surgery especially under regional anaesthesia was associated with higher patients' satisfaction. Masjedi et al. (64) showed previous surgery and general anaesthesia did not reduce anxiety levels.

The Staff-patient relationship dimension assesses the extent and type of interaction between patients and healthcare staff, together with professional competence. It is regarded as one of the major determinants of overall patients' satisfaction with anaesthesia care (43). The study by Manjubala and Anandalakshmi (59) supported by Moura et al. (62) found high satisfaction of 83% for this domain. The study by Jlala et al. (57) the score was 90% for satisfaction while Caljouw et al. (43) participants scored was 93%. Further, El Nasser and Mohamed (58) showed age above 50 years, retirement and orthopaedic surgery

were associated with higher satisfaction scores in the staff-patient relationship, findings which were supported by Jlala et al. (57).

The Service dimension assesses patients' experiences with regard to time spent in the holding area waiting for operation or in the recovery room waiting for discharge to the ward, whether patients were operated on the agreed date and lastly whether their expectations of treatment were met. El Nasser and Mohamed (58) found 41% of complaints were regarding waiting period before surgical procedures being too long, which contributed to discomforts and poor satisfaction scores. The study also reported that more than 50% of patients were not operated on the agreed date and time (58).

1.10 Summary

In recent decades, medical providers are under pressure to provide quality healthcare to meet patients' demands in order to reduce burden of diseases and in trying to reach the millennium development goals. Central to this quality of healthcare is the concept of patient-centred care of which patient satisfaction is an essential element. Review of literature revealed that patient satisfaction is not a new concept but it is being appreciated as an important outcome measurement for both patients and medical providers as a driver for change.

Patient satisfaction is a subjective feeling and simply explains that patients' expectations about service were met. Conclusions from the literature is that patient satisfaction is a multidimensional concept which is difficult to measure accurately due to its subjective nature and the complex psychological component and thus psychometric approaches are the best methods available to successfully evaluate healthcare services.

Unfortunately, few patient satisfaction studies exists in literature with regards to anaesthesia and of the existing, researchers used questionable tools and therefore their results lacks credibility. Hence, the conclusion by most researches that measuring tools needs validation and reliability to better inform positive outcomes.

1.11 Conclusion

This section discussed literature reviews regarding satisfaction background and history of patient satisfaction, definition of patient satisfaction, the importance of patient satisfaction measurement, factors influencing patient satisfaction, satisfaction theory, satisfaction measurement, patient satisfaction with Anaesthesia, and Leiden Perioperative Patient Satisfaction questionnaire.

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Acknowledgements

In a separate section, acknowledge any financial support received or possible conflict of interest. This section may also be used to acknowledge substantial contributions to the research or preparation of the manuscript made by persons other than the authors.

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Section 3: Draft article

Orthopaedic and gynaecology patients' satisfaction with perioperative care at Chris Hani Baragwanath Academic Hospital

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Key words: Patient satisfaction, Orthopaedic, Gynaecology, perioperative care, Leiden Perioperative Patient Satisfaction questionnaire (LPPSq).

Abstract

Background

The WHO vision of healthcare includes equal access to safe, effective and high quality care for all. Central to this quality care is patient satisfaction. There is limited research in South Africa regarding patients' perioperative satisfaction. The aim of this study was to describe orthopaedic and gynaecology patients' perioperative satisfaction at Chris Hani Baragwanath Academic Hospital (CHBAH) using the adapted Leiden Perioperative Patient Satisfaction questionnaire (LPPSq).

Method

This was a prospective, contextual and descriptive study. The sample consisted of 100 patients, 50 patients from each department. Patients were asked to complete the LPPSq 12–48 hours post-surgery.

Results

The overall patient satisfaction with the perioperative care was 80%. Staff-patient dimension received the highest score at 92% while the the service dimension received the lowest score, 65%. Postoperative pain (94%), feeling thirst (91%) and hunger (72%) were the most commonly reported discomforts. Only 53% of patients stated that they were operated on the agreed date and time.

Conclusion

The overall patient satisfaction with the perioperative care at CHBAH was high. The highest patients' satisfaction scores occurred in the staff-patient relationship dimension followed by the fear and concerns, information and discomfort and needs dimensions.

Introduction

In South Africa, many citizens are poor and depend on public health facilities for their medical needs.¹ These facilities are often poorly managed, overcrowded, under resourced and understaffed and hence are underperforming compared to the privately run facilities.² Although better managed,³ private hospitals come at a cost to the patients and few can afford their medical services. Inequalities between both sectors exist because of deficiencies in general allocation of resources.¹

The World Health Organization (WHO) vision of healthcare is that everyone must have access to safe, effective and high quality healthcare.⁴ Introduction of the Government's Green paper on National Health Insurance (NHI) aims to ensure that everyone has equal, adequate, appropriate and efficient access to quality healthcare services, irrespective of their socioeconomic background, and thereby remedy some of the inequalities faced by both sectors in healthcare provision.^{4,5} NHI will not be easy and demands that major transformations be made on how both private and public institutions are currently managed,⁶ to produce good quality healthcare. A major component of the quality of healthcare is patient satisfaction which has been shown to influence how well patients do.⁷

In studies, satisfaction was found to be an important outcome measure and influenced how patients complied,⁸⁻¹² for example, whether patients followed recommended treatments, re-attended services^{8,13,14} or their willingness to recommend the same services to others¹³ or even to change their health providers. It has been shown that patients' satisfaction is a poorly defined variable, multi dimensional¹⁵ and influenced amongst others by patients' expectations versus services received.¹⁶ The subjective nature and psychological component of being satisfied makes it difficult to measure and assess objectively.¹⁷

A range of methods are available to identify patients' perspectives on issues relating to their healthcare. These include questionnaires, focus groups and patient feedback surveys.^{18,19} To be scientifically relevant, such methods need to be assessed in terms of validity, reliability¹⁹ and effectiveness.¹⁸ A number of studies conducted internationally have developed scientifically proven measuring tools to address the above concerns.²⁰ Numerous questionnaires have been

developed, many with questionable outcomes,^{18,19} as they relied on health carers' views rather than patients' views.²¹ It is advised that questionnaires need to be specially formulated to answer specific questions, to yield important information on the patient perspective with regards to specific aspects of their experience with healthcare¹⁰ such as physical comfort, emotional comfort and respect of patient preference.^{15,22}

One of the intentions of NHI was not to discredit any sector but to draw on the strengths of both the public and private health sectors and to improve on weaknesses to better serve the public.⁴ The South African National Department of Health,⁵ in its 2003 survey, found that there was an increase in the percentage of healthcare users who were dissatisfied (both private and public sectors) with health services they received, with dissatisfaction being more prevalent in the public sector. This raised concerns about the quality of health services patients receive and the need to improve quality of health service delivery, as this has been shown to be linked to patients' satisfaction and leads to better health outcomes.^{10,22,23}

Improving quality of care requires healthcare to be "safe, effective, patient centred, timely, efficient and equitable".²⁴ It is an ongoing process and requires effort from all role players involved in the healthcare delivery system in order to reach better outcomes, these include health providers, the government, non-government organisations and users.²⁵ To evaluate improvements in the quality of care, patients' experiences with services must be evaluated to give better insight and understanding about effectiveness of delivered services.²⁶

There is limited knowledge regarding South African patients' levels of satisfaction with their perioperative care. The aim of this study was to describe orthopaedic and gynaecologic patients' satisfaction with their perioperative care at Chris Hani Baragwanath Academic Hospital (CHBAH) using a validated questionnaire.

Methods

Approval to conduct this study was obtained from the Human Research Ethics Committee (Medical) of the University of the Witwatersrand, and other relevant authorities. This was a prospective, contextual and descriptive study. Patients in

the Orthopaedic and Gynaecology Departments, booked for elective surgical procedures, who were 18 years and older and with a Ramsay score of two were included in the study. The Ramsay score was used to determine the degree of patient awareness and recovery from the effects of anaesthesia which can potentially affect judgement and therefore the completing of the questionnaire. It was calculated that if patient satisfaction with perioperative care is 60%, and in the worst-case scenario 50%, with a level of confidence of 95%, a sample size of 100 patients was needed. This comprised of 50 patients from each of the two departments.

All data were collected by one author (LM), who assisted patients and encouraged honesty when completing the questionnaires 12–48 hours postoperatively. Completed questionnaires were returned in an unmarked envelope.

The Leiden Perioperative Patient Satisfaction questionnaire (LPPSq) was used for data collection. LPPSq was developed and validated in 2008 by Caljouw et al.^{21,27} Permission to use and adapt the questionnaire was received from the author. The adapted questionnaire was reviewed by a senior anaesthetist in the department. It consisted of a demographic section and the LPPSq section; information (6 questions), discomfort and needs (8 questions), fear and concern (4 questions), staff-patient relationship (14 questions) and service (5 questions). Of these questions, 34 required Likert scale responses and three required yes/no answers.

All captured data were recorded on a Microsoft ExcelTM spreadsheet 2007. Data was analysed in consultation with a biostatistician and the program used was Graphpad Prism v5.02. Frequencies and percentages were used to report categorical data. Means and standard deviations or medians and interquartile ranges were used and comparisons between groups were done using the unpaired t-test and Mann-Whitney tests depending on the distribution of the data. Comparisons of the percentages were done using Chi squared test. A p-value of ≤ 0.05 was considered statistically significant.

A five-point Likert scale was used for the information and staff-patient relationship dimensions using a score from 1 to 5, with 1 allocated for “completely dissatisfied” and 5 for “completely satisfied” while a score of 1 representing “not at all” and 5

representing “extremely” applied to the “discomfort and need”, and “fear and concern” dimensions. Service delivery was assessed using a four-point Likert scale with “too long” being allocated a score of 1 and “too short” a score of 4.

For the purpose of interpretation of patients’ satisfaction results, we used a similar bench mark as in the 2013 study by Asiri et al.²⁸ as follows:

- low satisfaction: $\leq 33\%$
- moderate satisfaction: 33%-66%
- high satisfaction: $\geq 66\%$

RESULTS

All 100 patients approached agreed to take part in the study, 50 patients from each department, all had received a general anaesthesia. The mean (SD) age of patients was 48.1 (13.1) years with the mean (SD) age of the orthopaedic and gynaecology patients being 50.4 (15.3) and 45.8 (9.9) years respectively. No statistically significant difference was found between the age groups of the orthopaedic and gynaecology patients (p -value=0.077). The other characteristics of the patients are shown in Table I.

Table I Socio-demographic characteristics of patients

Characteristic	Total n	Orthopaedic n (%)	Gynaecology n (%)
Employment status			
• Employed	39	19 (38)	20 (40)
• Unemployed	36	10 (20)	26 (52)
• Pensioner	25	21 (42)	4 (8)
Pre-medication given			
• Yes	2	0 (0)	2 (4)
• No	98	50 (100)	48 (96)
Anaesthetic consultation			
• Day of surgery	7	4 (8)	3 (6)
• Day before surgery	92	45 (90)	47 (94)
• 2 – 7 days before surgery	1	1 (2)	0
Previous surgery			
• Yes	55	34 (68)	21 (42)
• No	45	16 (32)	29 (58)
Number of previous surgeries			
• 1	29	18 (36)	11 (22)
• 2	17	10 (20)	7 (14)
• >2	9	6 (12)	3 (6)

Place of previous surgery			
• CHBAH	21	15 (30)	6 (12)
• Other hospital	26	14 (28)	12 (24)
• CHBAH and other hospital	8	5 (10)	3 (6)
Waiting time for surgery			
• 0 – <2 weeks	8	4 (8)	4 (8)
• 2 – 4 weeks	8	6 (12)	2 (4)
• 1 – 2 months	15	8 (16)	7 (14)
• >2 – 6 months	45	17 (34)	28 (56)
• >6 months	24	15 (30)	9 (18)
Current perioperative experience			
• Better than previous experience	19	15 (10)	4 (4)
• No different to previous experience	20	11 (22)	9 (18)
• Worse than previous experience	16	8 (10)	8 (8)

Table II shows the satisfaction levels of all participants for the information, discomfort and needs, fear and concern and staff-patient relationship dimensions.

Table II Satisfaction level by dimension

Dimension		Patients			
Information	Completely dissatisfied	Dissatisfied	Not sure	Satisfied	Completely satisfied
	%	%	%	%	%
Explanation about anaesthesia	3	5	1	53	38
Amount of information about anaesthesia	3	6	12	45	34
Explanation about operation	0	4	0	55	41
Amount of information about operation	0	4	11	46	39
Explanation about stay in theatre	3	43	33	13	8
Amount of information about stay in theatre	3	40	37	12	8
Discomfort and needs	Not at all	A little bit	Moderately	Quite a bit	Extremely

Pain at site of operation	1	5	16	30	48
Sore throat	52	19	11	14	4
Back pain	70	11	8	6	5
Nausea	64	10	4	14	8
Cold	72	2	8	9	7
Hunger	12	16	2	25	45
Thirst	1	8	5	31	55
Headache	87	2	3	5	3
Fear and concern	Not at all	A little bit	Moderately	Quite a bit	Extremely
Awaking during the operation?	43	15	6	11	25
Seeing the operating room?	34	19	1	20	26
Pain due to the surgery?	68	10	3	9	10
Pain due to the anaesthetic?	73	13	7	5	2
Staff-patient relationship	Completely dissatisfied	Dissatisfied	Not sure	Satisfied	Completely satisfied
Did the theatre staff take your	1	0	3	25	71

privacy into account?					
Did you have confidence in the theatre staff?	1	0	0	21	78
Had the theatre staff an open attitude?	1	0	0	24	75
Were the theatre staffs respectful?	1	1	0	23	75
Did the theatre staff show understanding for your situation?	0	4	2	30	64
Were the theatre staffs polite?	1	2	0	26	71
Did you find the theatre staff professional?	1	0	1	17	81
Did the theatre staff pay attention to your questions?	0	3	16	27	54
Did the theatre	1	8	23	21	47

staff pay attention to complaints like pain and nausea					
Did the theatre staff take into account your personal preferences?	0	5	18	24	53
Did you find the theatre staff knowledgeable?	0	1	1	23	75
Did the theatre staff pay attention to you as an individual?	0	1	7	31	61
Were you treated kindly by the theatre staff?	1	1	0	26	72
Did you experience professional competence?	0	0	1	22	77

The satisfaction level with the service dimension is shown in Table III.

Table III Satisfaction level with service dimension

Dimension	Patient			
	Yes too long	Not long	Just right	Too short
	%	%	%	%
The waiting time between leaving the ward and having your operation?	19	7	71	3
The waiting time spent in the recovery room and getting back to the ward?	15	10	75	0
	Yes	No		
	%	%		
Were you operated on the agreed date and time?	53	47		
Were staff attentive to your needs	91	9		
Did the staff act according to your needs	86	14		

Table IV shows patient satisfaction comparison in all five dimensions. Scores per question are rounded to the nearest whole number and may therefore not add up to the subscale score total.

Table IV Patient satisfaction per question and subscale

Dimension	Orthopaedic	Gynaecology	Overall	
Information satisfaction	Median (IQR)	Median (IQR)	P value	Mean (SD)
Explanation about anaesthesia	4 (4-5)	4 (4-5)	0.917	4.18 (0.91)
Amount of info about anaesthesia	4 (3-5)	4 (4-5)	0.699	4.01 (0.99)
Explanation about operation	4 (4-5)	4 (4-5)	0.689	4.33 (0.68)
Amount of info about operation	4 (4-5)	4 (4-5)	1.000	4.20 (0.79)
Explanation about stay in theatre	2 (2-3)	3 (2-4)	0.127	2.80 (0.98)
Amount of info about stay in theatre	2 (2-3)	3 (2-3)	0.105	2.82 (0.97)
Subscale score total	26 (24-29)	22.5 (20-24)	<0.001	22.34 (3.77)
Discomfort and needs				
Pain at site of operation	5 (4-5)	4 (3-5)	0.0356	1.81 (0.95)
Sore throat	1 (1-2)	2 (1-4)	0.0058	4.01 (1.25)
Back pain	1 (1-2)	1 (1-1)	0.0587	4.35 (1.17)
Nausea	1 (1-3)	1 (1-2)	0.4095	4.08 (1.40)
Cold	1 (1-3)	1 (1-1)	0.0029	4.25 (1.32)

Hunger	4 (2-5)	4 (2-5)	0.7087	2.25 (1.47)
Thirst	4 (4-5)	5 (4-5)	0.2245	1.69 (0.96)
Headache	1 (1-1)	1 (1-1)	0.8272	4.65 (0.98)
Subscale score total	21.5 (18.7-24)	20 (17-24)	0.2197	27.10 (5.02)
Fear and concern				
Awaking during the operation?	1 (1-3)	3 (1-5)	0.0126	3.40 (1.69)
Seeing the operating room?	2 (1-4)	4 (2-5)	0.0098	3.15 (1.67)
Pain due to the surgery?	1 (1-2)	1 (1-2)	0.2268	4.17 (1.40)
Pain due to the anaesthetic?	1 (1-2)	1 (1-1)	0.0254	4.50 (0.97)
Subscale score total	7 (4-11)	10 (6-12.5)	<0.001	15.22 (3.93)
Satisfaction with service				
The waiting time between leaving the ward and having your operation?	3 (1-3)	3 (3-3)	0.0012	2.58 (0.83)
The waiting time spent in the recovery room and getting back to the ward?	3 (1-3)	3 (3-3)	0.0369	2.60 (0.74)
Subscale score total	5 (4-6)	6 (6-6)	0.0002	5.18 (1.34)
Staff-patient relationship				

Did the theatre staff take your privacy into account?	5(5-5)	5(4-5)	0.7848	4.65 (0.64)
Did you have confidence in the theatre staff?	5(5-5)	5(5-5)	0.3665	4.75 (0.56)
Had the theatre staff an open attitude?	5(5-5)	5(4-5)	0.1511	4.72 (0.57)
Were the theatre staffs respectful?	5(5-5)	5(4-5)	0.1112	4.70 (0.63)
Did the theatre staff show understanding for your situation?	5(4-5)	5(4-5)	0.7933	4.54 (0.73)
Were the theatre staffs polite?	5(4-5)	5(4-5)	0.8347	4.64 (0.69)
Did you find the theatre staff professional?	5(4-5)	5(5-5)	0.4011	4.77 (0.57)
Did the theatre staff pay attention to your questions?	5(4-5)	4(3-5)	0.1608	4.32 (0.85)
Did the theatre staff pay attention to complaints like pain and nausea	4(3-5)	4(3-5)	0.8181	4.05 (1.06)
Did the theatre staff take into account your personal preferences?	5(4-5)	4(3-5)	0.3211	4.25 (0.93)
Did you find the theatre staff knowledgeable?	5(4-5)	5(5-5)	0.2342	4.72 (0.53)
Did the theatre staff pay	5(4-5)	5(4-5)	0.2921	4.52 (0.67)

attention to you as an individual?				
Were you treated kindly by the theatre staff?	5(4-5)	5(4-5)	0.4999	4.67 (0.64)
Did you experience professional competence?	5(4-5)	5(5-5)	0.2160	4.76 (0.45)
Subscale score total	67.5 (57.7-70)	66 (61-70)	0.7799	64.06 (6.71)

There was a statistically significant difference between the groups in the information, fear and concern, and service dimensions.

Table V shows satisfaction mean score, percentage score and level of patient satisfaction of the sample.

Table V Patient satisfaction scores per dimension

Dimension	Satisfaction		Level of satisfaction
	Mean score (SD)	Percentage score	
Information	22.3 (3.8)	75	High
Discomfort and needs	27.1 (5.0)	68	High
Fear and concern	15,2 (3.9)	76	High
Staff-patient relationship	64.1 (6.7)	92	High
Satisfaction with service	5.2 (1.3)	65	Moderate
Overall satisfaction	134 (12.9)	80	High

Patient satisfaction score was highest in the staff-patient relationship dimension and lowest for discomfort and needs dimension. The overall satisfaction mean percentage score for our study was 80% which represents a high level of satisfaction. This was calculated by dividing the overall mean score by the possible maximum number of responses.

Discussion

Patient satisfaction evaluations are an important indicator of quality control and amongst other functions, contribute to improvement of healthcare services.

At CHBAH, in the Orthopaedic and Gynaecology Departments the overall patient satisfaction with perioperative care, as measured by the LPPSq questionnaire, was high (80%). This is higher than that found by Ingabire²⁹ in Rwanda of 67%, the same as the 80% found by El Nasser and Mohamed³⁰ in Egypt, but lower than the 92% found by Caljouw et al.,²⁷ in the Netherlands. Of note, in our study, 55% of patients had previously had surgery, 68% from the orthopaedic group and 42% from gynaecology group. This difference may have influenced the results. It was found by Masjedi et al.³¹ that experiences from previous surgery influenced patients' experience.

The overall patient satisfaction for the information dimension was high at 75%. This score was lower than the 86% found by Caljouw et al.²⁷ for this dimension, but higher than that of Ingabire²⁹ at 62%. This is encouraging as it suggests that the surgical department is explaining surgical procedures to the satisfaction of the patients. The explanation of the surgery by the surgeons scored higher than the explanation by anaesthetist regarding the anaesthetic. In the study by Mooruth,³² at the same hospital, patients were found to be more aware of the surgeons than of the anaesthetists' roles, possibly due to more contact with the surgeons. There was a significant difference between the two groups, with the orthopaedic group scoring higher, which could be due to more patients in this group having had previous surgery than in the group of gynaecology patients. In this dimension the highest score was for the item regarding explanation about the operation (96%). In the study by Ingabire²⁹ this item also received the highest score in the dimension. Information about theatre stay received the lowest score by the orthopaedic and gynaecology patients. These items also scored the lowest in the study by Ingabire.²⁹ A possible explanation is that clinicians are not aware that this information is important for the patients. It is important that clinicians pay attention to these findings as it has been shown that the amount of preoperative information helps to prepare patients psychologically and reduces their perioperative fears and anxieties which affects satisfaction.³³

The overall score for the discomfort and needs dimension was 68%. Ingabire²⁹ had a similar finding of 63% for this dimension. Only 6% of patients had little or no pain at the operative site and all the others mentioned that their pain was moderate to extreme. There was a significant difference in the pain experienced between the two groups, with the orthopaedic patients experiencing more pain. This is not surprising as surgery involving bones is generally described as being very painful.³⁴ Only 9 & 28 % of patients reported little or no thirst and hunger respectively, which were similar to Ingabire's²⁹ study. The main sources of discomfort were pain at site of operation, thirst, and hunger. In contrast to EL Nasser and Mohamed³⁰ where postoperative pain, hunger and thirst were the least discomforts. In contrast to our findings, El Nasser and Mohamed³⁰ found 30% of complains were for postoperative pain. The thirst and hunger complaint could possibly be explained by the Nil Per Os requirements that are known to often extend beyond what is recommended.³⁵ At the time of the study no pain service was available at the study hospital and instituting such a service may decrease the number of patients who were experiencing moderate to extreme pain.

Our patients scored lower for the fear and concern dimension (76%) than those in the Caljouw et al.²⁷ study (93%) meaning that our patients had more fear and concern than the patients in their study. The perioperative period is associated with high levels of anxiety,^{31,36} possible due to fear and concern related to the procedure.

The greatest fear expressed by patients in our study was seeing the operating theatre (47%). In the study by El Nasser and Mohamed,³⁰ the greatest fear was postoperative pain (30%), while Matthey et al.³⁷ reported the greatest fear as being aware during the operation (20%). Fear of not waking up from anaesthesia, not a question in our study, was the most concern in the studies by Masjedi et al.³¹ at 69% and Ingabire²⁹ at 35%.

The dimension that received the highest score (92%) in this study was the staff-patient relationship. This is similar to the findings by Caljouw et al.²⁷ but higher than those of Shah³⁶ at 86% and Ingabire²⁹ at 72%. The lowest score reported in

our study was for “did the staff pay attention to complaints like pain and nausea” (68%). These results are reassuring and show that a healthy relationship exists between staff and patients in the departments studied at CHBAH.

The dimension that received the lowest score was satisfaction with service (65%), even though the patients in this study were mostly satisfied with the waiting period after leaving the ward for surgery (74%) and after leaving the recovery room and returning to the ward (75%). El Nasser and Mohamed³⁰ also showed high satisfaction, 68%, with waiting periods, while in contrast, Ingabire²⁹ showed only moderate satisfaction (59%) with the preoperative waiting period and 61% satisfaction with waiting period postoperatively.

Patients in this study (53%) were only moderately satisfied regarding receiving surgery on the agreed date and time. This was similar to the study by El Nasser and Mohamed³⁰ which showed that less than 50% of their patients were operated on as scheduled.

The study was done contextually CHBAH, thus the results may not be generalisable to other populations. The adapted English version of LPPSq was used in this study and it is recommended that the questionnaire be translated into Zulu should it be used in this population in future.

Conclusion

Our results showed high overall satisfaction with perioperative care at CHBAH, when using the adapted English version LPPSq questionnaire. Highest scores occurred in the staff-patient relationship, fear and concerns, information, discomfort and needs dimensions, while the lowest score was in the satisfaction with service dimension.

Conflict of interest

The authors declare that we have no financial or personal relationships which may have inappropriately influenced us in writing this paper.

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Section 4: Proposal

Orthopaedic and gynaecology patients' satisfaction with perioperative care at Chris Hani Baragwanath Academic Hospital

Lebogang Martin Matsane

0006347f

Supervisor	Helen Perrie Department of Anaesthesiology
Co-supervisor	Estie Mostert Department of Anaesthesiology

4.1 Introduction

In South Africa, many citizens are poor and depend on public health facilities for their medical needs (1). These facilities are often poorly managed, overcrowded, under resourced and understaffed and hence are underperforming compared to the privately run facilities (2). Although better managed (3), private hospitals come at a cost to the patients and few can afford their medical services. Inequalities between both sectors exist because of deficiencies in general allocation of resources (1).

The World Health Organization vision of healthcare is that everyone must have access to safe, effective and high quality healthcare (4). Introduction of the Government's Green paper on National Health Insurance (NHI) aims to ensure that everyone has equal, adequate, appropriate and efficient access to quality healthcare services, irrespective of their socioeconomic background, and thereby remedy some of the inequalities faced by both sectors in healthcare provision (4,5). NHI will not be easy and demands that major transformations be made on how both private and public institutions are currently managed (6), to produce good quality healthcare. A major component of the quality of healthcare is patient satisfaction which has been shown to influence how well patients do (7).

In studies, satisfaction was found to be an important outcome measure and influenced how patients complied (8–12), for example, whether patients followed recommended treatments, re-attended services (8,13,14) or their willingness to recommend the same services to others (13) or even to change their health providers. It has been shown that patients' satisfaction is a poorly defined variable, multi dimensional (15) and influenced amongst others by patients' expectations versus services received (16). The subjective nature and psychological component of being satisfied makes it difficult to measure and assess objectively (17).

A range of methods are available to identify patients' perspectives on issues relating to their healthcare. These include questionnaires, focus groups and patient feedback surveys (18,19). To be scientifically relevant, such methods need to be assessed in terms of validity (19), reliability (19) and effectiveness (18). A number of studies conducted internationally have developed scientifically proven

measuring tools to address the above concerns (20). Numerous questionnaires have been developed, many with questionable outcomes (18,19), as they relied on health carers' views rather than patients' views (21). It is advised that questionnaires need to be specially formulated to answer specific questions, to yield important information on the patient perspective with regards to specific aspects of their experience with healthcare (10) such as physical comfort, emotional comfort and respect of patient preference (15,22).

4.2 Problem statement

One of the intentions of NHI was not to discredit any sector but to draw on the strengths of both the public and private health sectors and to improve on weaknesses to better serve the public (4).

The South African National Department of Health (5), in its 2003 survey, found that there was an increase in the percentage of healthcare users who were dissatisfied (both private and public sectors) with health services they received, with dissatisfaction being more prevalent in the public sector. This raised concerns about the quality of health services patients receive and the need to improve quality of health service delivery, as this has been shown to be linked to patients' satisfaction and leads to better health outcomes (10,22,23).

Improving quality of care requires healthcare to be "safe, effective, patient centred, timely, efficient and equitable" (24). It is an ongoing process and requires effort from all role players involved in the healthcare delivery system in order to reach better outcomes, these include health providers, the government, non-government organisations and users (25). To evaluate improvements in the quality of care, patients' experiences with services must be evaluated to give better insight and understanding about effectiveness of delivered services (26).

There is limited knowledge regarding South African patients' levels of satisfaction with their perioperative care. The aim of this study was to describe orthopaedic and gynaecologic patients' satisfaction with their perioperative care at Chris Hani Baragwanath Academic Hospital (CHBAH) using a validated questionnaire.

4.3 Aim and objectives

4.3.1 Aim

The aim of this study is to describe orthopaedic and gynaecologic patients' satisfaction with their perioperative care at CHBAH using a validated questionnaire.

4.3.2 Objectives

The primary objectives of this study are to:

- describe patients' satisfaction with information received in the preoperative period
- describe patients' discomforts and needs in the perioperative period
- describe patients' fears and concerns in the perioperative period
- describe patients' satisfaction with the staff-patient relationship in the perioperative period
- describe patients' satisfaction with services in the perioperative period.

The secondary objective of this study will be to compare satisfaction between orthopaedic and gynaecology patients.

4.4 Research assumptions

The following definitions will be used in this study:

Patient satisfaction: in this study will refer to information received, discomfort and needs, fears and concerns, staff-patient relationship and service.

Perioperative period: includes the preoperative, intraoperative and postoperative periods.

Theatre staff: refers to the theatre personnel directly involved with the care of the patient in the operating theatre and includes surgeons, scrub and recovery room nurses and anaesthetists.

Services: refers to the patient's total experience in the perioperative period.

Ramsay score: a six-point sedation scoring system used to measure different levels of sedation in hospitalised patients. Levels one to three are waking levels and the last three monitor sleeping levels. The scale is described in table I below as follows (27):

Table I Ramsay sedation scale

Score level	Clinical description	State
1	Patient is anxious and agitated or restless, or both.	Awake
2	Patient is co-operative, oriented, and tranquil.	
3	Patient responds to commands only.	
4	Patient exhibits brisk response to light glabellar tap or loud auditory stimulus.	Sleep
5	Patient exhibits a sluggish response to light glabellar tap or loud auditory stimulus.	
6	Patient exhibits no response.	

4.5 Demarcation of study field

This research study will be undertaken in the orthopaedic and gynaecological wards at CHBAH. This is a central hospital with approximately 3 000 beds and is affiliated to the University of the Witwatersrand.

4.6 Ethical considerations

Approval to conduct this study will be obtained from the Graduate Studies Committee and the Human Research Ethics Committee (Medical) of the University

of the Witwatersrand. Permission to collect data will be obtained from the Medical Advisory Committee at CHBAH (Appendix A) and from the Heads of Departments of Orthopaedics and Gynaecology (Appendix B and C). The nursing managers of the respective wards will be informed of the study.

Patients will be invited to take part in the study. Those agreeing will be given an information letter (Appendix F) and will be requested to sign an informed consent (Appendix G). Anonymity and confidentiality will be maintained by requesting no identifying information from patients and having questionnaires returned in sealed envelopes. The collected data will be securely stored for six years following completion of the study.

The study will be conducted in accordance with the Declaration of Helsinki (28) and the South African Good Clinical Practice Guidelines (29).

4.7 Research methodology

4.7.1 Research design

Research design is the overall plan of a scientific work. It gives a systematic direction to the study. It determines the methods by which data is collected, analysed and the results interpreted. There are various types of designs used. This is a prospective, contextual and descriptive study (30,31).

In a prospective study, data are collected while the study is taking place (32). In this study, data will be collected during the postoperative period.

Study context refers to a “small scale world” and in the health sector context this can be outpatient clinics, wards, theatre and critical care units (32). This study will be conducted at CHBAH.

A descriptive study describes a phenomenon of interest without manipulating variables (32). This study will describe patients’ perioperative satisfaction with their perioperative care.

4.7.2 Study population

The population will include surgical patients in the Departments of Orthopaedic surgery and Gynaecology booked for surgical procedures under general anaesthesia at CHBAH.

4.7.3 Study sample

Sample size

The sample size was determined in consultation with a biostatistician, using Epi Info™ version 6. It was calculated that if patient satisfaction with perioperative care is 60%, and in the worst-case scenario 50%, with a level of confidence of 95%, a sample size of 100 patients will be needed. This will comprise 50 patients from each of the two departments.

Sampling method

A convenience sampling method will be used in this study and data collection will continue until the desired sample size is reached. As defined by Endacott and Botti (33), convenience sampling is a non-random method whereby the most readily available individuals in a population are included. In this study patients coming for surgical procedures under general anaesthesia in the two departments will be invited to participate at the researcher's convenience.

4.7.4 Inclusion and exclusion criteria

Inclusion criteria for this study are:

- adult elective surgical patients ≥ 18 years age;
- who received a general anaesthetic for their surgery;
- patients who are at least 12–48 hours postoperatively;
- have a score 2 on the Ramsay score (i.e. awake, cooperative, orientated and calm).

Exclusion criteria for the study are:

- refusal to participate in the study

- patients admitted to the intensive care or high care units postoperatively.

4.7.5 Data collection

Questionnaire development

The Leiden Perioperative Patient Satisfaction questionnaire (LPPSq) will be used for data collection. LPPSq was developed and validated in 2008 by Caljouw et al., (34). The development and validation of the questionnaire is discussed in depth in the literature review. Permission to use and adapt the questionnaire was received from the authors (Appendix E). The adapted questionnaire (Appendix D) consists of the following sections;

- demographics
- information (6 questions)
- discomfort and needs (8 questions)
- fears and concerns (4 questions)
- staff-patient relationship (14 questions)
- service (5 questions) (34).

Of the above 37 questions, 34 require Likert scale responses and three require yes/no answers. The adapted questionnaire was reviewed by a senior anaesthetist in the department to ensure face validity.

Data collection

All data will be collected by the researcher. The researcher will introduce himself and explain the details of the study. Patients who agree to take part in the study will be asked to sign an informed consent (Appendix F). The researcher will assist patients and encourage honesty in completing the questionnaires and ensure that taking part in the study will not compromise their care during their stay.

Questionnaires will be returned in an unmarked envelope. Patients will be assured that their responses will only be known by the researchers and will be stored securely for six years following the study completion.

4.7.6 Data analysis

All captured data will be recorded on a Microsoft Excel™ spreadsheet 2010. This data will be analysed in consultation with a biostatistician. Descriptive and inferential statistics will be used. Frequencies and percentages will be used to report categorical data. Means and standard deviations, medians and interquartile ranges will be used depending on the distribution of the data. Comparisons between groups will be done using the unpaired t-test and Mann-Whitney tests depending on the distribution of the data. A p-value of 0.05 or less will be considered statistically significant.

4.8 Significance of the study

There is limited published material about patients' satisfaction with perioperative care in South Africa, especially with regards to anaesthesia. What is known is that there are frequent reports of poor of services and complaints about the healthcare sectors, for various reasons (1) and thus questions remain about patients' satisfaction and quality of services with regards to perioperative care. The results of the study may inform healthcare managers about the quality of perioperative practices in an academic hospital and may promote interest and further studies about the topic to other disciplines of healthcare.

4.9 Validity and reliability of the study

Reliability is the ability of a test measurement to produce the same results if repeated under similar circumstances (i.e. consistency) and validity is defined as the ability of an instrument to truly measure what it is supposed to measure (19).

Validity and reliability in this study will be ensured by the following:

- using the previously validated LPPSq and adapt it for the local context
- all data will be collected by the researcher
- the sample size was determined in consultation with a statistician
- data will be analysed in consultation with a statistician.

4.10 Potential limitations

Burns & Grove (31) defined limitations as restrictions or problems in a study that may decrease the generalisability of the findings. The following potential limitations may apply to this study.

- The study is done contextually in two departments only at a single hospital. The results of the study may therefore not be generalisable to other departments at CHBAH or other hospitals.
- Convenience sampling may result in under or over representation of certain elements and therefore introduce biases (30) this also makes generalisation risky.
- Patients may have difficulty understanding some questions as many are not first language English speakers, however, the researcher will be available to help them.
- Patients may give socially desirable answers fearing that their answers might influence their treatment. However, the researcher will assure them that taking part in the study will not influence their treatment and care. The completed questionnaire will be returned in sealed unmarked envelope. Their data will only be accessible to the researcher and supervisors.

4.11 Project outline

4.11.1 Time frame

Items	2013	2014-2015	2016-2017	2018	2019
	Oct-Dec	Jan-Dec	Jan-Dec	Jan-Dec	Jan-Feb
Chapter 1-3					
Proposal					
Ethics assessment					
Post grad assessment					
Proposal corrections					
Data collection					
Data analysis					
Chapter 4 and 5					
Edit final draft					
Submit					

4.11.2 Budget

The Wits Department of Anaesthesiology will incur the costs of paper and printing.

The Department of Anaesthesiology will cover the cost incurred during the study, which will include all papers and printing costs and are summarized in the table below.

Table II Budget for the study

Description		Estimated price	Estimated number of items	Total amount
Printing of proposal	±60c per page		±500	R425
Printing of questionnaires	±60c per page		±400	R340
Printing of research report	±60c per page		±1000	R850
Binding of final research report	R200		3	R600
Estimated subtotal				R2215.00

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4.13 Appendices

Appendix A: Letter seeking approval to conduct a research study at Chris Hani Baragwanath Hospital, Medical Advisory Committee

Dr LM Matsane
Department of Anaesthesiology
University of the Witwatersrand
Johannesburg
2000

Medical Advisory Committee
Chris Hani Baragwanath Academic Hospital

Dear sir/madam

Request to conduct a research study

My name is Lebogang Martin Matsane. I am a registrar training in Department of Anaesthesiology of the University of the Witwatersrand. I am currently doing my masters degree in anaesthesiology and I am planning to conduct a research of the title "Orthopaedic and Gynaecology patients satisfaction with perioperative care at Chris Hani Baragwanath Academic Hospital". I am requesting your permission to collect data at your hospital.

The study will be a descriptive, contextual and prospective survey. I will be giving participants a questionnaire which should not take them more than 15-20 minutes to complete.

Approval from the Postgraduate Committee and the Human Research Ethics Committee (Medical) of the University of the Witwatersrand (M140127) has been obtained.

Your approval to conduct this study will be greatly appreciated.

Yours truly,

Dr Lebogang Martin Matsane
Registrar Anaesthetist

**Appendix B: Letter seeking approval to collect data at Chris Hani
Baragwanath Hospital, Department of Orthopaedic Surgery**

Dr LM Matsane
Department of Anaesthesiology
University of the Witwatersrand
Johannesburg
2000

Head of the Department of Orthopaedic Surgery
Chris Hani Baragwanath Academic Hospital

Dear sir/madam

Request to conduct a research study

My name is Lebogang Martin Matsane. I am a registrar training in Department of Anaesthesiology of the University of the Witwatersrand. I am currently doing my masters degree in anaesthesiology and I am planning to conduct a research of the title "Orthopaedic and Gynaecology patients satisfaction with perioperative care at Chris Hani Baragwanath Academic Hospital". I am requesting your permission to collect data at your hospital.

The study will be a descriptive, contextual and prospective survey. I will be giving participants a questionnaire which should not take them more than 15-20 minutes to complete.

Approval from the Postgraduate Committee and the Human Research Ethics Committee (Medical) of the University of the Witwatersrand (M140127) has been obtained.

Your approval to conduct this study will be greatly appreciated.

Yours truly,

Dr Lebogang Martin Matsane
Registrar Anaesthetist

**Appendix C: Letter seeking approval to collect data at Chris Hani
Baragwanath Hospital, Department of Gynaecology**

Dr LM Matsane
Department of Anaesthesiology
University of the Witwatersrand
Johannesburg
2000

Head of the Department of Gynaecology
Chris Hani Baragwanath Academic Hospital

Dear Dr/Prof

Request to conduct a research study

My name is Lebogang Martin Matsane. I am a registrar training in Department of Anaesthesiology of the University of the Witwatersrand. I am currently doing my masters degree in anaesthesiology and I am planning to conduct a research of the title "Orthopaedic and Gynaecology patients satisfaction with perioperative care at Chris Hani Baragwanath Academic Hospital". I am requesting your permission to collect data at your hospital.

The study will be a descriptive, contextual and prospective survey. I will be giving participants a questionnaire which should not take them more than 15-20 minutes to complete.

Approval from the Postgraduate Committee and the Human Research Ethics Committee (Medical) of the University of the Witwatersrand (M140127) has been obtained.

Your approval to conduct this study will be greatly appreciated.

Yours truly,

Dr Lebogang Martin Matsane
Registrar Anaesthetist

Appendix D: Sample LPPSq questionnaire

Patient Perioperative Satisfaction Survey

Please provide the following details:

1. Age: _____

2. Gender: M / F

3. Occupation _____

4. Type of surgery: _____

5. Did you have any pre-medication? Yes / No / I do not know

6. When did you see the anaesthetist?

- a) On the day of surgery
- b) One day before surgery
- c) Two to seven days ago
- d) One to two weeks ago
- e) Three to four weeks ago
- f) Five to six weeks ago
- g) More than six weeks ago

7. Previous surgery: No / Yes, How many?.....

8. If you have had multiple operations, where?

- a) In Chris Hani Baragwanath Academic Hospital (CHBAH)
- b) Other hospitals
- c) Both at CHBAH and other Hospitals

9. How was your current operation compared to the other operations?

- a) Clearly better
- b) Better
- c) No difference
- d) Worse
- e) Clearly worse

10. How long have you been waiting for your operation?

- a) Zero to two weeks
- b) Two to four weeks
- c) One to two months
- d) Two to three months
- e) Three to six months
- f) More than six months

Please read the following questions and choose the most appropriate answer

(Please tick the appropriate box)

11. How satisfied were you with ...	Completely dissatisfied	Dissatisfied	Not sure	Satisfied	Completely satisfied
• The explanation about anaesthesia	☐	☐	☐	☐	☐
• The amount of information about anaesthesia	☐	☐	☐	☐	☐
• The explanation about the operation?	☐	☐	☐	☐	☐
• The amount of information about the operation?	☐	☐	☐	☐	☐
• The explanation about your stay at the operating theatre	☐	☐	☐	☐	☐
• The amount of information about your stay in the operating theatre?	☐	☐	☐	☐	☐

12. To what degree after the operation did you feel . . .	Not at all	A little bit	Moderately	Quite a bit	Extremely
• Pain (at the site of the operation)?	☐	☐	☐	☐	☐
• Sore throat?	☐	☐	☐	☐	☐
• Back pain?	☐	☐	☐	☐	☐
• Nausea?	☐	☐	☐	☐	☐
• Cold?	☐	☐	☐	☐	☐
• Hunger?	☐	☐	☐	☐	☐
• Thirst?	☐	☐	☐	☐	☐
• Headache?	☐	☐	☐	☐	☐

13. To what degree were you afraid of . . .	Not at all	A little bit	Moderately	Quite a bit	Extremely
• Awaking during the operation?	☐	☐	☐	☐	☐
• Seeing the operating room?	☐	☐	☐	☐	☐
• Pain due to the surgery?	☐	☐	☐	☐	☐
• Pain due to the anaesthetic?	☐	☐	☐	☐	☐

14. To what degree . . .	Completely dissatisfied	Dissatisfied	Not sure	Satisfied	Completely satisfied
• Did the theatre staff take into account your privacy?	☐	☐	☐	☐	☐
• Did you have confidence in the theatre staff?	☐	☐	☐	☐	☐
• Had the theatre staff an open attitude?	☐	☐	☐	☐	☐
• Were the theatre staffs respectful?	☐	☐	☐	☐	☐
• Did the theatre staff show understanding for your situation	☐	☐	☐	☐	☐
• Were the theatre staffs polite?	☐	☐	☐	☐	☐
• Did you find the theatre staff professional?	☐	☐	☐	☐	☐
• Did the theatre staff pay attention to your questions?	☐	☐	☐	☐	☐
• Did the theatre staff pay attention to complaints like pain & nausea?	☐	☐	☐	☐	☐
• Did the theatre staff take into account your personnel preferences?	☐	☐	☐	☐	☐
• Did you find the theatre staff knowledgeable?	☐	☐	☐	☐	☐
• Did the theatre staff pay attention to you as an individual?	☐	☐	☐	☐	☐
• Were you treated kindly by the theatre staff?	☐	☐	☐	☐	☐
• Did you experience professional competence?	☐	☐	☐	☐	☐

15. How would you rate...	Yes, too long	No, long	Just right	Too short
• The waiting time between leaving the ward and having your operation?	☐	☐	☐	☐
• The waiting time spent in the recovery room and getting back to the ward?	☐	☐	☐	☐

16. Were you operated on the agreed date and time?.....☐Yes ☐No

17. Were the staff attentive to your needs?.....☐Yes ☐No

18. Did they act according to your needs?.....☐Yes ☐No

Thank you for completing the form

Appendix E: Letter of permission to adopt the English version of LPPSq questionnaire

RE: request to adopt LPSS questionnaire

Page 1 of 2

From: M.A.A. Caljouw <M.A.A.Caljouw@lumc.nl>
To: matsani <matsani@aim.com>
Subject: RE: request to adopt LPSS questionnaire
Date: Thu, Nov 7, 2013 3:09 pm
Attachments: 170710-LRA-11381-patients--satisfaction-with-perioperative-care-among-patient_071710_(3).pdf (243K), LPPSq_translated_(2).pdf (587K)

Dear Dr. Matsane,

Thank you for your interest in my questionnaire. You have permission to use my questionnaire. I only ask to make reference to my article when you decided to publish.

For an English version of our questionnaire I have worked with the University of Nottingham, with dr. Jjala. Our paper with the validation and results of the English version will be enclosed. And also the questionnaire used in this last study.

A lot of success.

Kind regards,

Monique Caljouw

Senior researcher

Public Health and Primary Care

Leiden University Medical Center

From: matsani@aim.com [mailto:matsani@aim.com]
Sent: woensdag 6 november 2013 9:58
To: Caljouw, M.A.A. (PHEG)
Subject: request to adopt LPSS questionnaire

To Dr M. A. A. Caljouw:

RE: Patient's satisfaction with perioperative care: development, validation, and application of a questionnaire

My name is Dr Lebogang Matsane. I am a registrar training in Department of Anaesthesiology of the University of the Witwatersrand, South Africa. I am currently doing my Masters degree. We are planning to conduct a quantitative study which looks at patient's perioperative experience in an academic hospital. I am aware and acknowledge your study on patient's satisfaction with perioperative care and development of valid questionnaire (BJA 2008).

I would like to request your approval to use the translated version of LPPSq questionnaire as used in your study as it addressed key issues we would like to describe in our study.

<http://mail.aol.com/38172-111/aol-6/en-us/mail/PrintMessage.aspx>

2013/11/08

Appendix F: Participants' information sheet

Hello. My name is Dr Lebogang Martin Matsane. I work in the Department of Anaesthesiology at University of the Witwatersrand. I am an anaesthetist, I am a doctor responsible for putting people to sleep and make them pain free during their operations. I am currently doing my masters degree which requires me to do a research survey, "*Orthopaedic and gynaecology patients' satisfaction with perioperative care at Chris Hani Baragwanath Academic Hospital*". This simple means how you felt about the care you received when you were operated on (i.e before, during and after the operation). This may help us to improve the care patients receive when they come for an operation.

I would like to invite you to take part in my research survey. I ask of you to fill in a questionnaire about the care you received when you were operated on. It should take about 10–20 minutes to fill it in. Anonymity and confidentiality will be maintained. This means that you do not put your name on the questionnaire and no one in your care will know about your answers. When you have finished you will seal it in an unmarked envelope and drop it in a collection box. Only my supervisors and I will see the completed questionnaires, please complete the questionnaires as freely and honestly as you can and feel free to ask for help where you do not understand.

There is no risk to you if you take part in the study and your care will not be affected. Taking part is completely voluntary and you may refuse to take part or withdraw at any stage without having to give a reason. There is no compensation for taking part in the study.

This survey study has been approved by the Postgraduate Committee and the Human research Ethics Committee (Medical) of the University of the Witwatersrand (M140127). If you need further information about the study you can contact me during office hours on (011) 488 4397.

Further information you also contact Professor Cleaton-Jones the chairman of the Human Research Ethics Committee (011) 717 1234, during office hours.

Thank you for taking the time to read this information.

Dr Lebogang Martin Matsane

Registrar in Anaesthesiology Department
University of the Witwatersrand

Appendix F: Consent form

Patient Perioperative Satisfaction Survey

My signature below indicates that I am at least 18 years of age. I have read the above information and had an opportunity to ask questions and I am satisfied with the answers. I agree to participate in the research study.

Name: _____

Signature: _____

Date: 20____/____/____

Sincerely,

Dr Lebogang Martin Matsane

Registrar in Anaesthesiology Department

University of the Witwatersrand

Section 5: Annexures

5.1 Ethics approval



R14/49 Dr Lebogang Martin Matsane

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)

CLEARANCE CERTIFICATE NO. M140127

NAME: Dr Lebogang Martin Matsane
(Principal Investigator)

DEPARTMENT: Anaesthesiology
Chris Hani Baragwanath Academic Hospital

PROJECT TITLE: Orthopaedic and Gynaecology Patients' Satisfaction
with Perioperative Care at Chris Hani Baragwanath
Academic Hospital

DATE CONSIDERED: 31/01/2014

DECISION: Approved unconditionally

CONDITIONS:
SUPERVISOR: Mrs Helen Perrie

APPROVED BY:

A handwritten signature in black ink, appearing to read 'P Cleaton-Jones'.

Professor P Cleaton-Jones, Chairperson, HREC (Medical)

DATE OF APPROVAL: 01/06/2015

This clearance certificate is valid for 5 years from date of approval. Extension may be applied for.

DECLARATION OF INVESTIGATORS

To be completed in duplicate and **ONE COPY** returned to the Secretary in Room 10004, 10th floor, Senate House, University.

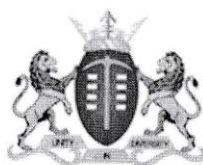
I/we fully understand the conditions under which I am/we are authorized to carry out the above-mentioned research and I/we undertake to ensure compliance with these conditions. Should any departure be contemplated, from the research protocol as approved, I/we undertake to resubmit the application to the Committee. **I agree to submit a yearly progress report.**

Principal Investigator Signature _____

Date _____

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES

5.2 Graduate studies approval



GAUTENG PROVINCE

HEALTH
REPUBLIC OF SOUTH AFRICA

MEDICAL ADVISORY COMMITTEE

CHRIS HANI BARAGWANATH ACADEMIC HOSPITAL

PERMISSION TO CONDUCT RESEARCH

Date: 6th April 2018

TITLE OF PROJECT:

Orthopaedic and Gynaecology patients' satisfaction with perioperative care at Chris Hani Baragwanath Academic Hospital.

UNIVERSITY: Witwatersrand

Principal Investigator: Dr L M Matsane

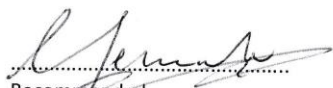
Department: Anaesthesiology

Supervisor : Ms H Perrie

Permission Head Department (where research conducted): Yes

The Medical Advisory Committee recommends that the said research be conducted at Chris Hani Baragwanath Academic Hospital. The CEO / management of Chris Hani Baragwanath Academic Hospital is accordingly informed and the study is subject to:-

- Permission having been granted by the Committee for Research on Human Subjects of the University of the Witwatersrand.
- The Hospital will not incur extra costs as a result of the research being conducted on its patients within the hospital
- The MAC will be informed of any serious adverse events as soon as they occur
- Permission is granted for the duration of the Ethics Committee Approval.


Recommended
(On behalf of the MAC)
Date: 6/4/2018


Approved/Not Approved
Hospital Management
Date: 10/04/18

5.3 Turnitin report

0006347f:Research_Report_Lebo_Matsane_12-March_2019-for_TurnItIn.docx

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