

**THE INFLUENCE OF A PREOPERATIVE INFORMATION  
BROCHURE ON THE EXPERIENCE OF PATIENTS UNDERGOING  
AWAKE SURGERY IN PRIVATE HOSPITALS**

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of  
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## **DECLARATION**

I, Johanna Elizabeth Martins, hereby declare that this research dissertation is my own work. It is being submitted for the degree of Master of Science in Nursing at the University of the Witwatersrand in Johannesburg. It has not been submitted before for any degree at this or any other University.

Signature

Date \_\_\_\_\_

Protocol number: M160787

## **DEDICATION**

I dedicate this dissertation to my Creator who blessed me with the ability to complete this work.

To my beloved husband Tony, ever supportive loving and kind, Thank you.

To my children I hope you will be proud.

To Andrea Hayward your contribution to my human becoming is immeasurable. Thank you.

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**ABSTRACT:**

Undergoing surgery without having general anaesthesia has become an option for many surgical patients. Awake patients are able to communicate with the surgical team which allows the surgical team to gain understanding of the patient's experience. This is an important aspect of perioperative care and is in line with the theory of Human Becoming according to Parse, (2011). Literature suggests that patients who have received information preoperatively about their planned perioperative journey experience less anxiety and fear relating to their surgery.

The purpose of this study was to explore the perioperative experiences and needs of patients undergoing awake surgery. A qualitative exploratory descriptive three step design of data collection was implemented for this study.

In **step one** an integrative review identified patient experiences of the perioperative journey. The literature was critically analysed for relevance and inclusion. This information formed the basis for inclusion in step two.

**Step two** explored the perioperative experience of participants who had undergone awake surgery by interviewing a group of participants using interviews and probe questions extracted from the literature. The information gleaned from the interviews was grouped for content similarity and was used to create an information pamphlet which informed participants about their perioperative journey.

In **step three** the information pamphlet was handed to participants preoperatively and the same participants rated the usefulness of the information pamphlet postoperatively by answering a dichotomous question. Participants had the opportunity to add comments. The population for this study was all patients who were scheduled for ophthalmic, orthopaedic, urological or plastic, surgery using awake surgery in four large private hospitals in Gauteng and Mpumalanga. Patients younger than 18 years of age as well as those receiving sedation or general anaesthesia were excluded from the population.

This study showed that participants had positive experiences of being awake during surgery. A number of participants found the experience of being awake during surgery interesting and enjoyed being able to ask questions and participate in dialogue. Participants rated the information pamphlet as useful. Two areas of concern was elicited, namely communication and nursing care within the operating theatre environment. The objectives for this study were met.

**Key words: perioperative journey, awake surgery, regional and local anaesthesia, nursing**

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# CHAPTER ONE

## OVERVIEW OF THE STUDY

### 1.0 INTRODUCTION

This dissertation intends to address the information needs of perioperative patients in order to improve the preparedness and perioperative experience of patients undergoing awake surgery by means of developing and evaluating an information pamphlet.

This chapter gives the overview of the study. It describes the background of the study, its purpose, the problem statement, research questions which sought to be addressed and objectives guiding the study. The researcher has also described her paradigmatic perspectives and has provided a brief overview of the methods employed including the design, data collection methods, the population sample and sampling procedures and a data collection tool. The ethical considerations as well as the research rigor of the study have also been briefly described.

Advances in anaesthetic techniques as well the enhanced drug actions of modern anaesthetic drugs and sedatives, enables anaesthetists to maintain levels of consciousness in their patients during surgery whilst also managing pain effectively. Literature describes awake surgery as surgery that is performed using regional or local anaesthesia and the patient is awake and responsive. (Rath *et al.*, 2014).

Being awake during the surgical period may have either a negative or a positive influence on the overall patient experience. Patients who have had a positive overall experience during their perioperative journey report that they experienced less anxiety and pain. Hudson *et al.*, (2015). This may contribute to a shortened rehabilitation period resulting in patients being able to return to work and resume their normal activities.

Conversely, patients who have had a negative experience rated anxiety and pain levels higher or more severe. Higher levels of pain adversely affect rehabilitation and may delay a patient's return to work and normal activities (Loeb, 2004; Charmel and Frampton, 2008). Hudson *et al.*, (2015) posit that patients had regional or local anaesthesia and who were awake during their surgery report that they had painless surgery.

In addition, those patients who experienced that they were cared for by the nurses and doctors, had positive perioperative experiences. These findings bring to the fore concerns from nurses about the way that patients experience the care that they receive during the perioperative period.

## **1.1 BACKGROUND OF THE STUDY**

In recent years, the practice of using conscious sedation, local or regional anaesthesia for minor as well as major surgery has grown. These anaesthetic methods are advantageous for patients on many levels. Morgan *et al.*, (2006) report that the medication used for local and regional anaesthesia does not suppress the central nervous system, does not affect the cardiovascular system, reduces blood loss during surgery, and does not have the same negative effect on the immune system as a general anaesthetic. In addition, research suggests that the absence of an immunosuppression effect of regional anaesthesia has an anti-tumour effect on cancer cells (Le-Wending, 2016 and Mayo, 2013).

Due to the fact that patients remain awake and responsive during surgery, patients are able to maintain patent airways and may even be able to participate in conversations about their pathology or planned post-operative rehabilitation during the surgery (Karlsson *et al.*, 2012). These authors hold that awake surgery frequently has the additional benefit of decreased post-operative nausea and vomiting, faster mobilisation, faster return to normal diet and faster return to work and other normal activities.

Patients who have had awake surgery may typically be discharged as soon as a few hours following selective surgery, thus resulting in shorter hospital stay. Early discharge from hospital is advantageous for many patients as this significantly decreases their exposure to the potential risks of hospital acquired infections, the financial burden of hospitalisation and surgery and allows the patient to return to the comfort and safety of his or her own home during the recovery period. Awake surgery therefore obviates the need for anaesthetic drugs and gases, and decreases the need for hospitalisation.

Being awake during the intraoperative period may have either a negative or a positive influence on the overall patient experience. In recent years nurses have become concerned with the way that patients experience their care and endeavour to create an environment that would ensure that patients have a positive perioperative experience. Patients, who have positive perioperative experiences, suffer lower levels of pain, less fear and anxiety and recover more rapidly from surgery (Morgan *et al.*, 2006; Myles *et al.*, 2000). On the other hand, patients who have negative experiences appear to experience higher levels of pain, fear and anxiety.

In an attempt to address the information needs of patients, an information pamphlet will be administered in this study to provide patients with information regarding the perioperative journey and routine nursing processes in the operating theatre.

These may include the admission processes, transfer to the theatre, monitoring and positioning, commencement of the local or regional anaesthesia, pain management, skin preparation and draping, transfer to the recovery room area, nursing care in the recovery room and same day discharge planning.

Many patients experience anxiety and fear prior to undergoing a surgical intervention (Matthias and Samarasekera, 2011; Morgan *et al.*, 2006; and Jlala *et al.*, 2010). Patients are also instructed to refrain from eating and drinking pre-operatively in order to reduce nausea and vomiting. In addition to fear and anxiety, hunger and thirst may contribute to a negative influence on the patient's overall experience of hospitalisation. (Edmonds 2013; Ganio *et al.*, 2011; Armstrong *et al.*, 2012 and Edmonds, 2013) agree that hunger and thirst impair cognitive function and increases fatigue, tension and anxiety in healthy women and men.

One aspect of improving patient experience is to teach surgical patients facts about the perioperative process. Respected authors such as Phillips, (2013); Rothrock, (2011) and Hinkle and Cheever, (2014) all describe the value of patient education for the postoperative period, but preoperative education regarding the routine nursing processes in theatre are poorly described. Similarly, some anaesthetists may explain the process of anaesthetising the patient but not the associated general perioperative processes relating to nursing care.

Effective patient education appears to play a major role to reduce anxiety and fear, may improve patient compliance and may improve surgical outcomes (Jlala *et al.*, 2010). Morgan *et al.*, (2006) report that patients' fear and anxiety are greatly diminished if their questions and concerns are effectively addressed by an empathetic anaesthetist.

Asking surgical patients what their information needs are prior to their perioperative journey is important as this will help health care practitioners to address the specific important issues as described by patients themselves which may improve the overall perioperative experience of patients undergoing awake surgery.



## **1.2 PROBLEM STATEMENT**

Literature has identified that surgical patients experience anxiety and fear preoperatively related to their planned surgery. The anxiety that patients experience may be related to fear of the unknown, fear of the anaesthetic, fear of the surgical procedure, as well as fear of the outcome of the surgery (Rothrock, 2011). Shevde and Panagopoulos, (1991) reported that patients feared that they might not wake up following general anaesthesia or that they might wake up during the surgical intervention and experience pain. A positive anaesthetic experience is known to produce less anxiety and fear and patients recover more rapidly (Morgan *et al.*, 2006; Myles *et al.*, 2000).

This may include patients receiving awake surgery who will be fully aware of all processes during their surgery. Little is known about what information patients would like to have in order to improve the experience associated with awake surgery. Since this type of surgery is on the increase in the private sector, an information pamphlet containing information related to the perioperative journey may have a positive influence the perioperative experience.

## **1.3 PURPOSE OF THE STUDY**

The purpose of this study was to develop and evaluate an information pamphlet that would specifically address patient needs in order to improve the preparedness and perioperative experience of patients undergoing awake surgery.

## **1.4 RESEARCH QUESTIONS**

The researcher sought to answer the following questions:

- What are the experiences of patients undergoing awake surgery?
- What are the information needs of patients undergoing awake surgery?
- Would an information pamphlet based on their needs meet their information requirements

## **1.5 RESEARCH OBJECTIVES**

The objectives for this study were the following:

To explore the experience of patients who undergo awake surgery.

To determine the information needs of patients' undergoing surgery.

To develop a perioperative information pamphlet.

To evaluate the usefulness of the perioperative information pamphlet by exploring patients' experiences post awake surgery after handing out the information pamphlet preoperatively.

## **1.6 SIGNIFICANCE OF THE STUDY**

This study elicited patients' experience of awake surgery and what information patients thought would improve their perioperative experience during awake surgery. This information facilitated the design of an information pamphlet that contained the information that patients reported as important to them and believed would improve their perioperative experience during awake surgery.

Nurses are able to make use of the information pamphlet in future to meet the needs of patients and provide information for patients scheduled for awake surgery with regards to nursing activities and responsibilities.

This is the first study of this nature by a South African Professional Nurse.

The research further elicited the importance of regional anaesthesia in the prevention of spread of cancer due to the protection of cell immunity (Le Wending, 2016 and Mayo, 2013).

## **1.7 PARADIGMATIC ASSUMPTIONS**

A paradigm is a world view, and provides a general perspective on the complexities of the real world (Polit and Beck, 2017). All nursing research needs to be founded on a nursing paradigm as this guides the researcher in her research methodology. The research was based on the following meta-theoretical, theoretical and methodological assumptions.

### **1.7.1 Meta-theoretical assumptions**

Meta-theoretical assumptions serve as the foundation of the theoretical statements that describe concepts that are factual and represent values, beliefs and/or goals of the researcher (Polit and Beck, 2017). These assumptions are representative of human beings and of the society within they live. This study is centred on Parse's theory of Human Becoming in nursing. Parse, (2011) focussed on the lived experiences of persons and is of the opinion that each person views his or her health in a unique way. The theory facilitates the deep understanding of the human-universe-health process (Mitchell, 2006).

#### **The person**

Parse, (2011) describes the person as being united with the universe and continues to explain that humans are irreducible and unpredictable. In the operating theatre humans who are scheduled for surgical procedures experience physiological, emotional, psychosocial and spiritual discomforts and perioperative nurses should have knowledge, skills and experience to ensure that each human being receives optimal care.

Perioperative nurses also play a role in assuring that the principles described by Parse, namely that nursing should have a transformational approach, that nurses should not attempt to "fix" problems identified, but rather attempt to understand the patients perception of his own health Parse, (2011) are valued to ensure optimal integration of caring and surgical practice.

## Environment

In this study, the environment is the operating theatre where the patients will receive their surgical procedure. The founder of modern nursing, Florence Nightingale described the characteristics of a “favourable” environment as a well-ventilated, clean, warm room that is free from noise and adequately lit (De Almeida Medeiros *et al.*, 2015).

In operating theatres the environmental temperature is set at 19-22 degrees Celsius, the theatre tables are firm, the lighting is cold and white and activities are precise and speedy. These attributes do not speak to comfort and the perioperative nurses need to endeavour to create an environment that is as conducive to healing as possible.

## Nursing

Nursing is defined by the International Council of Nurses (<http://www.icn.ch/about-icn/icn-definition-of-nursing>, 2014) as “autonomous and collaborative care of individuals of all ages, families, groups and communities, sick or well and in all settings. It includes health promotion, prevention of illness, and the care of the ill, disabled and dying people.”

This emphasizes the importance of independent decision-making in nursing while working as a team with other health care professionals for the best outcome of care given to patients. It also clarifies the fact that access to health care is “a universal right of every person not only the sick. This includes health promotion services, those services aimed at prevention of illnesses, caring for the sick, people with disabilities and those who need end of the life care.” (International Council of Nurses, (<http://www.icn.ch/about-icn/icn-definition-of-nursing>, 2014).

Perioperative nurses are registered nurses (RN's) who work in hospital surgical departments, day-surgery units (also called ambulatory surgery), clinics and physicians' offices. They work closely with the perioperative patient, family members and other health-care professionals to help plan, implement and evaluate treatment.

## Health

Health is defined by World Health Organisation (WHO) (1948) as “the state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity” (Official Records of the World Health Organization, 1948). Once a patient is in the operating theatre, his or her physical needs change. Apart from the environment and body positioning, the drugs that are used to induce and maintain anaesthesia and haemostasis alter the patient's metabolism.

Parse, (2011) posits that health is a synthesis of values and personal commitment of who a person wants to be. This theorist believes that persons are responsible for their own health and that patterns of health are paradoxical as persons may experience periods of good health and periods of poor health. Perioperative nurses should therefore endeavour to empower patients to live successfully through a period of poor health.

### **1.7.2 Terms of reference:**

The operational definitions consistently used in this study are in line with the South African Society of Anaesthesiologists Sedation Guidelines 2015 and are described here under.

General Anaesthesia: a state of controlled unconsciousness during which the patient is insensitive to pain. It is artificially induced by the administration of gases or the injection of anaesthetic induction agents prior to the commencement of surgery.

Local anaesthesia: involves numbing an area of the body using a local anaesthetic.

Regional anaesthetic: is a local anaesthetic given to a specific region of the body, which will induce pain relief for deeper operations where more extensive numbness is needed.

Sedation: is the practice of inducing relaxation both physically and mentally.

Conscious sedation: is the use of sedation and /or Anxiolytics to produce a relaxed state. Patients are responsive, maintain their own airways and are relaxed.

Awake surgery: includes the use of regional blocks and local anaesthetic drugs so that pain is controlled however the patient is fully awake during the surgery.

Perioperative journey: this journey refers to the period from the time that a diagnosis has been confirmed and the confirmation that a surgical intervention is needed has been made, and it includes the admission processes in the hospital, the transport to the operating theatre, the surgical intervention, recovery from the surgery and the discharge.

### **1.7.3 Theoretical assumptions**

Theoretical assumptions reflect what the researcher believes regarding the research process. These beliefs are influenced by the nature of the specific research topic or research problem and the theory which underpins this study. The researcher believes that, in line with Parse's theory, each person experiences life in a holistic and unique way and this provides the foundation for the way that each person will experience their own health or illness. Man is also constantly interacting with the environment and is able to transform and transcend (Parse,

2011). Therefore assisting patients to meet their needs during the perioperative journey and the experience of being awake during surgery empowers them to remain in control.

#### **1.7.4 Methodological assumptions**

Methodological assumptions reflect the researcher's belief about the nature of the research process. It is influenced by the nature of the research topic and problem as well as the interest of the researcher in the particular field. The researcher chose to apply a qualitative research method for this study which enabled the data collection to be done by conducting interviews with patients who were scheduled for awake surgery. These interviews enabled participants to share their personal experiences of their perioperative journeys. In addition the researcher was able to pose probing questions in an effort to obtain in depth understanding of what it was like for the participants to live through the perioperative event. By doing this the researcher reached an understanding of the meaning of participants' narratives and their information needs were elicited.

### **1.8 OVERVIEW OF RESEARCH METHODOLOGY**

Research methods refer to the techniques that the researcher applied to the structure of the research study, the techniques used to collect data as well as the techniques for analysing the data collected (Polit and Beck, 2010).



### **1.8.1 Research design**

This study made use of use an exploratory descriptive qualitative design with three steps of data collection. Qualitative semi-structured interviews post-surgery offered the patients an opportunity to describe their own experiences and explain their perioperative needs especially during the period of awake surgery.

### **1.8.2 Research Methods**

#### **Setting**

The setting for this study was four hospitals belonging to a large private sector hospital group in Gauteng and Mpumalanga. The researcher travelled to each of these hospitals for student supervision. Three of the hospitals are located in the northern suburbs of Johannesburg and one hospital is situated in Mpumalanga. Each of these hospitals was selected because they perform awake surgery in various surgical disciplines such as general surgery, plastic surgery, urological, orthopaedic surgery and ophthalmic surgery.

The four hospitals have a total of twenty five operating theatres and collectively perform an average of two thousand surgical cases per month of which approximate one fifth is awake surgery. Thus there are approximately four hundred cases of awake surgery performed monthly between these four hospitals.

#### **Population**

According to Polit and Beck, (2017) the population for any research study is the total number of people or elements that meet the specific specifications of the study. Three sets of population were identified for this study, namely the population for step one of the study which was an integrative literature review, the population for the participants in step two were

participants who had had awake surgery and the population for step three who were participants scheduled for awake surgery.

Russel, (2005) posits that integrative reviews utilise all the research published that relate to the topic as the population and is usually searched within a published time-frame.

For the purpose of the integrative review the researcher included all publications (N=3000) relating to the patient experience of awake surgery up to and including 2017.

The selection of the literature included will be explained under data collection.

The population for the semi-structured interviews in step two and three included all patients who had received awake surgery in three Gauteng hospitals and one in Mpumalanga, of a private hospital group.

### **Sample and sampling**

Sampling is the process of selecting a portion of the population to represent the entire population in the study (Polit and Beck, 2017). Convenience sampling was used based on the availability of patients who had had awake surgery in the disciplines of ophthalmic, orthopaedic, urological and plastic surgery. Ten participants were selected from each discipline in group one. Group two were matched with group one by surgical procedure. Exclusion criteria included any patient who had had sedation or full anaesthesia, or who was under the age of eighteen.

### **Data collection**

The steps that were applied during the data collection, namely, step one integrative review, step two postoperative interviews and step three administering of the information pamphlet are depicted in Table 1.1.

**Table 1.1 Steps of data collection, population, sample and analysis.**

<b>Step One</b>	An integrative review identifying perioperative patient experiences.
<b>Data collection</b>	All relevant publications up until June 2017 were included.
<b>Data analysis</b>	The results formed the theoretical and evidence basis of the interview guide.
<b>Step two</b>	Interviews of postoperative awake patients.
<b>Data collection</b>	Ten postoperative patients from each of four disciplines (n=40) were invited for inclusion in group one. A face to face interview technique, guided by an interview guide was used to collect information regarding the perioperative journey. This process continued until saturation was reached. The information was added to the findings obtained in step one and was analysed to develop an information pamphlet which was used to inform the patients about the nursing processes which accompany awake surgery. All interviews were recorded and transcribed verbatim.
<b>Population and sample</b>	The population group for this phase included all patients who had received awake surgery in four private hospitals in Gauteng and Mpumalanga. The convenience sampling was applied. For the purpose of this study all awake patients who were scheduled for ophthalmic, orthopaedic, urological and plastic, (n=40) had an equal chance of being included in the sample.
<b>Data analysis</b>	The information obtained from the interviews was grouped according to content similarities. This, together with the information from the integrated review formed the evidence to develop an information pamphlet which was used to inform the patients about the nursing processes which accompany awake surgery.
<b>Step three</b>	Administration of the preoperative information pamphlet to a second group of patients and postoperative information pamphlet evaluation using the same patient group.
<b>Data collection</b>	A second group of patients (n=40), matched to group one by surgical procedure were invited to participate. The information pamphlet was handed to them preoperatively in the ward. After their surgery they were asked whether the information pamphlet was useful using a questionnaire consisting of dichotomous questions using yes and no responses and an option for comments.
<b>Data analysis</b>	Dichotomous questions were analysed by totals and summative content analysis of the comments was employed.

## **Step one Integrative Review**

An integrative review identified patient experiences of the perioperative journey, which included their experiences with the admission procedures, nursing care, communication with the doctors and nurses, pain control, the administration of anaesthesia, sedation or regional and local blocks. All studies published until June 2017 was considered for inclusion. A search of the following electronic data bases: CINAHL, MEDLINE, Pubmed, Scopus, Google Scholar and Sage journals produced 3000 articles. The results were critically analysed by the researcher and supervisor for relevance and inclusion and reduced to 26.

The information gleaned from this literature formed the basis for the interview guide that was used in step The search yielded sufficient publications relating to awake experiences in ophthalmic surgery, however, due to the paucity of publications specifically relating to awake surgery in orthopaedic surgery, urological surgery and plastic surgery, the researcher expanded the search to include the experiences of patients who were not awake but underwent one of these surgeries. A team of two experienced researchers were requested to act as reviewers.

## **Step two Interviews Group one:**

After permission for the study had been obtained participants were recruited for the study applying the principles of convenience sampling.

Ten postoperative patients from each of four disciplines were recruited for inclusion in group one. The interview guide was used to collect information regarding the experience of this group of patients during their perioperative journey and specifically their experience of being awake during their surgical intervention. The number of patients in each discipline was increased until saturation was reached.

The information added to the results obtained in step one and was analysed according to the summative content analysis as described by Hsieh and Shannon, (2005) to develop an information pamphlet which was used to inform the patients about the perioperative journey with emphasis on the routine nursing processes during awake surgery.

### **Step three Administration of Information Pamphlet Dichotomous question and**

#### **Comments:**

A second group of patients, who were matched for surgical procedures to group one, was recruited. These patients were visited preoperatively in the ward by the researcher who handed them the information pamphlet and assisted with any queries that the patient may have had. Patients with sight impairment were assisted by the researcher with reading of the information pamphlet. Between two and three hours after their awake surgery, the researcher interviewed the same patients about the influence of the information pamphlet on their perioperative experience. An interview guide using questions with a dichotomous scale and options for additional comments was implemented.

A summary of the data collection process is contained in Table 1.1 on page 15.

## **1.9 RESEARCH RIGOR**

Ensuring data quality in qualitative research based on the model of Lincoln and Guba, (1985) proposes four aspects:

Credibility: alludes to confidence in the truth of the data collected. All qualitative interviews were conducted by the researcher and were recorded, thus providing a record of the information that all participants shared during the interviews. The information obtained was verified with the participant at the end of the interview.

Dependability: refers to stability (Polit and Beck, 2017) or the notion of trackable variability (Guba,1981). The semi-structured qualitative interview guide was followed during each interview.

Confirmability: “confirm ability refers to objectivity” (Polit and Beck, 2010). This strategy aims to establish that the data is a true reflection of the participants narratives and that the researcher has not introduced any personal bias or influence (Polit and Beck, 2010; Shenton, 2004). The recorded data represented the information provided by participants and was confirmed with them.

Transferability: Transferability is the qualitative equivalent of the criterion applicability.

Applicability refers to the extent to which the “findings can be applied to other contexts and settings” Krefting, (1991). The information gained during the interviews guided the information pamphlet that was designed to be administered and evaluated in step three and thus was applicable in all health care organisation or heath care practice.

## **1.10 ETHICAL CONSIDERATIONS**

Permission to carry out the study was obtained from the following:

The Human Research Ethics Committee (Medical) for research on human subjects for clearance to conduct the study and the University Postgraduate Committee for permission to conduct study.

Consent was obtained from the private sector hospital group's research committee and from the management of each of the four hospitals used in the study. Informed consent was obtained from all participants for the interview and for recording, confidentiality and anonymity.

Anonymity and confidentiality of participants was maintained throughout the process of research and will be strictly maintained in any future publications

## **1.11 SUMMARY**

The chapter has provided an outline of the study. The problem statement, purpose of the study, research objectives and the significance of the study has been described. The assumptions of the researcher have been discussed and the operational terms defined. A brief overview has been given of the research methodology, trustworthiness of the study and the ethical procedures adhered to during the course of this study.

The following chapters will provide a review of the literature, the methodologies, data analysis, the description and interpretation of research findings, conclusions and recommendations for further research.

## **CHAPTER TWO**

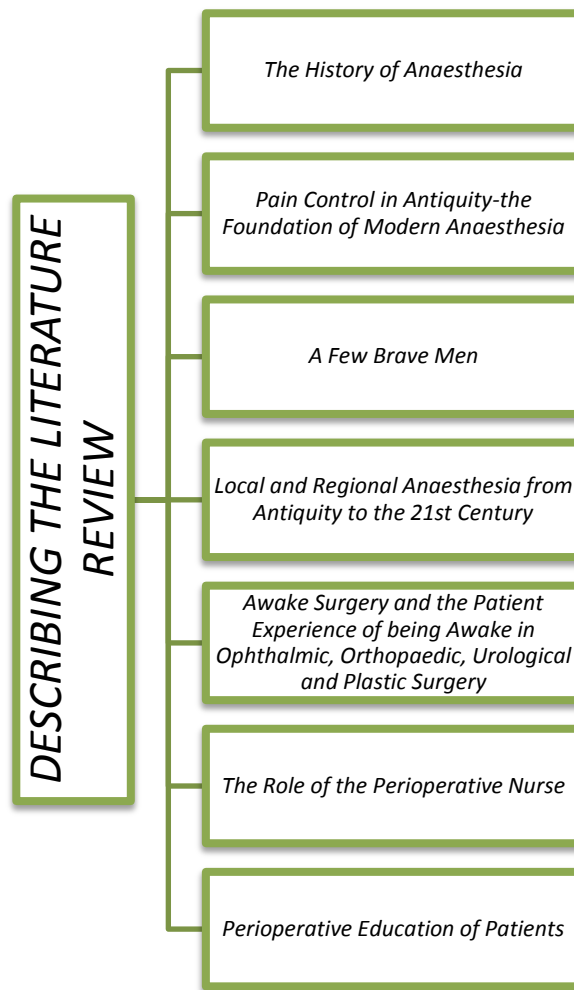
### **LITERATURE REVIEW**

#### **2.1 INTRODUCTION**

The previous chapter provided a general overview of the study. This chapter contains a summary of the literature review that was conducted for this study. Electronic data bases were accessed in order to extrapolate information on the history of anaesthesia, the history and development of local and regional anaesthesia and anaesthetic drugs; the role of the nurse during the perioperative period, the experience of patients undergoing surgery whilst being awake and the need for perioperative patient education. Bothma *et al.*, (2010) explain that research should contribute to the exiting body of knowledge; therefor it is important that researchers have knowledge of and develop an understanding of the most recent empirical findings relating to the study. These authors are of the opinion that high quality research requires a thorough literature review.

This chapter is laid out using the following plan as depicted in Figure 2.1.





**Figure 2.1 Literature Review Plan**

## 2.2 SEARCH METHODS

The literature was electronically searched using CINAHL, EBSCO, Ovid Medline, Pubmed, Google scholar and Scopus. All publications up to and including June 2017 were accessed in order to obtain rich information on the historical development of anaesthesia, anaesthetic methods such as local and regional anaesthesia, awake surgery, the role of the perioperative nurse and perioperative patient education.

Key words and phrases that employed during the search included history of anaesthesia, history of local anaesthesia, history of local and regional anaesthesia, awake surgery, patient experiences of being awake during surgical interventions, perioperative nursing and perioperative education.

### **2.3 DESCRIBING THE LITERATURE REVIEW**

Researchers conduct reviews of the literature pertaining to their topics in order to find relevant information regarding the topic of their research. This enables the researchers to contextualise their studies and to underpin the relevance of their research findings (Henning, 2009). Hofstee, (2009) explains that a literature review establishes the significance of a research study as it presents the originality of the present study. Patton, (2002) posits that, although conducting literature reviews in qualitative studies may cause the researcher to experience bias, it may assist the researcher to focus the research study.

Polit and Beck, (2017) argue that it is appropriate for researchers who are conducting qualitative research studies with a phenomenological approach to consult the literature at the start of the study in order to extract multiple perspectives presented by previous researchers that would enhance comprehension of the research topic. Hofstee, (2009) further explains that it is important that researchers balance the selected literature by selecting relevant works on every aspect of the topic. Bothma *et al.*, (2010) holds that researchers should ensure that the literature that they review contributes to the theoretical context of the research study.

The literature review stands apart from the integrative review in this study which was step one of the data collection. An integrative literature review serves as a means of determining knowledge in a particular area (Burns and Grove, 2011) and includes both empirical and theoretical literature (Bothma *et al.*, 2010)

### **The history of anaesthesia.**

#### **Pain control in antiquity- the foundation of modern anaesthesia.**

From the time that man needed medical care or surgical intervention following an injury or an illness, the need for the management of pain was understood by the shamans, medicine men and women and priests who were responsible for the health of their clans or communities. Literature suggests that these pioneers of health care employed a blend of herbs, rituals and medical techniques to treat and cure ailments Shuttleworth, (2015).

Whilst Velpau, the French surgeon, described pain as the “Chimera” of surgery, akin to the mythical fire breathing beast (Keller, 2008), Rangappa, (2008) reminds us that the experience of pain is nature’s way to alert humans of injury or illness. Evidence suggests that the search for effective analgesics to conquer this beast began in antiquity (Keller, 2008).

The oldest written evidence of our ancestor’s medicinal knowledge is found on a Sumerian clay slab which was unearthed in Iraq and estimated to be around five thousand years old. The clay slab contained 12 recipes for the preparation of drugs from several plants, including henbane and mandrake (Petrovska, 2012).

The Chinese medical directory, the “Pen T’Sao” composed by Emperor Shen Nung in 2500 BC explains the medicinal use of over 300 plants, including camphor, ginseng and cinnamon.

Similarly, the Egyptians, Assyrians, Hindus, Greeks, Chinese and the Romans all kept extensive records of the medicinal uses of many plants and herbs (Keller, 2008).

Carter, (2003) narrates that the first century Greek physician, Dioscorides, kept records of the medicinal use of hundreds of plants and plant preparations. He described the use of the alkaloid containing roots of the Mandrake plant to relieve pain and to induce a state of anaesthesia during surgery. Keller, (2008) describes the extensive use of the herb henbane as a sedative by our European and Asian ancestors.

The Arabian healer Avicenna recommended the use of a mixture of henbane, opium, and mandrake to induce a state of unconsciousness in patients enabling the surgeon to perform surgery (Rangappa, 2008).

The same mixture was used by the monks of the Benedictine monastery at Monte Casino who described the manufacturing and use of the “spongio somnifera”, a method of steeping a sponge in the mixture of opium, henbane and mandrake juice, drying it and when needed it was moistened and held in front of a patient’s nose who would inhale the vapours and drift off into sleep (Carter, 1996).

Brownstein, (1993) posits that opium was cultivated by the Sumerians who occupied modern day Iraq and who referred to it as the plant of joy. This author holds that the opium trade was initiated by Arab traders who exported the plant to India and China towards the 8<sup>th</sup> century. The active ingredient of the poppy was isolated in 1806 and was named morphine after the god of dreams, Morpheus. The manufacturing of Cocaine followed a few years later. Keller, (2008) holds that opium was used extensively in the Roman Empire for the control of pain. This author posits that the popular analgesic referred to as Laudanum was a mixture of opium and alcohol.

The images below depict the ingredients used for the production of the “spongio somnifera”, namely, Hyoscyamus Niger (Henbane), Papawer Somniferum (Opium) and Madragora (Mandrake).



Henbane (Hyoscyamus Niger)



Opium (Papawer Somniferum)



Mandrake (Mandragora)

Although ancient writings contain an abundance of information on the use of herbs and plants, scientific information regarding the molecular structures of the preparations and the physiological effects is lacking. However, twenty first century science is able to inform in greater detail. In recent years microscopic analysis conducted by paleo pharmacologists has uncovered valuable information regarding the possible use of plants and herbs by the ancient inhabitants of archaeological sites (Reinhard, 2000).

Coprolites (fossilised faeces) discovered at archaeological sites throughout America and Europe bear evidence that the inhabitants consumed a variety of plants and herbs including mesquite and Mormon tea which may possibly have been used to treat various ailments from rheumatism to diarrhoea (Sobolik and Gerick, 1992).

Analysing the hair of a sacrificed Inca maiden found on the slopes of mount Llullaillaco, the border between Chile and Argentina, showed that she had been ingesting alcohol and coca for at least a year before her death. A cud of coca plant leaves was still in her mummified mouth suggesting that she was sedated prior to being buried alive almost 500 years ago (Castro, 2013). The ability to utilise these modern medical investigative methods to study human (and other) ancient remains has been invaluable.

### **A few brave men**

The Anaesthetic fraternity generally agree that it was the discoveries during the late 18th and 19th centuries that influenced the practice of anaesthetics as we know it today.

The mention of the invention of the hypodermic syringe by Blaise Pascal in 1650 and the introduction of the hollow needle by the Irish physician Francis Rynd in 1844 must precede the narrative of modern anaesthesia (Wyplosz, 2003). Without these two simple pieces of equipment the practice of anaesthesia would not have evolved beyond inhalation of gasses.

Joseph Priestly is credited with the discovery of Nitrous Oxide in 1773, but the safe application of the gas was popularised by Sir Humphry Davy who also administered it to himself and referred to it as “laughing gas”. Nitrous oxide remains in use in medical practices to this day (Keller, 2008). Ether was reportedly widely used in the mid 1800’s by surgeons and dentists alike. The town physician of Jefferson, Georgia, Dr Crawford Long discovered that sulphuric ether produced the same exhilarating effects as Nitrous oxide and reportedly enjoyed frolicking with friends after inhaling the gas, similarly to Nitrous oxide, also referred to as laughing gas (Robinson, 1946). The physician, Dr John Snow enjoyed the honour of administering chloroform to HRH Queen Victoria on the 7<sup>th</sup> of April 1853 during the birth of

HRH Prince Leopold and again on the 14<sup>th</sup> of April 1857 for the birth of HRH Princess Beatrice (Robinson, 1946).

The quest to contain the “chimera” of pain continued throughout the 19<sup>th</sup>, 20<sup>th</sup> and even the 21<sup>st</sup> centuries. The health fraternity continues to search for new substances and new combinations to create unconsciousness safely and alleviate pain effectively with the least amount of complications and adverse effects. Anaesthetic adjuncts such as muscle relaxants, anticholinergics and a host of analgesics further enhance anaesthesia, improve pain control and provide safe care of the patient (Euliano and Gravenstein, 2004).

### **Local and Regional anaesthesia— from antiquity to the 21<sup>st</sup> century.**

The Spanish conquistadors found that the native Indians had been chewing the leaves of the coca plant for centuries before their arrival in the new world. Paleo-pharmacologists have discovered traces of cocaine in the remains of 3,000 year old mummies.



Leaves and berries of the Coca plant



The dull green leaves and red berries evidently acted as an appetite suppressant and provided an increase in energy. Although the numbing effects on the mucous membranes of the mouth was well known by the Spanish, the anaesthetic properties remained undescribed until the Spanish Jesuit Priest, Father Cobo, described its effectiveness for the treatment of dental pain in 1653 (Lopez-Valverde *et al.*, 2011). The analgesic properties of the coca plant remained largely undiscovered until the 19th century when the active drug was isolated and renamed cocaine by Dr Albert Nieman in 1860 (Lopez-Valverde *et al.*, 2011).

The dawn of the 19<sup>th</sup> century appeared to have been the beginning of an increased understanding of the use of medicinal plants through research and experiments by the respected pioneers such as William Hallsted, Richard Hall and Carl Koller (Lopez-Valverde *et al.*, 2011). Carl Koller was a student of the well-known Sigmund Freud who administered cocaine for the treatment of depression. Koller discovered that cocaine was also an effective local anaesthetic and in September 1884 he administered it to a patient for the removal of a cataract (Rangappa, 2008).

Halsted and Hall are accredited with the pioneering work of the administration of mandibular blocks, posterior tibial blocks and brachial blocks. They also employed the subcutaneous technique of cocaine infiltration for minor surgery as described by the German physician, Dr Schleich (Lopez-Valverde, 2011).

Spinal anaesthesia entered the world of regional anaesthesia around 1885 by the hand of Dr Leonard Corning who first administered spinal anaesthesia to a dog and later to a patient with the intention to treat “spinal weakness”. This was followed by Dr Karl Bier who reported the

successful administration of spinal anaesthesia in 1898 (Looseley, 2009). Cobbold and Money, (2010) report that regional blocks were well entrenched in the anaesthetic practices by the 1900's. The development of the epidural catheter provided the means for continuous epidural pain control that became very popular for pain control during child labour in the 1970's (Cobbold and Money, 2010).

Epidural Anaesthesia is beneficial for outpatient and ambulatory surgery providing excellent surgical pain control as well as postoperative analgesia (Parnass *et al.*, 1993). Klopp and Horlocker, (2010) hold that the application of regional anaesthesia to the brachial plexus is useful in upper extremity surgery as it is easy to induce and allow for good intra- and postoperative pain control, rapid patient discharge and a decrease in financial cost to the patient.

Regional anaesthesia is also effective in lower extremity surgery, for inguinal hernia repair and may be applied for minor breast surgery with good effect. An advantage of regional blocks is the fact that the specific innervation of a limb or surgical area can be targeted using Ultra sound guidance or a nerve stimulator and Stimuplex needle to identify the nerve (Shariat *et al.*, 2013)



Nerve stimulator and Stimuplex needle. (Image: Property of researcher).

Although regional and local anaesthesia techniques are technically easy and mostly effective, complications may occur. McCloud *et al.*, (2013) describe the effects of regional anaesthesia for vitreo-retinal surgery as less than favourable as patients complain of severe discomfort and pain during surgery after having received regional blocks.

Other possible complications may include cardiopulmonary arrest, respiratory collapse, convulsions, headaches, peculiar neurology and failure of the block (Picard and Meek, 2010). In the light of the growing popularity of this type of anaesthesia, it would appear that the advantages outweigh the disadvantages. Patients who are awake during their surgery are able to view the procedure should they wish to, they are able to engage in discussion and ask questions and even participate intraoperative decision making (Parnass *et al.*, 1993).

### **Awake surgery and the patient experience of being awake**

Awake surgery is surgery that is performed under regional or local anaesthesia whilst the patient is fully awake, however, this should not be confused with the experience of awareness during general anaesthesia experienced by a small number of patients (Brodin *et al.*, 2017).

Awake surgery is not a new concept. Rath *et al.*, (2014) hold that the technique was introduced a century ago. Goebel *et al.*, (2010), report that this has been a standard procedure since 1994 for the purpose of dissecting certain brain tumours and report good intraoperative patient compliance.

One of the most commonly accepted regional anaesthetics worldwide is epidural or spinal anaesthesia for Caesarean section. Davies *et al.*, (1997) posit that both spinal anaesthesia and epidural anaesthesia are effective methods of regional block. Both methods ensure safe surgery and maternal satisfaction is reported with both methods.

Dharmalingam and Zainuddin, (2013) hold that the risks associated with general anaesthesia lead to a significant increase in maternal and foetal morbidity and mortality. Regional anaesthesia for caesarean section has the advantages that the mother is awake when her baby is born; the medication used for regional anaesthesia does not suppress the central nervous system, does not affect the cardiovascular system, reduces blood loss during surgery, and does not suppress the immune system (Morgan *et al.*, 2006).

Patients remain awake and responsive during surgery, are able to maintain patent airways and may even be able to participate in conversations during the surgery (Karlsson *et al.*, 2012). In addition the infant experience no cardiovascular or neurological depression, and may even be cuddled by the mother shortly after birth which is advantageous for maternal/ infant bonding (Dharmalingam and Zainuddin, 2013).

Due to the safety of regional and local anaesthesia the practise of awake surgery is growing and is being implemented increasingly in other disciplines.

#### Awake surgery in ophthalmic surgery.

Local anaesthesia in ophthalmic surgery was introduced by Carl Koller in 1884 that used cocaine as for the removal of a cataract. (Lopez-Valverde *et al.*, 2011). Performing intra ocular surgery under local or regional anaesthesia has been the standard in many hospitals in the United Kingdom since the 1990's (Morris and Mather, 1999). Knight *et al.*, (2001) found that the practice of administering general anaesthesia in ophthalmic surgery had significantly decreased. Patients experienced minimal discomfort and enjoyed the benefits of swift postoperative recovery and early discharge.

Similarly, in the Netherlands local or regional orbital blocks is used extensively and patient satisfaction is very high (Stubbe *et al.*, (2007). Friedman *et al.*, (2017) report that participants in their research study preferred to receive a regional block anaesthesia rather than topical anaesthesia. In contrast, McCloud *et al.*, (2013) report that patients who undergo vitreo-retinal surgery under regional anaesthesia do experience severe pain but appear to stoically endure the procedure.

The largest amount of patients requiring Intra ocular lens surgery is middle aged patients. The middle age patient group has a prevalence of co-morbidities that present various challenges for general anaesthesia. McCloud, (2013) therefore is of the opinion that, despite the fact that some patients experience pain and discomfort, local or regional anaesthesia in ophthalmic surgery is a safe practice.

#### Awake surgery in orthopaedic surgery .

In orthopaedic surgery regional anaesthesia is widely used for surgery on both upper and lower extremities. The entire arm and hand is innervated by the brachial plexus, therefore regional block is easily achieved and effective. Spinal or epidural anaesthesia, intra-articular blocs and popliteal sciatic nerve blocks all provide excellent pain control for lower limb and foot surgery (Klopp and Horlocker, 2010). Davison *et al* (2013) reported that patients who had had awake surgery for the release of a carpal tunnel were satisfied with the anaesthetic and would have the same type of anaesthetic should they need upper extremity surgery again in the future. Whilst Karlsson *et al.*, (2012) found that patients were satisfied with being awake during regional anaesthesia for lower extremity surgery, Bager *et al.*, (2015) described

that patients who had had regional anaesthesia experienced their bodies as being strangely disconnected.

#### Awake surgery in urological surgery.

Local and regional anaesthesia can be administered successfully to patients for urological surgery (Leach, 1996). In South Africa Circumcision and Vasectomy are often performed under local anaesthesia. Park *et al.*, (2016) describe that epidural or spinal anaesthesia may be administered for Cystoscopy and Lithotripsy. Tekgül *et al.*, (2017) report that epidural anaesthesia for major urological surgeries such as Prostatectomy is advantageous.

#### Awake surgery in plastic surgery.

The safety and reliability of local and regional anaesthesia in plastic surgery is well described in literature (Facque and Taub, 2014). This includes infraorbital, supraorbital, dorsal nasal, zygomaticotemporal and zygomatic facial blocks that may be administered for a variety of facial procedures. In addition these authors provide some guidance relating to the management of patient discomfort during the initial administration of the local or regional medication. They suggest the use of smaller hypodermic needles, warming the solution slightly, distraction the patient and applying a topical anaesthetic to the injection site a few minutes before performing the anaesthesia. Rahim, (2010) and Furnass, (2014) are of the opinion that local and regional anaesthesia should be administered to patients undergoing minor plastic surgery such as the removal of basal cell carcinoma, smaller skin lesions and minor cosmetic surgery such as blepharoplasty.

## **The role of the perioperative nurse**

Nursing is defined by the International Council of Nurses (<http://www.icn.ch/about-icn/icn-definition-of-nursing>, 2014) as “autonomous and collaborative care of individuals of all ages, families, groups and communities, sick or well and in all settings. It includes health promotion, prevention of illness, and the care of the ill, disabled and dying people.” This emphasizes the importance of independent decision-making in nursing while working as a team with other health care professionals for the best outcome of care given to patients. It also clarifies the fact that access to health care is a universal right of every person not only the sick. This includes health promotion services, those services aimed at prevention of illnesses, caring for the sick, people with disabilities and those who need end of the life care. (International Council of Nurses, 2014).

Perioperative nurses are registered nurses (RN's) who work in hospital surgical departments, day-surgery units (also called ambulatory surgery), clinics and physicians' offices. They work closely with the surgical patient, family members and other health-care professionals to help plan, implement and evaluate treatment. In the American surgical setting there are four categories of perioperative nurses, namely the scrub nurse, the circulating nurse, the Registered Nurse First Assistant and the Advanced Practice Nurses who are either registered nurse anaesthetists or clinical nurse specialists (Rothrock, 2011:1-15).

In the South African setting we find only three categories of nurses in the operating theatres who may be either scrub nurses, circulating nurses or anaesthetic nurses. Scrub nurses are members of the sterile team and are responsible for the preparation and maintenance of the sterile field including handing over sterile surgical instruments and supplies to the surgeon.

Circulating nurses are members of the nonsterile team and assist the surgical team with preparation for surgery, opening sterile packs and supplies, managing special surgical equipment such as the electrosurgical units and endoscopy equipment, assisting with receiving and identifying patients as well as assisting with the positioning of patients for surgery. Anaesthetic nurses assist the anaesthetist with establishment, maintenance and reversal of anaesthetic and ensure continuous safe patient care.

Kelverend *et al.*, (2011) explain that perioperative nursing is based on science which is inclusive of health, the environment and safe, effective, individualised patient care. This requires the perioperative nurse to have theoretical and clinical knowledge, skill and technical expertise. The perioperative nurse must possess excellent communication skills and must understand the ethical aspects of the perioperative environment.

Björn and Boström, (2008) hold that most perioperative nurses find their work stimulating and satisfying. They especially enjoy the teamwork and the application of their knowledge, skills and expertise; however perioperative nurses tend to focus on the technical aspects of their work such as preparing the theatres for surgery, ensuring that the equipment is in working order and that the sterile packs and supplies are at hand.



A typical surgical instrument tray. Image: Property of researcher.



The illustration above depicts a sterile instrument tray and sterile swabs that the scrub person needs to count and control throughout the surgical intervention.

Furthermore, the nature of the surgical process calls for perioperative nurses to be concerned with the physical needs of perioperative patients, such as pre-operative assessments, physical comfort, safe positioning and monitoring of vital data. KO and Lin, (2011) agree that time constraints in day surgery often cause the perioperative nurse to be unable to attend to patients' psychological needs.

An additional and important advantage of awake surgery is the opportunity for patients to interact with perioperative nurses in a new and novel way. Rudolfson *et al.*, (2003) posit that engaging in conversations with perioperative patients is beneficial for both the perioperative nurses and their patients.

Mitchell, (2016) explains that patient turnover in day surgery is high and the time frames are short the sharing of appropriate information is crucial. Due to the fast-paced routine of the perioperative process, perioperative nurses have minimal opportunity to build relationships with patients who receive general surgery, but patients who are awake are able to engage in meaningful dialogue (Mitchell and Coplestone, 1990). Hudson *et al.*, (2014) agree that regional and local anaesthesia enables nurses to develop relationships with their patients which positively affect the overall surgical experience. Gilmartin and Wright, (2008) hold that patients experienced apprehension and abandonment during the perioperative period and that the perioperative nurses tasked with caring for these patients appeared to be ill equipped to provide adequate care and support.

Haugen *et al.*, (2008) explain that the anxiety that patients experience during the perioperative period were reduced when they were able to ask questions and received adequate information from various members of the surgical team, including the surgeons and the perioperative nurses. Bahrami *et al.*, (2013) agree that a lack of information, uncertainty about the routine and surgical procedure and lack of trust in the surgical team negatively influenced levels of anxiety in perioperative patients. Cooke *et al.*, (2004) believe that, in addition to providing adequate information and building positive relationships with patients, listening to music reduced anxiety levels in perioperative patients.

Hudson *et al.*, (2015) interviewed patients who had had awake surgery, eight weeks post-surgery and posit that these patients valued being cared for and building a relationship with the nurses who provided the caring.

Perioperative nurses report that engaging in perioperative dialogue assisted in the nurse developing caring relationships with the patients who came to see them important companions on their surgical journey. The perioperative nurses themselves grew individually and professionally. Sundell *et al.*, (2010) agree that the perioperative dialogue establishes ways to care for perioperative patients thereby decreasing anxiety and improving the patient experience

### **Perioperative education.**

If pain was the chimera of ancient health carers, perioperative anxiety may be the chimera of modern day anaesthesia. Dias *et al.*, (2016) posit that only a very small percentage of patients report that they do not experience perioperative anxiety. Perioperative anxiety may lead to stress before, during and after surgery which negatively influence quality of life. Patients who

experience high stress levels and anxiety may not be eligible for awake surgery and may thus be predisposed to the possible complications of general anaesthesia, such as cardiovascular disease respiratory impairment and suppression of the immune system (Alanazi, 2014). Lee *et al.*, (2003) explain that the causative factors of anxiety in perioperative patients mostly include the patient's concern about the type of anaesthesia, pain that they may experience, being aware during the surgery, post-operative nausea and vomiting and death. These authors hold that it is necessary to effectively provide patients with information about the processes, planned anaesthesia, planned surgery and possible risks in order to decrease anxiety levels in perioperative patients.

Bernier *et al.*,(2003) describes pre-operative education the interactive process between patients and the surgical team for the purpose of the provision of information and explanations regarding the surgical processes, what sensations may be experienced by the patient and what is expected from the patient. Therapeutic listening should be employed and patients should receive reassurance. The increase in day surgery and the use of regional and local anaesthesia has shortened the time periods between being admitted and undergoing surgery (Lee *et al.*, 2003), therefore, it is important that perioperative nurses provide patients with clear and concise information in order to answer their questions and ensure co-operation and patient satisfaction (Mitchell, 2016).

The literature abounds with information on the methods employed to effect preoperative patient education. Several studies elicit the benefits of providing patients with information, however there appears to be gaps between what information is provided and the specific needs of patients and their families, possibly due to the absence of a specific program.

(Sayin and Aksoy, 2012). Lee and Lee, (2012) report that nurses prefer to deliver information verbally to patients preoperatively as time constraints; language barriers and fast paced

surgical schedules leave little time to employ other methods of education. Heidegger *et al.*, (2004) concluded that an information pamphlet did not provide enough information regarding the anaesthesia and that effective communication is a necessary component of educating perioperative patients.

Jlala *et al.*, (2010) administered a seven minute film to preoperative patients that contained information regarding anaesthesia. These authors report that the film increased patient knowledge and understanding of anaesthesia and reduced levels of anxiety in patients. Heikkinin *et al.*, (2012) hold that using both the internet and face-to-face methods to educate patients are effective for patients scheduled for day surgery. The advantage of using the internet is that patients can access the information at their leisure and there is an abundance of information available.

The advantage of face to face education is that patients have the opportunity to interact with the person doing the education and ask questions to clarify information. Lee *et al.*, (2003) agree that the use of multimedia to inform patients is effective, but add that it needs to be selected carefully to suit specific individual patient needs. Written information may be administered to patients who are literate provided that they have the time and inclination to read. Verbalised education requires effective communication.

Educators who use this method of providing information should be well versed in the principles of adult learning. Towell and Nel, (2010) concluded that a booklet explaining surgery increased the knowledge base for both the patients and their families and empowered patients to manage their surgery.

## **2.4 SUMMARY**

In this chapter the researcher discussed the literature that was used to justify the importance of this research study (Creswell, 2014). In addition, the researcher conducted an integrative literature review in order firstly, to integrate the existing body of knowledge that relates to patient information needs during awake surgery into this research study (Polit and Beck, 2017) and secondly to use the information gained from the integrative literature review to guide the interviews that the researcher conducted with the study participants (Fisher and King, 2013).

The next chapter describes the research design, the population and sample, the research setting and the data collection techniques. The researcher applied a qualitative, exploratory, descriptive research design with three steps of data collection and simultaneous data analysis.

# **CHAPTER THREE**

## **RESEARCH METHODS**

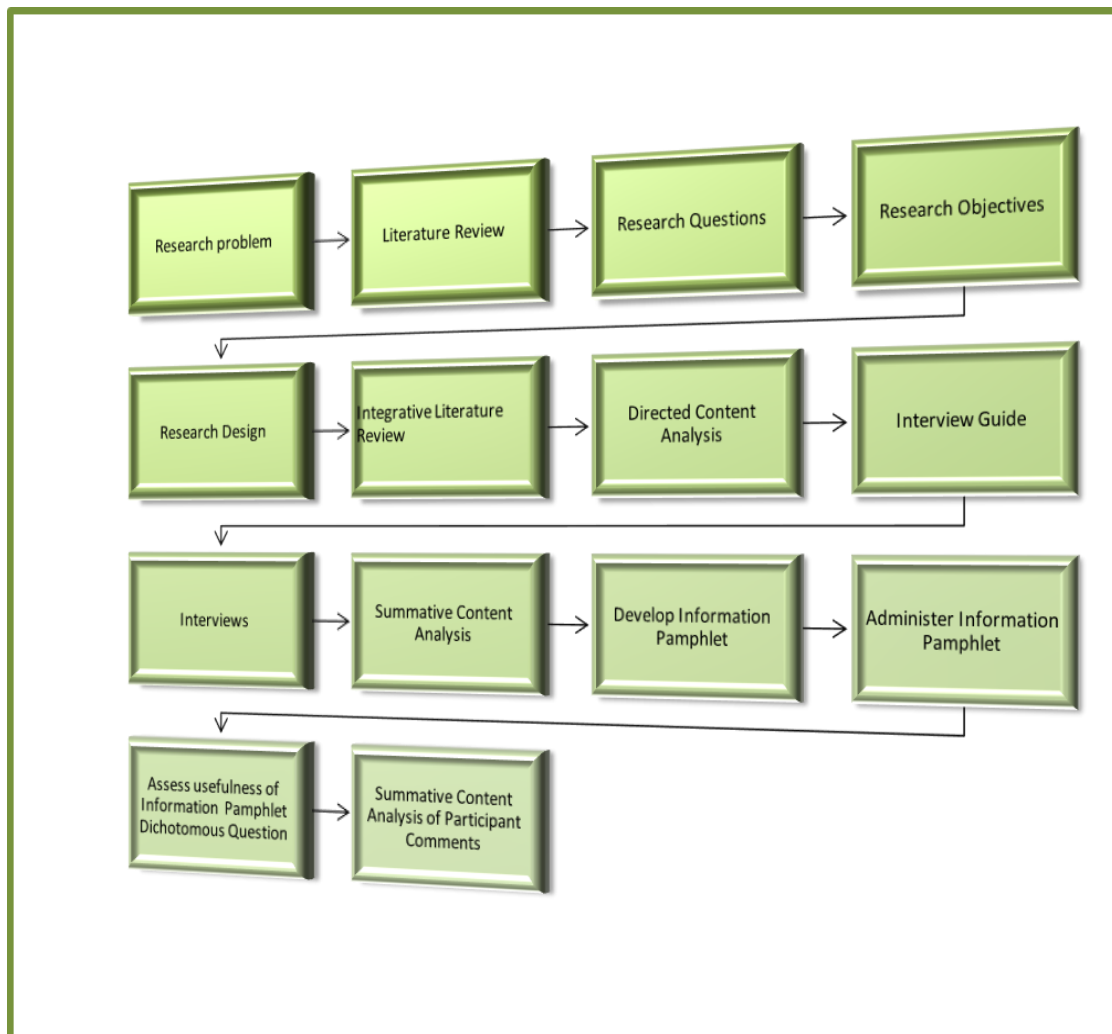
### **3.1 INTRODUCTION**

In the previous chapter the literature was discussed, including the history of anaesthesia, the history of awake anaesthesia, and the experiences of patients undergoing awake surgery, the perioperative role of the nurse and the preoperative education of patients. This chapter explains the research design, the targeted population, the sample and sample size identified for the study and the research setting. The data collection techniques are also described in detail.

Data analysis using directed and summative content analysis methods as described by Hsieh and Shannon, (2005) as well as efforts to ensure trustworthiness are described. Lastly an explanation as to how the ethical principles were observed is included. This chapter will also address the research rigor and applicable ethical considerations.

The research process included the identification of the research problem, doing a literature review, and developing the research questions, the research objectives and deciding on the research design. This was followed by conducting an integrative literature review and the application of a directed content analysis as described by Hsieh and Shannon, (2005) on the data collected. Next an interview guide was developed which was employed during the conducting of the interviews with participants. A summative content analysis on the data

collected followed and the findings guided the development of an information pamphlet that was administered during the next step of the research process. Finally the usefulness of the information pamphlet was assessed and summative content analysis was applied to the comments of the participants.



**Figure 3.1 Diagram of the Research Process.**

### **3.2 AIMS AND OBJECTIVES**

The aim of the study was to develop an information pamphlet that would specifically address patient's perioperative needs in order to improve the preparedness and experience of patients undergoing awake surgery and to evaluate the usefulness of such an information pamphlet in the perioperative setting.

The objectives for this study were the following:

- To explore the experience of patients who undergo awake surgery.
- To determine the information needs of patients' undergoing surgery.
- To develop a perioperative information pamphlet.
- To evaluate the usefulness of the perioperative information pamphlet by exploring patients' experiences post awake surgery after having received the information pamphlet preoperatively.

### **3.3 RESEARCH DESIGN**

The research design and data collection techniques that the researcher applied in the study will be discussed.



### **3.3.1 Research design**

This study utilised a qualitative, exploratory, descriptive research design with three steps of data collection and simultaneous data analysis were employed.

Polit and Beck, (2017) and Creswell, (2014) describe research as “a systematic enquiry that uses orderly, disciplined methods to answer questions or solve problems”. Bothma *et al.*, (2010) explain that research studies are conducted within a specific research design which may be a quantitative design, a qualitative design or a mixed method design.

Whereas quantitative researchers choose a research design at the onset of their research study, qualitative researchers are guided by an emergent design that evolves as the researcher reflects on the information gained from the study participants (Polit and Beck, 2017). Creswell, (2014) holds that research designs are the procedures that researchers use to collect and analyse the data collected in a research study.

#### **Qualitative research.**

A qualitative design encourages exploration of lived human experiences and integration of subjective information. Qualitative researchers collect data in real world settings, carefully recording analysing the content of the narratives of the participants that describe their experiences (Polit and Beck, 2017). Patten, (2002) agrees that qualitative data contain the details of events actually described by participants. Bothma *et al.*, (2010) posit that the researcher and participants develop a social relationship that is designed specifically to exchange information.

In this study, an integrated literature review was carried out in an attempt to identify experiences and needs of awake surgery patients from previous studies. The researcher then

conducted interviews with participants using an interview guide which was developed after extracting information from the integrative literature review.

This offered the participants an opportunity to describe their own experiences and needs during the period of awake surgery and allowed for detailed descriptions of patient information needs during awake surgery. This is in line with Parse's theory of Human Becoming that holds that man's lived experiences allows him to make meaning of holistic living (Parse, 2011).

This study was guided from a constructivist paradigm. In constructivist research studies, the participants in the study and the researcher interact with one another in order to maximize the knowledge that is extrapolated (Polit and Beck, 2017). These authors explain that researchers who engage in constructivist traditions understand that humans are inherently complex and are able to shape their own experiences. Therefore researchers strive to understand the lived experiences of participants through careful analysis of the participant's narratives (Polit and Beck, 2017).

Constructivist studies contain detailed, in-depth information of the real life experiences of the study participants. In order for the researcher to obtain in-depth information in the narratives of participants, the researcher carefully posed questions that were open ended and wide and utilised probing questions in an attempt to encourage participants to share their experiences with the researcher more in depth (Creswell, 2014).

### **Qualitative Phenomenological Approach**

Phenomenology focuses on the meaning of experiences of humans in life. (Polit and Beck,

2017). Bothma *et al.*, (2010) posit that phenomenological researchers analyse valuable statements of participants in order to create units of meaning and construct crucial depictions. Polit and Beck, (2017) explain that phenomenologists believe that humans are interesting and that their lives have meaning. Jolley, (2004) maintains that phenomenological research studies are done systematically, following a logical plan.

Phenomenologists aim to understand the four aspects of lived experiences, namely “lived space or spatiality, lived body or corporeality, lived time or temporality and lived human relation or relationally.

For the purpose of this study the researcher employed an exploratory, descriptive method in line with Parse’s Phenomenological-Hermeneutic Research Theory (Parse, 2011). Parse’s theory is anchored on the qualitative research studies known as phenomenological research. Parse, (2011) holds that by studying the descriptions of human experiences, researchers are able to uncover the meaning of lived experiences. These meanings of lived experiences become encompassed in the theory and scientific language through extraction, synthesis and heuristic interpretation (Parse, 2011).

Mitchell and Coplestone, (1990) believe that Parse’s theory provides a guideline for perioperative nurses to build participative relationships with the surgical patient that will assist him or her to experience surgery in a unique and personal way.

## **Exploratory**

Exploratory research commences with examining the phenomena of interest (Polit and Beck, 2017). The examination includes a full investigation into all the various

aspects of the phenomenon being studied and provides information on the manifestation of the phenomenon. Bothma *et al.*, (2010) hold that observing and describing the phenomenon is not sufficient. These authors believe that qualitative researchers need to ensure that they seize the rich meaning from the participant's words in order to be able to understand the narrative.

## **Descriptive**

The father of descriptive phenomenology is Husserl, (1962). He believed that it is important to carefully describe the experiences of people in order to discover what we know as humans. Polit and Beck, (2010) explain the importance of detailed and in-depth description of a patient's feelings and concerns and experiences that emerge during the dialogue or semi-structured interviews and the phenomena that emerge. A descriptive design was most fitting for this study since this study aimed to describe the lived experience of patients undergoing awake surgery and their experience of the usefulness of a preoperative information pamphlet.

## **3.4 RESEARCH METHODS**

Research methods are techniques that researchers employ that enable them to gather and analyse information relevant to the research questions (Bothma *et al.*, 2010). Polit and Beck, (2017) state that research methods are the strategies, procedures and steps that researchers employ to gather and analyse data. Hofstee, (2009) explains that the research method is the map that guides the researcher to the conclusion of the research study. The research methods

used in this study include selection of the target population, sampling techniques, data collection and data analysis.

### **3.4.1 Population**

The population of a research study is considered to include the entire group of persons or in case of an integrative literature review, all the available publications that relate to the topic of interest for the researcher (Polit and Beck, 2017). The first unit of study was an integrative literature review.

#### **Integrative review**

Russel, (2016) posits that integrative reviews utilise all the research published that relates to the topic as the population and is usually searched within a published time-frame. For the purpose of this study the researcher included all publications (N=3000) relating to the patient experience of awake surgery. The search included the following electronic data bases: CINAHL, MEDLINE, Pubmed, Scopus, Google Scholar and Sage journals. Published articles up to and including June 2017 were utilised.

Sufficient publications relating to awake experiences in ophthalmic surgery were found, however, due to the paucity of publications specifically relating to awake surgery in orthopaedic surgery, urological surgery and plastic surgery, the researcher expanded the search to include the experiences of patients who were not awake but underwent one of these surgeries. The selection of the literature included will be explained under data collection.

## Population- Integrative literature review

Bothma *et.al*, (2010) posit that an integrative review includes all the theoretical and empirical literature relating to the topic of the study. All publications relating to the patient experience of awake surgery up to and including June 2017 were utilised. The researcher searched the following electronic data bases: CINAHL, MEDLINE, Pubmed, Scopus, Google Scholar and Sage journals.

## Population- Participants

Polit and Beck, (2017) hold that the population in qualitative research includes those people who have experienced the phenomenon that the researcher has identified for study purposes. The inclusion criteria for this study were all patients who underwent awake ophthalmic, orthopaedic, urological or plastic surgery in private hospitals in Gauteng and Mpumalanga. The exclusion criteria were those patients who were under 18 years of age or who had received general anaesthesia or sedation. Creswell, (2009) posit that data for qualitative studies are usually collected at the site where participants experience the problem that is being studied.

## **Sampling**

Sampling in qualitative research involves the selection of a portion of the population that will represent the entire population (Polit and Beck, (2017). Polit and Beck, (2017) explain that qualitative researchers carefully consider which individuals would provide rich information for their specific study when deciding on which sampling approach to apply. Since the goal of qualitative research is to understand and discover the meaning of

a phenomenon qualitative researchers do not seek to generalise their findings to a population (Polit and Beck, 2017).

For the purpose of this study convenience sampling was used based on the availability of patients in three private hospitals in Gauteng and one hospital in Mpumalanga, who had had awake surgery in the disciplines of ophthalmic, orthopaedic, urological and plastic surgery. Polit and Beck, (2017) believe that, although convenience sampling is not a preferred approach, applying convenience sampling when recruiting participants from a specific clinical setting such as in this study, may be effective.

### **3.4.2 Setting**

The setting for this study was four hospitals belonging to a large private sector hospital group in Gauteng and Mpumalanga. Three of the hospitals are located in the northern suburbs of Johannesburg and one hospital is situated in Mpumalanga. Each of these hospitals was selected because they perform awake surgery in various surgical disciplines such as general surgery, plastic surgery, urological, orthopaedic surgery and ophthalmic surgery.

The four hospitals have a total of twenty five operating theatres and collectively perform an average of two thousand cases per month of which just less than a quarter is awake surgery. Thus there are approximately four hundred cases of awake surgery performed monthly between these four hospitals. The Researcher is employed by the Private Hospital Group and regularly visits the four hospitals in order to accompany students in these hospitals. Convenience sampling was therefore utilised.

### **3.5 DATA COLLECTION**

Data collection supplies the substance with which the researcher will work in order to have an understanding of what the participant is experiencing (Polit and Beck, 2017).

The data collection plan for this study included three steps. Step one included an integrative review of relevant literature, step two included interviews postoperatively and step three included the handing out of the preoperative information pamphlet and a postoperative interview to establish the usefulness of the information pamphlet.

Approval of the University Human Research Ethics Committee and the University Postgraduate Committee was granted for the study. In addition, permission was obtained from the Ethics Committee of the Private Hospital group as well as from the Hospital manager of each of the participating Hospitals.

#### **Step one: Integrative review.**

In step one a search for all available literature relating to the experience of patients undergoing awake surgery was conducted utilizing the following electronic data bases: CINAHL, MEDLINE, Pubmed, Scopus, Google Scholar and Sage journals.

An integrative review of all literature relating to patient experience up until and including 2017 was conducted. The purpose of the integrative review was to identify what perioperative patient experiences relating to the perioperative journey had been recognised by previous researchers that could improve the insight into this research



problem and form the core of the questions to be asked in step two during the semi-structured interviews.

Key words and phrases were employed to identify relevant studies of patient experience of being awake during surgery. These included: awake surgery, regional anaesthesia/surgery; preoperative patient information; preoperative patient education; patient experience of being awake during surgery; patient experience during surgery.

The search yielded sufficient publications relating to awake experiences in ophthalmic surgery, however, scanty information related to orthopaedic, urological and plastic patient experiences was extracted. Therefore the search was extended to include the experiences of patients who were under general anaesthesia or who were sedated during surgery in an attempt to extrapolate more information relating to patient experience during hospitalisation and surgery.

Reference lists of relevant articles were used to identify articles that could be included in the study. All studies published up to and including June 2017 were considered for inclusion.

A total of three thousand articles were analysed for relevance, of which a total of two thousand seven hundred were excluded as being not relevant to the study. Three hundred articles were re-read and analysed further for inclusion. Two hundred and twelve articles were excluded due to irrelevance to the study. Eighty eight articles were retained for relevance.

The researcher and a research expert further attentively assessed and analysed these eighty eight articles for relevance. A further sixty three articles were discarded as not relevant.

Twenty five articles were retained for inclusion and directed content analysis as described by Hsieh and Shannon (2005). Six articles that were identified from the reference lists were analysed by the researcher and the research expert. Five of these articles were discarded as not relevant and one article was included for directed content analysis. Articles that did not contain sufficient information relating to the key words were considered irrelevant.

The process of the integrative review is depicted in Figure 3.2.

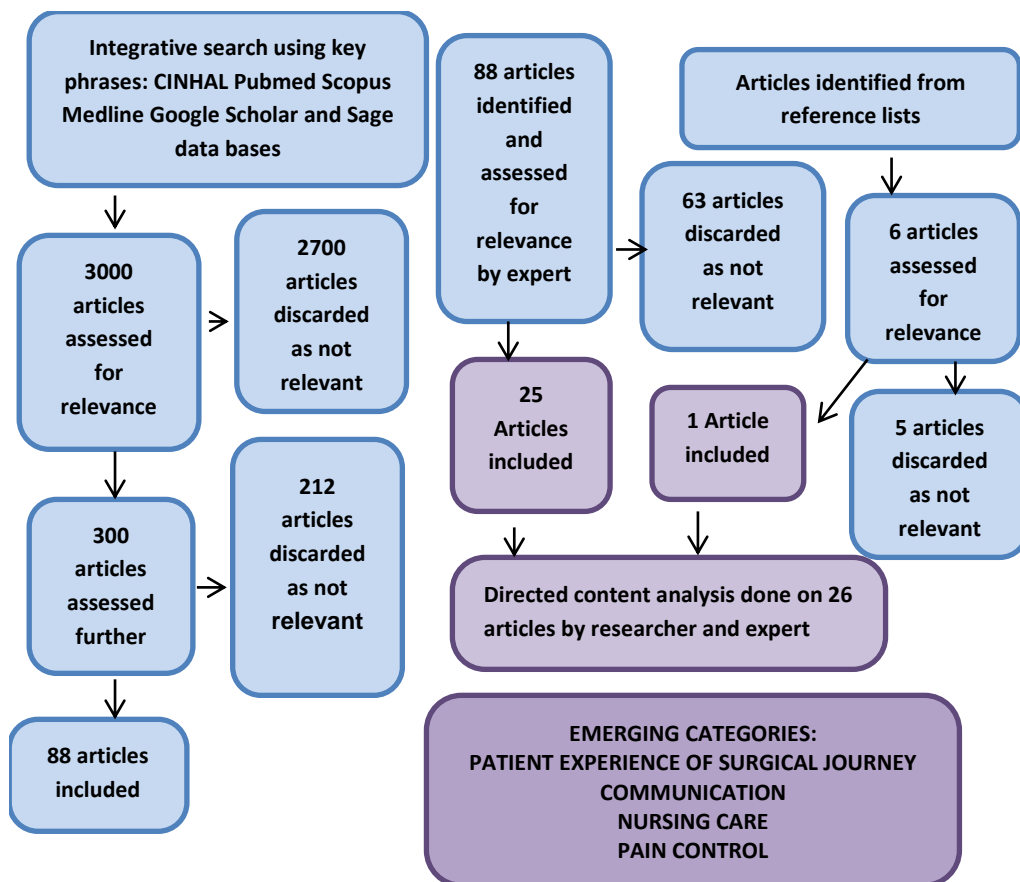


Figure 3.2 Diagram of the data collection process for the integrative review.

## **Step two: Identification of the participant sample and interviews.**

During step two of the data collection for this study the researcher employed convenience sampling based on the availability of patients in three private hospitals in Gauteng and one hospital in Mpumalanga, who had had awake surgery in the disciplines of ophthalmic, orthopaedic, urological and plastic surgery. Ten participants from each discipline of ophthalmic, orthopaedic, urological and plastic surgery were selected. These participants were referred to as “Group one”. Exclusion criteria included any patient who had had sedation or full anaesthesia and patients who were under eighteen years of age.

Patients that were scheduled for awake surgery were selected as possible participants for the study. The sample met all the criteria for inclusion. Once permission had been obtained the data collection was commenced.

Data collection was carried out by conducting interviews postoperatively with the participants. Patton, (2002) explains that the informal conversational interview is the most open-ended approach to interviewing. Creswell, (2014) posits that open ended questions allow participants to narrate their personal experiences freely. Bothma *et al.*, (2010) pose that interviews provide the researcher with detailed information about the participant’s beliefs and perceptions of a topic. These authors explain that an interview topic guide that contains pre-determined open ended questions is used, but that the interview guide does not dictate the process of the interview.

After obtaining permission from the hospital managers and unit managers, the researcher collected information regarding the patients scheduled for surgical interventions in the disciplines of ophthalmic, orthopaedic, urological and plastic surgery for the day.

Postoperative patients were visited at their bed side and confirmation of awake surgery was established. After introducing herself the researcher invited the patient to participate in the study. Anonymity and confidentiality was assured and the consent documents were signed. The interviews were carried out over 15 to 20 minutes.

An informal approach was considered appropriate to ensure that participants would feel comfortable to share their experiences.

The following question was asked during the interviews:

How did you experience your perioperative journey from the time that you were admitted?

Prompt questions included:

How did you experience the way that the staff communicated with you during your stay?

What was your experience of the nursing care that you received during your stay?

How much pain did you experience during your stay in our hospital?

What improvements do you think we can make that would enhance your experience?

The researcher posed probing questions according to the content and context as the interview played out whilst ensuring that the interview remained focused. This interview method provided the researcher the opportunity to ensure that the participants remained within the topic. The intention was to gain understanding of the participants' experience in his or her own words.

Once each interview was concluded, the researcher transcribed the recorded interview verbatim. The researcher included field notes that described body language, attitude, behaviour, anxiety and language during the interview.

Categories that emerged following the summative content analysis of the interviews were coded by the researcher and supervisor.

- Coding the sites and participants

In order to maintain confidentiality and anonymity the sites, the surgical disciplines and the participants were coded.

The sites where the data was collected were coded as a Hospital, e.g. 1 - “s”, The Surgical Disciplines were coded as follows: Ophthalmic surgery - “A”, Orthopaedic surgery - “B”, Urological surgery - “C” and Plastic surgery - “D”.

The coding for the participants in group one or two in step two of the data collection process was P1/P2. Participants were numbered in sequence “a” to “j”

Male participants were coded as “M” and female participants were coded as “F”.

All information regarding the codes and coding processes that were applied during this study were held confidential and only the researcher and supervisor had knowledge of the codes and coding processes.

**Table 3.1 Codes for sites and participants in step two.**

Description	Code	Description	Code
Participant Group 1	P1		
Participant number	a to j		
Males	M	Females	F
Ophthalmic Surgery	A	Hospital 1	s
Orthopaedic Surgery	B	Hospital 2	m
Urological Surgery	C	Hospital 3	h
Plastic Surgery	D	Hospital 4	v

**Step three: Administering the information pamphlet, dichotomous question and participant comments.**

During step three of the data collection the researcher once again identified the appropriate sample of ten participants from each discipline as in step two however this selection was done preoperatively. These participants were referred to as “Group two.” “Group two” was matched with “Group one” by surgical procedure in this step of the data collection.

The research study was explained and each participant was given an opportunity to ask questions before consenting to participate in the study. Participants were informed that their conversations would be recorded and consent for the recording was obtained. Each participant was handed a copy of the information pamphlet and the content and aim of the pamphlet was explained by the researcher.

Once each participant had returned to the ward following the surgical intervention, the researcher ensured that the participant was comfortable and pain free. After confirming the participant’s willingness to continue participating, the researcher proceeded with posing a dichotomous question to establish if the participant found the information in the pamphlet useful or not.

Polit and Beck, (2017) posit that dichotomous questions are employed when researchers require factual information. Bothma *et al.*, (2010) agree that dichotomous questions may be asked if two options are available as responses. Participants were offered the opportunity to add comments. Once the data collection had been completed, the researcher transcribed all recorded interviews and captured the findings of the dichotomous questions.

The dichotomous question that was posed to participants was:

“Did you find the information that was contained in the information pamphlet that I handed to you before you went to the operating theatre useful during your experience in theatre?”

An additional question asked if the participant would like to add any comments relating to the perioperative journey

**Table 3.2 Dichotomous question.**

	Did you find the information that was contained in the information pamphlet that I handed to you before you went to the operating theatre useful during your experience in theatre?
YES	
NO	
COMMENTS	

Responses to the dichotomous question were analysed by totals. Participants were offered the opportunity to add any comments relating to the usefulness of the brochure. Summative content analysis was conducted on the comments that participants added to identify categories according to the method described by Hsieh and Shannon, (2005).

In order to maintain confidentiality and anonymity the sites, the surgical disciplines and the participants were coded as in step two. Coding of the sites and participants for step three was matched to the coding of the sites and participants in step two.

The codes applied to the sites, surgical disciplines and participants are depicted in Table 3.3.

**Table 3.3 Codes for sites and participants in step three**

Description	Code	Description	Code
Participant Group 2	P2		
Participant number	a to j		
Males	M	Females	F
Ophthalmic Surgery	A	Hospital 1	s
Orthopaedic Surgery	B	Hospital 2	m
Urological Surgery	C	Hospital 3	h
Plastic Surgery	D	Hospital 4	v

#### Researchers' role

In Qualitative research the researcher is intimately involved and becomes the instrument for data collection (Cresswell, 2014). The researcher had no direct contact with the patients prior to the interviews and the patients were not followed up by the researcher, therefore could not influence the data collection in any way. The researcher is not employed by any of the operating theatres where data was collected.

### **3.6 DATA ANALYSIS**

Data analysis is the process of structuring, organizing and interpreting meaning from the data collected. It is both objective and systematic (Jolley, 2010). The aim of this process is to identify underlying themes, categories and patterns of relationships that occur in the data (Polit and Beck, 2017).



Hofstee, (2009) holds that data analysis in qualitative studies aims to discover meaning that is not obvious in the data collected. This is in keeping with Parse, (2011) who suggests that the person is integrated with the environment. The researcher has a duty to extract this relationship and put meaning to it. In qualitative research it is important for researchers to guard against personal bias (Hofstee, 2009).

### **3.6.1 Method of data analysis.**

For the purpose of this study an inductive approach was applied in order to analyse the content of the articles selected for use (Patton, 2002). Elo and Kyngäs, (2007) believe that inductive content analysis is suited to studies where little information relating to the specific phenomenon is available.

Patton, (2002) holds that content analysis refers to the sense making of qualitative data to extrapolate meaning from the content. Prasad, (2008) explains that content analysis can be applied to analyse the content of texts. Directed content analysis is typically structured according to Hickey and Kipping, (1996) which allows researchers to identify key concepts as initial coding categories.

Analysis procedures as described by Hsieh and Shannon, (2005) were applied in this study. Hsieh and Shannon, (2005) explain that content analysis is widely used by qualitative researchers to interpret meaning from data collected; adhering to the naturalistic paradigm. These authors describe three different approaches to content analysis, namely conventional content analysis, directed content analysis and summative content analysis.

Bothma *et al.*, (2010) believe that qualitative researchers usually analyse data as they are collecting it. Creswell, (2009) believes that there is no definitive delineation in qualitative

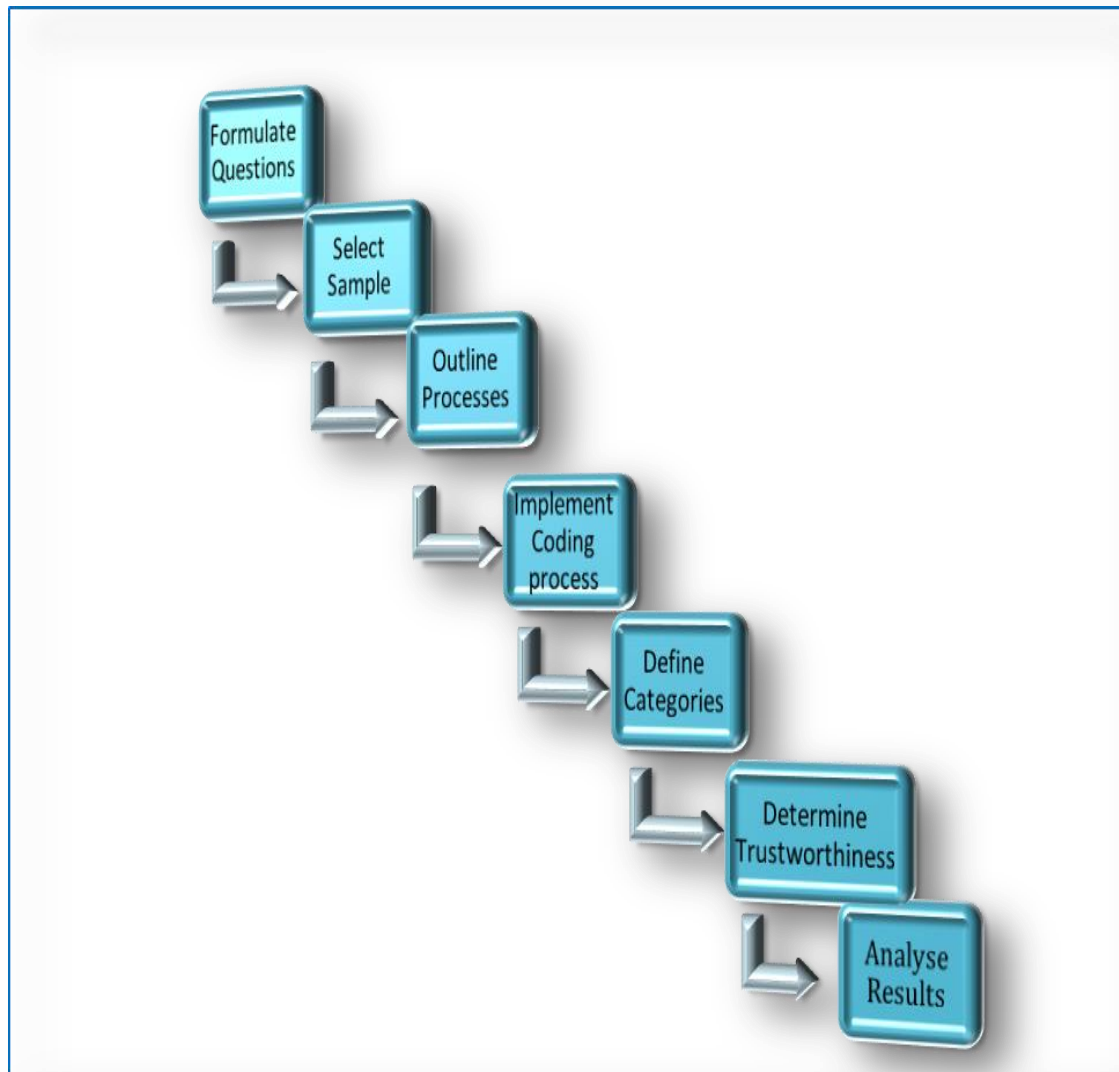
research of when data collection stops and analysis begins as the two processes are closely interlinked.

For the purpose of this study the directed content analysis approach was used to analyse the data collected from the integrative review and a summative analysis was used to analyse the data obtained from the interviews in step two and the comments from step three. Dichotomous questions were analysed for totals.

Directed content analysis aims to conceptually validate or extend a theoretical framework theory (Hsieh and Shannon, 2005). Articles relating to patient experiences during awake surgery were assessed and analysed using the directed content analysis approach as described by Hsieh and Shannon, (2005).

Information obtained in the integrative review was used to focus the research study on the participant's experience during awake surgery. Categories of concern were identified and used to form the framework for the interview guide that was used during the interviews with the participants.

The seven step analytical process was employed to analyse the data collected in this study. This process includes seven researcher activities. In step one of the process the questions were formulated, followed by the selection of the sample in step two. In step three the categories were defined, in step four the processes were outlined and in step five the processes were implemented. The trustworthiness was determined in step six and finally in step seven the results were analysed.



**Figure 3.3 Seven step content analysis process (Hsieh and Shannon, 2005)**

Four categories emerged from the literature following the directed content analysis, namely perioperative experience, communication, nursing care and pain management. This information was used as a basis for the interview content. In the event that the participant did not narrate their experience with all the categories that was identified, the researcher posed the probe questions in order to gain understanding of the participant's experience with these categories.

The data that was collected during these interviews was subjected to summative content analysis as described by Hsieh and Shannon, (2005).

During this process the researcher immersed herself in the transcripts by attentively reading and rereading each of the participants' responses to the questions contained in the interview guide and probes that was posed in order to extract more in-depth information during the interviews.

The researcher then continued to extract the meaning of specific significant words that revealed whether the participant had a positive or a negative experience during his or her perioperative journey. This is a key requirement of the application of Parse's theory. Parse, (2011) believes that each person describes his or her experience from his or her own perspective.

Perioperative nurses who are guided by Parse's theory strive to identify how patients give meaning to their lived experience of being part of the perioperative environment. This enables perioperative nurses to build relationships with patients in order to understand their perspectives on their own lived experiences (Parse, 2011).

#### **Data analysis: Integrative literature review.**

The analysis of the data collected from the integrative review was analysed utilising the seven step data analysis process described by Hsieh and Shannon, (2005). This process is shown in Table 3.4

**Table 3.4 Process of analysis for integrative literature review (Hsieh and Shannon 2005)**

1. Develop a research question	Together with the supervisor, colleagues and help of the literature these questions were considered appropriate: What are the experiences of patients undergoing awake surgery? What are the information needs of patients undergoing awake surgery? Would an information pamphlet based on their needs meet their information requirements?
2. Selecting a sample	Literature relating to the experience of patients undergoing awake surgery was accessed on the following electronic data bases: CINAHL, MEDLINE, Pubmed, Scopus Google Scholar and Sage journals. This search resulted in 3000 with 2974 being discarded.
3. Coding process	Words pertaining to experiences were identified and categorised.
4. Implementing coding process	Word frequency counts were calculated and examined for how they were used in the articles.
5. Defining categories	Seven areas were revealed for investigation and Four categories were formulated.
6. Determining trustworthiness	A senior researcher confirmed the directed analysis procedures
7. Analyse the results	Directed content analysis was applied to the 26 articles

The researcher and the supervisor immersed themselves by attentively reading and rereading and discussing the twenty six retained articles and once they had obtained analytic insight the researcher and the supervisor performed directed content analysis on the twenty six articles employing the seven step process as described by Hsieh and Shannon, (2005).

Polit and Beck, (2017) explains the importance of qualitative researchers becoming totally immersed in the data in order to achieve reflection and analytic insight.

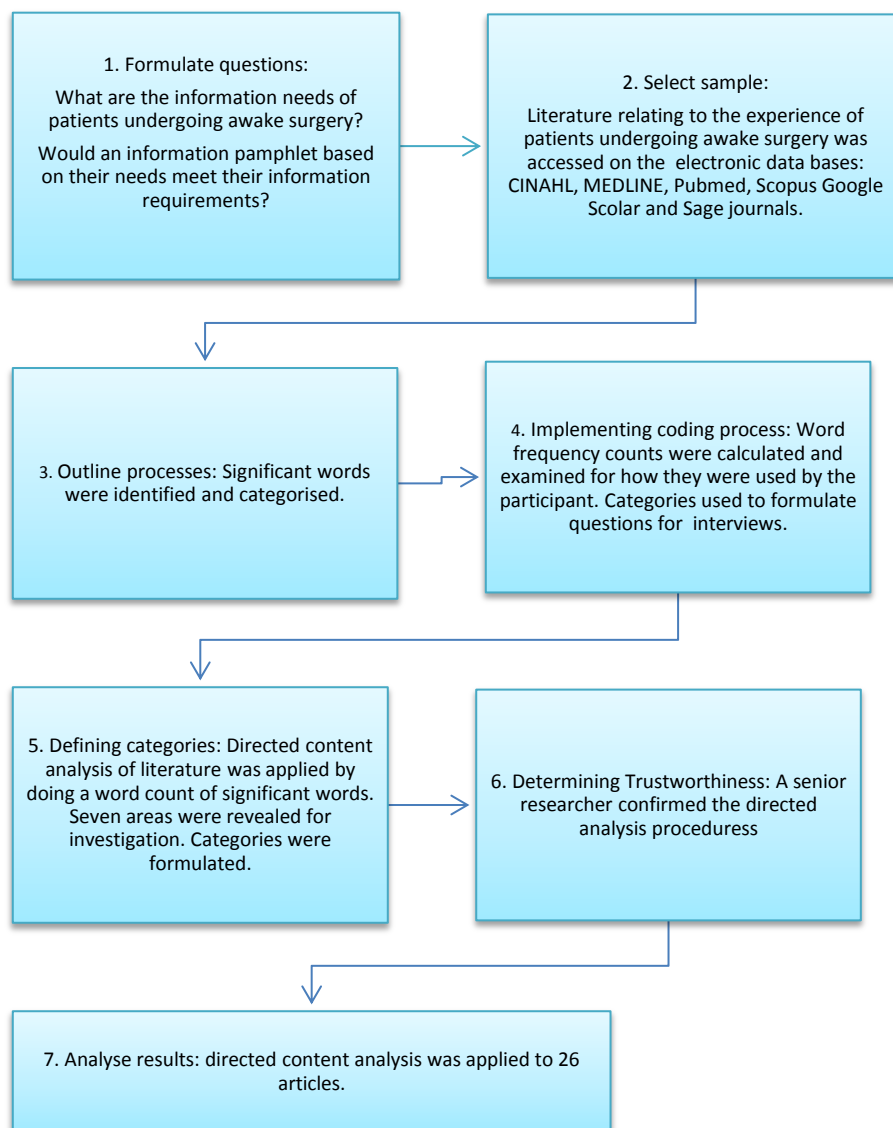
The areas of concern that emerged from the directed content analysis included the patient experience of undergoing surgery, communication, nursing care, delays, personalised care, participation in decision making and pain control.

The researcher and the supervisor agreed to combine the areas of concern into four categories

which could be utilised in one easily understandable question and three possible probe questions to be included in the interview guide and to be aligned with Parse's theory.

The questions that were formulated were related to the experience of the perioperative journey, the experience of communication, the experience of nursing care and pain control.

The seven steps of data analysis as described by Hsieh and Shannon, (2005) that was applied to the integrative literature review are shown in Figure 3.4.



**Figure 3.4. Seven step analysis integrative literature review (Hsieh and Shannon, 2005).**

The areas of concern relating to the perioperative journey that were identified in the integrative literature review and the emerging categories are depicted in Table 3.5

**Table 3.5 Categories from integrative literature review and identified directed content analysis.**

<b>Words/ phrases</b>	<b>Category</b>
Delays	Perioperative journey
Participation in decision making	Communication
Personalised care	Nursing care
Experience of pain	Pain control

### **Data Analysis: Interviews**

The categories that emerged from the integrative literature review in step one formed the basis of the content for the interviews in step two. The researcher developed an interview guide that was applied to all the interviews conducted with the 40 participants.

Ten participants from each discipline of ophthalmic, orthopaedic, urological and plastic surgery were selected applying the convenience sampling technique. Participants were interviewed postoperatively and each interview lasted for about 15 to 20minutes after which most of the participants were ready to be discharged.

All interviews were transcribed verbatim and analysed according to the summative content analysis method as described by Hsieh and Shannon, (2005). The researcher and the supervisor performed manual analysis of the interviews by attentively reading and rereading the data obtained from the interviews.

In depth discussions were held by the researcher and supervisor regarding significant phrases and words that described the participant's experience in order to extract the meaning of the participant's narratives relating to their perioperative journeys.

In addition, the researcher used her field notes that described the participant's attitudes, body language and nuances to assist with understanding the deeper meaning of the words that were used by participants. This is in line with Parse's theory of finding meaning within lived experiences (Parse, 2011).

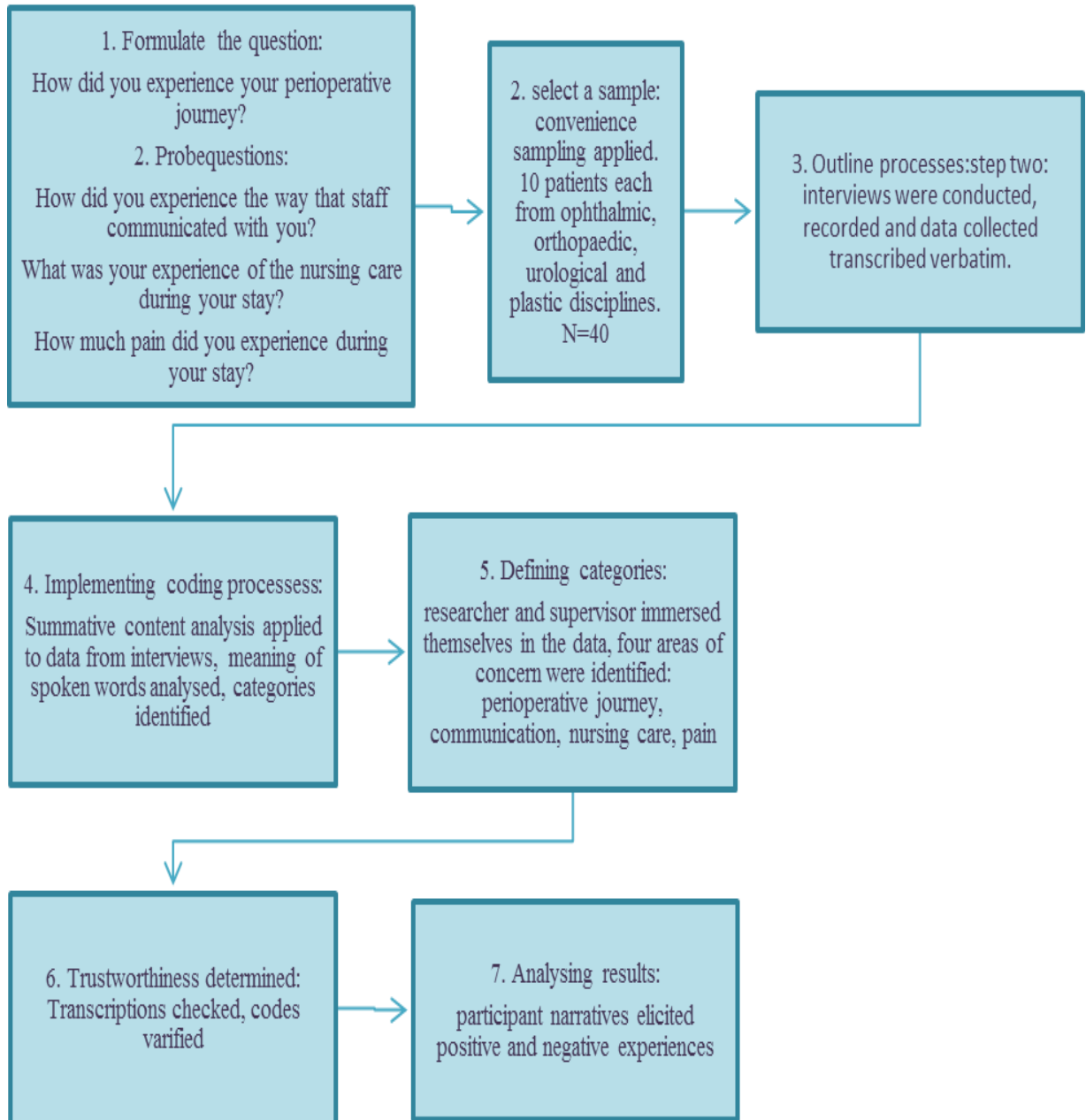
Words were identified for commonality and counted. Words that had common meaning were identified and grouped into categories for inclusion in the information pamphlet.

Four categories emerged from the summative content analysis of the interviews, namely the participant's experience of the perioperative journey, communication, nursing care and pain control.

It was necessary to analyse the interviews at this point since the emerging categories from the narratives of the participants during the interviews were used to design an information pamphlet that would be handed to participants preoperatively in step three of the data collection process.



The seven step analysis of the interviews that was applied to the data collected during the interviews with the participants included the seven steps as described by Hsieh and Shannon, (2005) and is depicted in Table 3.5



**Figure 3.5. Seven step analysis of interviews (Hsieh and Shannon, 2005)**

The process of analysis that was applied to the data collected during the interviews with participants included the seven steps of content analysis as described by Hsieh and Shannon, (2005) and is depicted in Table 3.6

**Table 3.6 Process of summative content analysis of interviews (Hsieh and Shannon, 2005).**

1.Develop a question	<p>Interview Question: How did you experience your perioperative journey?</p> <p>Probe questions: How did you experience the way that the staff communicated with you during your stay in our hospital?</p> <p>What was your experience of the nursing care that you received during your stay in our hospital? How much pain did you experience during your stay in our hospital?</p>
2.Selecting a sample	<p>Convenience sampling applied based on the availability of patients undergoing awake surgery in the disciplines of ophthalmic, orthopaedic, urological and plastic surgery.</p> <p>Ten participants from each discipline was selected in group one (n=40) and 10 participants was selected for group two (n=40)</p> <p>Group two was matched with group one by surgical procedure.</p>
3.Defining categories	Summative content analysis of the interviews revealed four areas for investigation.
4.Coding process	Labelling the groups and patients words
5.Implementing coding process	<p>Researcher and supervisor collaborated and analysed words from the narratives for in –depth meaning.</p> <p>Categories were identified</p>
6.Determining trustworthiness	A senior researcher confirmed the summative content analysis procedures.
7. Analyse the results	Summative content analysis was applied to interviews. Positive and negative experiences were elicited.

Words used by participants were analysed by the researcher and the supervisor in order to discern the meaning of the participants' lived experiences of the perioperative journey.

Examples of words and phrases used by participants that indicated a positive perioperative or negative experience are shown in Table 3.7

**Table 3.7 Examples of emerging categories**

	<b>Words extracted</b>	<b>Emerging category</b>
P1AbF	<i>"Admission was seamless"</i>	Positive experience --perioperative journey
P1CcM	<i>"They explain what they are doing"</i>	Positive experience --communication
P1AbF	<i>"Four different nurses did my paper work for my admission it made me feel insecure"</i>	Negative experience --nursing care
P1CcM	<i>"The local (anaesthesia) burnt a bit"</i>	Negative experience --pain

**Step three.**

**Data analysis: Dichotomous question.**

The dichotomous question relating to the usefulness or not of the information pamphlet were analysed by simple totals in order to establish if the objective of the study was met.

In addition the participants were offered the opportunity to add any comments relating to the usefulness of the pamphlet and their experience of the perioperative journey.

Summative content analysis was conducted on the comments that participants added to identify categories according to the method described in Hsieh and Shannon (2005).

Responses to the dichotomous question were analysed by totals. Examples of positive and negative responses to the dichotomous question are shown in Table 3.8.

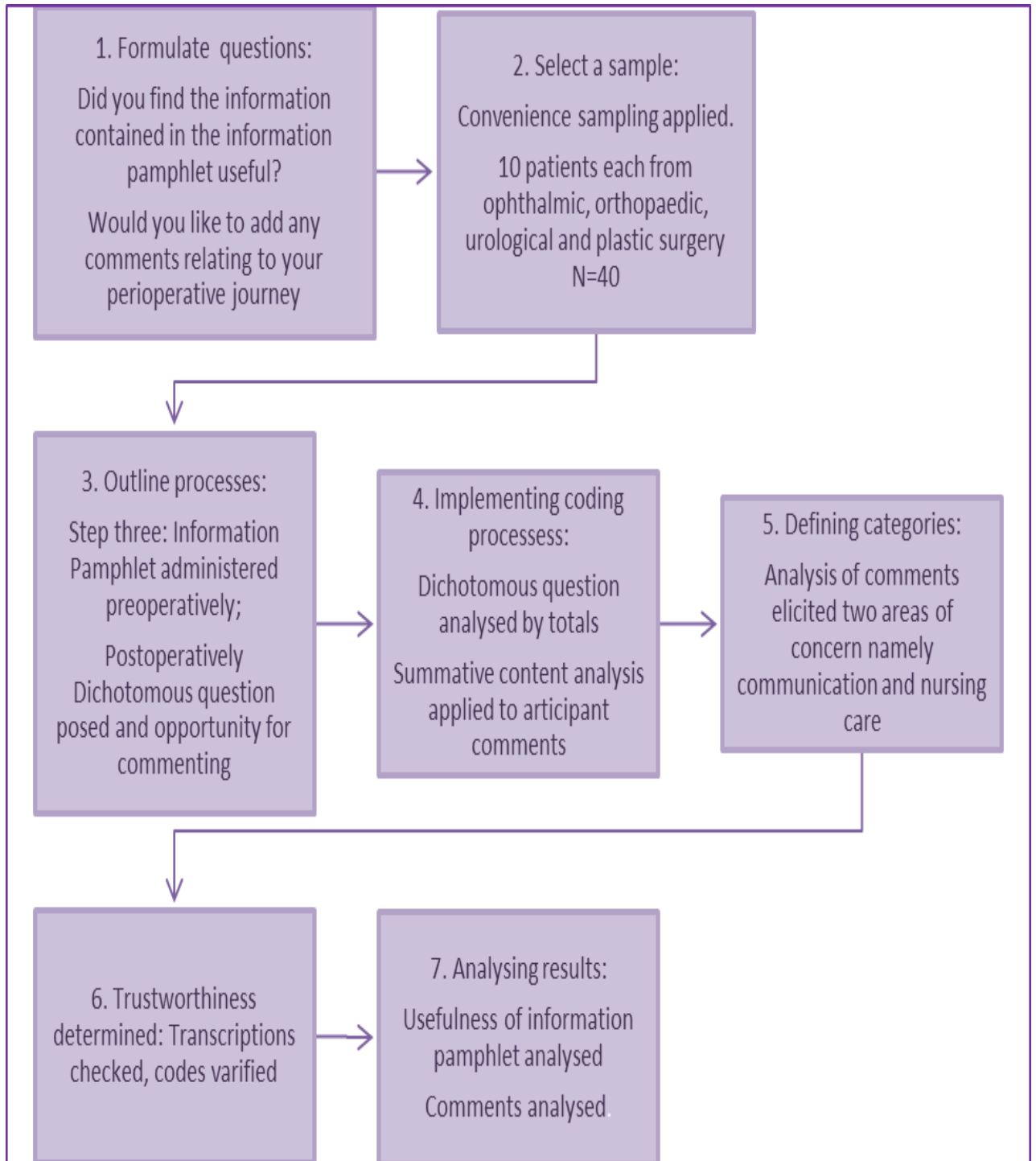
	<b>Words/ statements</b>	<b>YES/NO</b>
P1CbF	<i>the pamphlet is a great idea</i> ”	Yes the pamphlet was useful
P1CcM	<i>“the intraoperative information was helpful”</i>	Yes the pamphlet was useful
P2AdF	<i>“it’s a waste of time”</i>	No the pamphlet is not useful
P2BfM	<i>the pamphlet had no new info”</i>	No the pamphlet is not useful

**Table 3.8 Example of positive and negative statements**

**Data Analysis: Comments posed by participants in Group two step three.**

The researcher carefully transcribed all the comments made by participants and thereafter attentively read and re-read each transcript attentively in order to identify emerging categories. In addition the researcher used her field notes to assist with interpreting participant’s descriptions of their experiences.

Positive and negative categories were identified. The seven step analysis procedure that was applied to these comments are depicted in Figure 3.6



**Figure 3.6 Seven step analysis of comments (Hsieh and Shannon, 2005)**

### **3.7 RESEARCH RIGOR**

In order to do quality research it is important for researchers to be able to maintain a high level of integrity in their studies throughout (Polit and Beck, 2017). Whereas aspects of validity and reliability are deployed in quantitative studies, qualitative researchers aim to ensure the rigor of their studies. In order to ensure credibility certain strategies should be enforced. Some of these include transcription checking, code verification and crosschecking, member checking, triangulation and auditing.

Lincoln and Guba (1985) described four criteria to confirm rigor in qualitative research, namely, credibility, transferability, dependability and confirmability.

#### **3.7.1 Credibility**

Credibility refers to the truth contained in data (Lincoln and Guba, 1985). Credibility is obtained when the researcher is able to establish “confidence in the truth of the data” (Polit and Beck, 2017) and the ensuing interpretations of the data (Creswell, 2009).

In this study credibility was enhanced by establishing the experiences expressed in the literature by researchers who had already studied this phenomenon.

The researcher asked probing questions of the participants during the interviews in order to confirm her understanding of what participants were expressing. Interviews were cross checked with field notes during transcription and data analysis.

Rigor is obtained when the participant’s experiences are identified. Bias from the researcher should not be reflected. The participants gave their own responses and thus they may be considered as their own experiences.

### **3.7.2 Dependability**

Dependability refers to stability or reliability of data collected (Polit and Beck, 2017). Lincoln and Guba, (1985) are of the opinion that there is a close relationship between credibility and dependability. To deal with dependability, processes used in the study should be adequately detailed to allow future researchers to replicate the work (Shenton, 2004). The processes in this study have been detailed for replication purposes by other researchers.

### **3.7.3 Confirmability**

Polit and Beck explain that confirmability refers to objectivity relating to the accuracy, relevance and meaning of the data (Polit and Beck, 2017). This strategy aims to establish that the data collected are a true reflection of the participants' voices not the perceptions or bias of the researcher (Polit and Beck 2017; Shenton, 2004). In an attempt to ensure this principle the researcher and the supervisor, an experienced qualitative researcher, reviewed the research process and data analysis.

### **3.7.4 Transferability**

Bothma *et al.*, (2010:292) explain that the transferability of a research study refers to “the extent to which the research findings can be transferred from one context to another” This may be achieved by providing dense descriptions of the data as well as a detailed description of the sampling methods and research design Polit and Beck, (2017) agree that transferability refers to the extent to which research findings of one study can be applied to other groups or in other settings. Lincoln and Guba, (1985) hold that researchers should ensure that they provide adequate descriptive data to enable effective evaluation of the applicability of a

study. The sample for this study is small and the setting was four hospitals belonging to one private hospital group in South Africa. In addition all the participants underwent minor surgeries and were discharged on the same day of the surgery. This may adversely affect the transferability of the study. However, the starting point for the study was from international literature and similar results were present in these publications.

### **3.8 ETHICAL CONSIDERATIONS**

Throughout research projects it is imperative that nurses maintain ethical principles. This concept is underwritten by both the International Council for Nurses in their Code of Ethics, as well as the South African Nursing Council in their Ethics Principles.

#### **3.8.1 Permission to Conduct Research**

The proposal for this research was submitted for peer review within the Department of Nursing Education before being submitted to the Human Research Ethics Committee of the University of Witwatersrand. Ethical clearance from the Human Research Ethics Committee of the University of the Witwatersrand was granted (addendum 9 along with permission from the Faculty of Health Sciences Post Graduate Committee to continue with the study. Written consent was obtained from the Ethics committee of the Private Hospital group as well as from the Hospital Managers of each of the Private hospitals in Gauteng and in Mpumalanga.

Approval was obtained from The Human Research Ethics Committee (Medical) for research on human subjects for clearance to conduct the study, as well as consent from the private



sector hospital group's research committee and the management of each of the four hospitals that are described in the setting.

### **3.8.2 Informed Consent**

Written informed consent was obtained from each participant prior to the interviews in step two and step three of the data collection. This included the written consent for the recording of the semi-structured interviews. Participants were assured that all information will be kept confidential and anonymous.

## **3.9 SUMMARY**

This chapter has presented the research design, the population and sample and the research setting. This study used an exploratory, descriptive research design with three steps of data collection. An integrative review, interviews and a dichotomous questionnaire were used to collect the data Directed and summative content analysis method as described by Hsieh and Shannon, (2005) was employed for data analysis The dichotomous question was analysed by totals. Trustworthiness of the study was established by the methodology meeting the criteria of credibility, transferability, dependability and confirmability.

The next chapter presents the findings of the data analysis

# **CHAPTER FOUR**

## **FINDINGS**

### **4.1 INTRODUCTION**

This chapter presents the findings of the study. The purpose of this study was to develop an information pamphlet that would specifically address the information needs of perioperative patients in order to improve the preparedness and experience of patients undergoing awake surgery and to evaluate the usefulness of such an information pamphlet in the perioperative setting.

The research design for this study was a qualitative, exploratory, descriptive design. The categories that evolved from the data analysis are presented and discussed. The development of the categories is substantiated by the data presented in the relevant research as well as in the verbatim quotes from the transcripts.

Discussion to substantiate the research findings using references to existing literature is found in Chapter five. Hsieh and Shannon's (2005) method of directed content analysis was applied to the integrative research and the interviews and comments collected during step two and step three were analysed using the summative content analysis as described by the same authors.

Since the data collection for this study was completed in three steps, the findings will follow the same format. Findings from the Integrative review will be discussed followed by the findings from the interviews. Lastly the findings of the dichotomous question and the comments will be discussed.

In step one the researcher conducted an integrative literature review. Directed content analysis as described by Hsieh and Shannon, (2005) applied to the data collected and categories were identified. Selected categories were used to form the basis of an interview guide which was used during the interviews that were conducted during step two of the data collection process. The researcher conducted 40 interviews in step two and each interview was recorded.

The data collected in step two was transcribed verbatim and submitted to a summative content analysis as described by Hsieh and Shannon, (2005). The categories that were identified during this process were used to design a preoperative information pamphlet. This pamphlet was handed preoperatively to participants during step three of the data collection process.

In step three participants who had received the preoperative information pamphlet were asked postoperatively to rate the usefulness of the information pamphlet by completing a dichotomous question. The dichotomous questions were analysed for totals. These participants were interviewed to establish whether if they had further comments regarding the usefulness or not of the information contained in the perioperative informative pamphlet.

## 4.2 ENSURING ANONYMITY AND CONFIDENTIALITY

Participants signed an informed consent document which included consent for the semi-structured interviews to be recorded. Participants' names and details remained confidential and were not disclosed. All hard copies of the Informed consent documents, transcriptions of all the interviews and all raw data was sealed and locked into a secure safe. The electronic data was stored on a computer that is password protected and only accessible to the researcher and the supervisor.

### 4.1 Table Depicting the Codes

Description	Code	Description	Code
Participant Group 1	P1	Participant Group 2	P2
Participant number	a to j	Participant number	a to j
Males	M	Females	F
Ophthalmic Surgery	A	Hospital 1	s
Orthopaedic Surgery	B	Hospital 2	m
Urological Surgery	C	Hospital 3	h
Plastic Surgery	D	Hospital 4	v

The emerging categories identified following the directed content analysis of the integrative literature review were coded by the researcher and supervisor. Categories that emerged following the summative content analysis of the interviews were coded by the researcher and supervisor. These informed the development of the pamphlet.

### **4.3 RESEARCH APPROACH**

“Data analysis entails categorizing, ordering, manipulating and summarising data and describing them in meaningful terms” (Brink, *et al.*, 2012:177). Bothma *et al.*, (2010) are of the opinion that researchers should revisit the purpose of their study at the start of the data analysis process. Creswell, (2009) hold that the process of data analysis should lead the researcher to a deeper understanding of the meaning of the data at hand. This is in line with the Human Becoming theory according to Parse, (2011).

The data in this study was collected during three steps. In step one an integrative literature review was conducted, in step two the researcher conducted interviews with forty 40 participants postoperatively and in step three an information pamphlet was administered to 40 forty participants preoperatively and these participants were asked postoperatively whether the information pamphlet was useful or not

### **4.4 PRESENTATION OF THE FINDINGS**

#### **4.4.1 Step One: The Integrative literature review**

An integrative review of all literature relating to patient experience up until and including June 2017 was conducted. The purpose of the integrative literature review was to explore the research studies and findings of other researchers in order to improve and enhance the insight

into this research problem and provide depth to the research questions of this study. Articles relating to the perioperative patient experiences during awake surgery were assessed and analysed using the directed content analysis approach as described by Hsieh and Shannon (2005).

The categories of concern that were identified in the literature were used to form the framework for the interview question and probes guide that were as used by the researcher during the interviews with the participants in step two. These findings were based on 26 articles selected by the researcher and supervisor for relevance.

A summary of the publications included in the study follows. The summary is divided into four sections. In the publication column the author or authors are listed and the date of the publication and country of origin is included. The second column describes the study aim, the setting and the sample. In the third column the research design is noted and the last column contains the summary of the salient findings.

The 26 selected publications consisted of 14 qualitative studies, 8 quantitative studies and 4 literature reviews.

**Table 4.2 Summary of the Integrative Literature Review.**

PUBLICATION	STUDY AIM, SETTING AND SAMPLE	RESEARCH DESIGN / METHOD	SUMMARY OF SALIENT FINDINGS
1. Adamson <i>et al.</i> 2012.  Toronto Ontario, Canada.	<b>Aim:</b> “Understanding the Patient’s Perspective of emotional support.”  <b>Setting:</b> Large community teaching hospital Toronto Ontario.	Qualitative descriptive design	A standard level of emotional support should be given to all patients

	<b>Sample:</b> 25 patients.		
2. Adugbire <i>et al.</i> 2017. Botswana.	<b>Aim:</b> “To explore patient experience with preoperative and intraoperative care.”  <b>Setting:</b> Regional Hospital Bolgatana, Botswana  <b>Sample:</b> 15 participants.	Qualitative explorative descriptive design.	In order to provide better care to surgical patients, a number of nurses require further training
3. Caljouw, Beuzekom and Boer. 2008. The Netherlands.	<b>Aim:</b> “To develop a valid and reliable self- reported multidimensional questionnaire assessing patient satisfaction with perioperative and anaesthesia care that included questions about information, professional competence, service and staff-patient relationship.”  <b>Setting:</b> Operating Theatre Centre, Leiden University, Leiden, Netherlands  <b>Sample:</b> 307 participants.	Quantitative study.	The manner in which patients were approached and the amount of information that patients received directly impacted patient satisfaction with perioperative care.
4. Fletcher <i>et al.</i> 2012. United Kingdom.	<b>Aim:</b> “To explore the lived experience of having undergone awake craniotomy.”  <b>Setting:</b> The Department of Neurosurgery at a large UK National Health Service teaching hospital.	Retrospective qualitative design.	The patient experience of awake craniotomy is dependent on the patient-neurosurgeon relationship.

	<b>Sample:</b> 7 participants.		
5. Fung and Cohen.  2000.  Toronto, Ontario, Canada.	<b>Aim:</b> “To determine what outpatients ranked highest in their anaesthesia care and whether anaesthesiologists could predict that ranking”  <b>Setting:</b> University of Toronto and North Bay General Hospital, North Bay, Ontario  <b>Sample:</b> 30 patients and 15 expert anaesthesiologists.	Quantitative	Patients undergoing anaesthesia place a high value on communication and information that they receive, whilst anaesthesiologists fail to appreciate the value that patients place on communication and information
6. Gadler <i>et al.</i>  2016.  USA.	<b>Aim:</b> “To develop, implement and evaluate the effect of a video education program on patient retention of pre-surgical teaching, reduced pre-surgical anxiety, patient satisfaction and the impact on provider time used for post-surgical teaching.”  <b>Setting:</b> Durham University NC, USA  <b>Sample:</b> 31 participants.	Pre-test / post-test design.	This method of patient education was easily implemented and improved patient knowledge retention related to surgery whilst decreased anxiety, improved patient satisfaction and decreased provider time.
7. Haugen <i>et al.</i>  2009.  Norway.	<b>Aim:</b> “To estimate the frequency of intraoperative anxiety, the influence of environmental factors on intraoperative anxiety and to study the relationship between	Retrospective survey design with questionnaires	Induction of anaesthesia is the highest cause of anxiety in patients.  Anxiety may be reduced if patients have the opportunity to ask questions and



	<p>intraoperative anxiety and generalised anxiety and depression”</p> <p><b>Setting:</b> A University Hospital in Western Norway</p> <p><b>Sample:</b> 119 patients.</p>		<p>receive continuous information.</p> <p>Patients who suffer from generalised anxiety and depression pre-admission are predisposed to intraoperative anxiety.</p>
<p>8. Heidegger <i>et al.</i> 2004. Switzerland.</p>	<p><b>Aim:</b> “To evaluate if information campaigns and introduction of information pamphlets lead to an improvement in patient satisfaction with anaesthesia.”</p> <p><b>Setting:</b> 1 Hospital in Gallen, Switzerland, 1 Hospital in Bern Switzerland and 1 Hospital in Feldkirch, Austria.</p> <p><b>Sample:</b> 1800 patients who had undergone surgery.</p>	Quantitative.	<p>Patient satisfaction with anaesthetic care was not improved following the introduction of information campaigns and information pamphlets.</p>
<p>9. Heikkinen <i>et al.</i> 2012. Finland.</p>	<p><b>Aim:</b> “To evaluate changes in ambulatory orthopaedic surgery patients’ emotions during the surgical process and to compare whether either of two different patient education methods: internet-based patient education (experimental) or face to face education conducted by a nurse (control) had an effect on patient’s emotions during the ambulatory surgical process.”</p>	Randomised controlled trial.	<p>Internet-based education and face to face education for ambulatory orthopaedic surgical patients did not have an impact on the emotional scores of these patients.</p>

	<p><b>Setting:</b> A University Hospital in Finland</p> <p><b>Sample:</b> 173 ambulatory orthopaedic surgery patients.</p>		
10. Karlsson <i>et al.</i> 2012. Sweden.	<p><b>Aim:</b> “To show how nursing research using phenomenological philosophy can help uncover new meanings known only to the patients living the experience.”</p> <p><b>Setting:</b> School of Health Science, Karlskrona, Sweden.</p> <p><b>Sample:</b> Case study.</p>	Qualitative case study	The core for caring in the intraoperative context is to support the awake patient to dwell in the situation and attain a state of intraoperative well-being
11. Kolverend <i>et al.</i> 2011. Sweden.	<p><b>Aim:</b> “To describe operating theatre nurses’ experiences of patient related, intra-operative nursing care procedures”</p> <p><b>Setting:</b> 2 Rural and 1 Metropolitan Swedish Hospitals</p> <p><b>Sample:</b> 16 nurses.</p>	Qualitative, interpretive descriptive study.	Operating theatre nurses’ experience patient related intraoperative nursing care as care that is embedded in the various procedures that ensure continuous relationships, patient safety and wellbeing, and safe environments that enhance wound healing and recovery.
12. Kim <i>et al.</i> 2015. South Korea.	<p><b>Aim:</b> “The purpose of this study was to determine the effects of handholding and spoken information provided on patients’</p>	Quasi experimental design with a non-equivalent control group.	Holding a patients hand and providing spoken information during a surgical intervention can be used to mitigate

	<p>psychological and physiological anxiety during percutaneous vertebroplasty</p> <p>and to identify a suitable nursing intervention”</p> <p><b>Setting:</b> A spine hospital in Gwangju Metropolitan City, South Korea.</p> <p><b>Sample:</b> 64 patients.</p>		<p>psychological and physical anxiety</p>
<p>13. Law. 1996. England.</p>	<p><b>Aim:</b></p> <ul style="list-style-type: none"> <li>• “To assess the usefulness of pre-operative assessment in helping patients’ understanding of impending eye operations”</li> <li>• “To identify whether present written and verbal advice helps to eliminate post-operative difficulties such as eye infections and pain as perceived by the patients in the first 48 hours after surgery”</li> <li>• “To identify the usefulness of present criteria for counselling and whether it helps patients prepare physically, psychologically and socially for day surgery”</li> <li>• “To assess eye patients’ satisfaction with existing day care service provision”</li> </ul>	<p>Qualitative descriptive study</p>	<p>Patients were satisfied with the service provided; however, pre-operative assessments should be streamlined in order to shorten waiting times.</p> <p>Additional information either in printed or audio form should be provided to help older patients remember instructions and an analgesic should be administered post-surgery.</p>

	<p><b>Setting:</b> Harold Wood Hospital Essex England.</p> <p><b>Sample:</b> 45 day patients.</p>		
<p>14. Lindwall <i>et al.</i> 2003. Sweden.</p>	<p><b>Aim:</b> “To describe and interpret the meaning of nursing care experienced by patients and perioperative nurses through the pre-intra- and postoperative dialogues.”</p> <p><b>Setting:</b> Karlstad  Sweden.</p> <p><b>Sample:</b> 10 patients and 10 perioperative nurses.</p>	<p>Qualitative hermeneutic approach</p>	<p>The use of the perioperative dialogue would improve continuity for patients and perioperative nurses and establish a caring relationship.</p>
<p>15. Mauleon <i>et al.</i> 2006. Sweden.</p>	<p><b>Aim:</b> “To show what the experience of local anaesthesia and a surgical situation meant to patients.”</p> <p><b>Setting:</b> Three large hospitals in urban Sweden.</p> <p><b>Sample:</b> Seven Patients.</p>	<p>Interpretive phenomenological approach</p>	<p>Elderly patients who undergo surgery under local anaesthesia may distance themselves from their surgical experience as they experience a sense of alienation from their own bodies.</p>
<p>16. Maya. 2012. Colombia.</p>	<p><b>Aim:</b> “To interpret the experience of being unconscious or alert from a group of patients during the surgical act and appreciations from the members of the nursing team on the same context.”</p>	<p>Qualitative study</p>	<p>Patients experience the surgical events differently to nurses. Nurses need to maintain patient respect and dignity and act ethically.</p>

	<p><b>Setting:</b> Surgical centres of two level 11 hospitals in the Metropolitan Area of Valle de Aburra Antioquia, Colombia.</p> <p><b>Sample:</b> 20 patients and 27 nurses.</p>		
17. Mc Cloud <i>et al.</i> 2013. Australia.	<p><b>Aim:</b> “To collect experiential knowledge about regional ocular anaesthesia- an integral component of most vitreo-retinal surgery.”</p> <p><b>Setting:</b> Participants homes.</p> <p><b>Sample:</b> 18 Patients who underwent eye surgery under local anaesthesia.</p>	Qualitative, interpretive design.	<p>Participants indicated that the experience was “overwhelming and painful”</p> <p>They experienced anxiety but endured the anaesthetic in order to regain their visual function.</p>
18. Mitchell. 1998. United Kingdom.	<p><b>Aim:</b> “To explore the patients’ perceptions of day surgery.”</p> <p><b>Setting:</b> Literature Review of data bases</p> <p><b>Sample:</b> All publications relating to patient perceptions of day surgery.</p>	Literature Review	Patients experience anxiety due to a lack of information received, waiting periods, lack of privacy and poor post-operative pain control.
19. Mitchell. 2008. England.	<p><b>Aim:</b> 1. “To investigate patient anxiety arising from the experience of the clinical environment during surgery under local/ regional anaesthesia and  2. To uncover the specific aspects patients find</p>	Quantitative study	There is a need to improve the pre-operative patient assessment and education regarding local/ regional anaesthesia and operating theatre environments need to be structured to

	<p>anxiety provoking and possibly dissuade them from opting for local/regional anaesthesia”</p> <p><b>Setting:</b> Four Public Day Surgical Units in a City in Northwest England.</p> <p><b>Sample:</b> 214 patients undergoing local/ regional anaesthesia.</p>		<p>accommodate the awake patient in order to decrease anxiety and encourage more patients to opt for local/regional anaesthesia.</p>
<p>20. Mitchell. 2003. England.</p>	<p><b>Aim:</b> “To assess the present level of knowledge and interventions concerning patient anxiety when undergoing modern, intermediate surgical intervention.”</p> <p><b>Setting:</b> World Wide Web</p> <p><b>Sample:</b> Thirty Four studies were reviewed.</p>	Literature Study	<p>More research is required to enable nurses to discover new ways to implement effective anxiety alleviating measures for patients in the modern intermediate surgery domain.</p>
<p>21. Modi <i>et al.</i> 2008. England.</p>	<p><b>Aim:</b> “To consider our patients’ experience of cataract surgery in terms of pain, anxiety and their overall satisfaction and determine whether the measures we have in place are effective.”</p> <p><b>Setting:</b> The Royal Devon and Exeter NHS Trust.</p> <p><b>Sample:</b> 268 patients.</p>	Quantitative Comparative Audit.	<p>Patients who received sub-Tenon’s local anaesthesia after previously having received a peri-bulbar anaesthesia reportedly experienced higher levels of pain.</p> <p>Patients indicated that handholding during surgery decreased levels of pain experienced.</p>
<p>22. Nilsson</p>	<p><b>Aim:</b> “To identify randomised</p>	Literature Review	<p>Perioperative patients’ pain and</p>

<p>2008. Sweden.</p>	<p>controlled trials that have assessed the effect of music intervention on perioperative patients' pain and anxiety.”</p> <p><b>Setting:</b> AMED, CINAHL and Medline.</p> <p><b>Sample:</b> 173 articles.</p>		<p>anxiety may be reduced by music intervention that is easy and cost effective to implement</p>
<p>23. Paqueron <i>et al.</i> 2003. France.</p>	<p><b>Aim:</b> “To describe the phenomenology of body image alterations during the course of upper limb, lower limb or spinal anaesthetic blocks in patients undergoing orthopaedic surgery.”</p> <p><b>Setting:</b> A University Hospital in Paris France.</p> <p><b>Sample:</b> 36 patients undergoing orthopaedic surgery with regional anaesthesia.</p>	<p>Qualitative phenomenological study.</p>	<p>Many patients experienced an alteration of their body image following regional anaesthesia</p>
<p>24. Pulkkinen <i>et al.</i> 2016. Finland.</p>	<p><b>Aim:</b> “To describe how patients undergoing either a hip or knee replacement surgery under spinal anaesthesia experienced to be part of the perioperative dialogue as an ideal model of caring”</p> <p><b>Setting:</b> A University Hospital in South Finland.</p> <p><b>Sample:</b> 20 patients undergoing either knee or hip replacement surgery under spinal</p>	<p>Qualitative approach.</p>	<p>Involving surgical patients in the perioperative dialogue enhances the patient experience of caring and could positively influence patient satisfaction and safety.</p>

	anaesthesia		
25. Rudolfsson <i>et al.</i> 2003. Sweden.	<p><b>Aim:</b> “To describe nurse anaesthetists and theatre nurses’ experience of working with the perioperative dialogue”</p> <p><b>Setting:</b> Medium sized Hospital in Western Sweden.</p> <p><b>Sample:</b> 20 nurses.</p>	Qualitative study.	Working with the perioperative dialogue enhanced the commitment of nurses to their work and improved the development of caring relationships with their patients.
26. Wolf <i>et al.</i> 2014. USA.	<p><b>Aim:</b> “To identify and promote a working definition of patient experience that is applicable and practical for research, quality improvement efforts and general clinical practise.”</p> <p><b>Setting:</b> National Library of Medicine, Pubmed, Medline, Ovid, CINAHL, Academic Search Premier, Business Source Premier, Global Health and Proquest.</p> <p><b>Sample:</b> 2230 articles</p>	Literature review.	<p>The need for a clear and comprehensive definition of patient experience remains.</p> <p>The study elicited that “Patient experience is more than satisfaction, continuum of care, focus on expectations, individualized care and tailored services.”</p>

#### 4.4.2 Quality appraisal

Quality appraisal refers to the process of assessing if studies address the meaning of questions posed. A quality appraisal instrument is a helpful tool that ensures that all items are subjected to rigor.



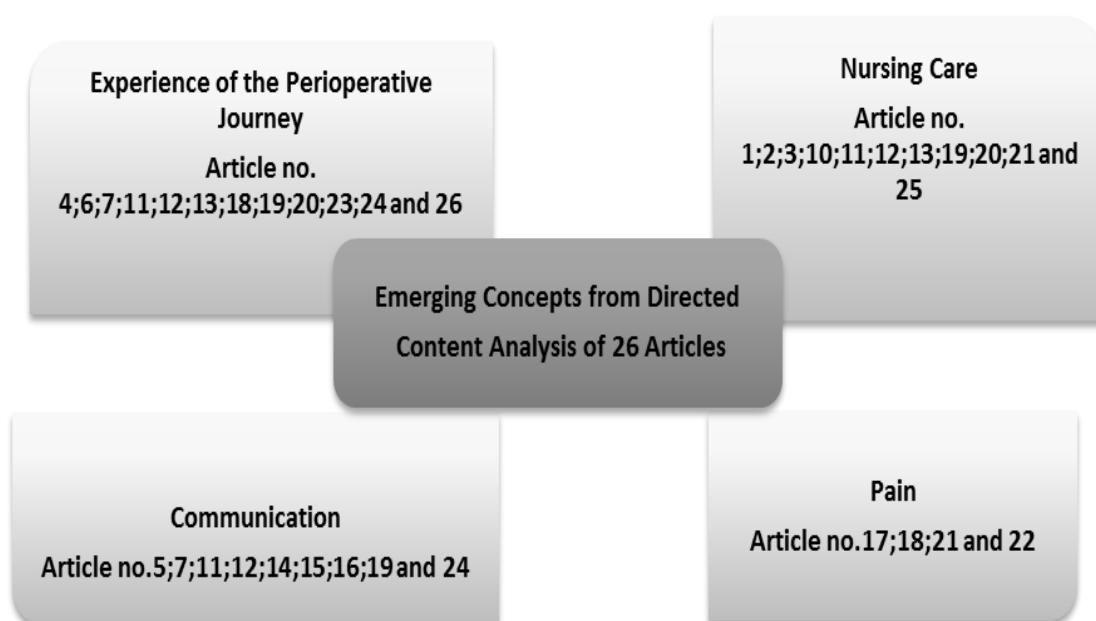
Quality appraisal processes include the filtering of publications, applying rigor to the technical elements and assuring that there is adequate paradigmatic and theoretical consistency.

The employment of a qualitative research expert ensured the appropriateness of the appraisal process (Hannes, 2011)

#### 4.4.3 Data abstraction and synthesis

Twenty six articles were retained for directed content analysis as described by Hsieh and Shannon, (2005) with the purpose to distinguish salient findings

The categories that emerged from the integrative literature review formed the basis of the questions that were developed in order to guide the researcher during the interviews. Seven categories emerged, namely nursing care, personalised care, pain control, respect, delays, participation in decision making and communication.



**Figure 4.1 Categories from the Integrative Literature Review**

These categories were condensed, in consultation with the supervisor, into four categories on which the questions were based. Categories were aligned to Parse's theory in order to develop the questions that would guide the semi structured interviews in keeping with the constructs of Human Becoming as described by Parse, (2011).

The question was:

“How did you experience your perioperative journey from the time that you were admitted?”

Probe questions included

“How did you experience the way that the staff communicated with you during your stay?”

“What was your experience of the nursing care that you received during your stay?”

“How much pain did you experience during your stay?”

“What improvements do you think we can make that would enhance your experience?”

#### **4.4.4 Step two: Interviews-Group one.**

During step two of the data collection the researcher interviewed forty participants. Ten each from ophthalmic, orthopaedic, urological and plastic surgery were selected. These participants were referred to as “group one”. Exclusion criteria included any patient who had had sedation or full anaesthesia and patients who were under eighteen years of age.

Patients that were scheduled for possible awake surgery were selected as possible participants for the study.

## Demographic data of participants in step two

**Table 4.3. Demographic data of Participants in Group one**

Age:	18-30	31-40	41-50	51-60	60+
	2	5	12	13	8
Gender:	Male:	Female			
	28	22			
Language:	English	isiZulu	Afrikaans	isiXhosa	Other
	24	1	8	1	6
Education:	Degree	Diploma	Matric	Other	
	18	8	10	4	
Surgical Discipline	Ophthalmic	Orthopaedic	Urological	Plastic	
	10	10	10	10	
Site:	Hospital “s”	Hospital “m”	Hospital “h”	Hospital “v”	
	14	8	12	6	

The greatest number of participants (13) was in the age group fifty one years to sixty years.

The next most prevalent age group was the group from forty-one years of age to fifty years of age (12). Male and females were almost equally represented with 28 and 22 respectively.

The distribution of language showed a dominance of English with 24 in this language category followed by eight Afrikaans speakers. Two spoke African languages and a total of six whose native language was neither English, Afrikaans or African Indigenous languages. Two were known to speak Portuguese.

The greatest number of participants (18) had a degree. Participants who had diplomas (8) and those with matric (10) were almost equally represented whilst only a small number of participants (4) had other qualifications.

The data collected at the various sites were dictated by the convenience sampling applied. The researcher intended to collect an equal amount of data at all four sites, but awake surgeries

were scheduled intermittently rather than regularly which hampered the planning for data collection.

#### Describing the Interviews - group one

Following an integrative literature review which elicited data relating to patient's information needs, the researcher employed an interview method using one question and a number of probes if required to explore, describe and interpret the meaning of the participants experiences during awake surgery.

The question asked was "How did you experience your perioperative journey from the time that you were admitted?"

Responses were grouped in categories

*Italic font has been used for verbatim quotes from the interviews.*

- The perioperative journey

Many of participants narrated their positive experiences during the admission processes which included admission to the hospital, admission to the ward and admission to the operating theatre.

P1AcMs was impressed with the admission process to the hospital and expressed that he felt that:

*“the admission was seamless”*

When probed to better understand what the participant meant by “seamless” he stated

*“ the staff were organised and friendly. I had completed an on-line admission so my stuff was all there. I just had to sign the documents.”*

P1DjFm expressed that:

*“I was admitted in a jiffy, everybody was very helpful. The nurses in the ward were friendly. They gave me my sexy dress and explained how I must put it on”*

Probing questions were posed in order to understand how participants experienced being admitted to theatre

P1AdMh told that:

*“the staff were friendly but the long wait irritated me”*

The researcher asked probing questions in order to understand the participant’s irritation with the waiting periods

*“I was told to be here at 06:00. Tthe admission was quick but I waited in the ward until after 10:00 to go to theatre. In theatre I waited a very long time before the anaesthetist came to fetch me. This affects my family and my wife must now change her plans for the day to fetch me.”*

A few other participants narrated similar experiences of waiting for long periods

P1AeFh told that she had arrived early as she was instructed to but.....

*“They [the admission clerk], forgot about me, I waited a very long time”.*

- The experience of communication.

Communication with patients forms an integral part of caring for patients throughout the perioperative journey. Obtaining information from patients regarding their health status and habits provide nurses with a holistic understanding of each individual person. This can only be achieved if nurses are able to communicate well.

Building relationships with patients in order to understand how they experience the perioperative journey requires effective dialogue which is in keeping with Parse’s theory (Parse, 2011)

Most of the participants experienced the way that the staff communicated with them as positive.

P1CeFm was very impressed with the way staff and doctors communicated:

*“It is very nice. Wwe came here from Zambia, everybody explains everything very well”*

P1CeMm narrated that:

*“they [the nurses] explained step by step”*

Whilst the comments regarding communication with nurses was good,

P1BdFs had a different experience

*“They [the nurses], explain ok but one nurse was very officious”*

Probing questions regarding the participant’s experience of the nurse being “officious”

revealed that the participant felt:

*“She was ordering me around as if I was a little girl”*

P1BdFs expressed that:

*“The nurses don’t really talk to you, the doctor explained everything”*

- The experience of nursing care.

Caring for patients during their illnesses and surgery is the very essence of what nurses do.

Nursing care takes on many shapes during a patient’s perioperative journey. Nurses will be

measuring and analysing a patients’ vital data, administering medication, ensuring that the

patient’s body is aligned before surgery, perform skin preparation and draping prior to a

surgical procedure and ensure that the wound dressing is applied correctly (Rothrock, (2011). All of these activities must be underscored by a desire to build a relationship with the patient to remain in keeping with Parse's theory of Human Becoming (Parse, 2011).

Most of the participants in this study experienced good nursing care during their stay in the ward as well as in the operating theatre.

P1AbFs shared her experience.told that she experienced that:

*“they [the nurses] looked very calm, they looked as if they knew what they were doing. Tthey were friendly and helpful”*

P1CgMs explained

*“I was very uncomfortable during surgery so they [the nurses] helped me to move my legs a bit and kept me warm”*

Nursing attention was not however always experienced as caring and this participant expressed her concerns.

P1DcFm

*“Four different nurses came to do my admission. It was very confusing, there were too many people around, it made me feel anxious”*



P1BcMv experienced that

*“The nurses didn’t really explain what they were doing; I was very uncomfortable”*

When probed if the nurses had asked if he was comfortable he answered”

*“No but I knew what to expect”*

The researcher asked if the participant believed that comfort was important in theatre

*“If possible, yes you lie there for quite a long time”*

- The experience of pain

None of the participants reported that they had experienced severe pain or discomfort. All of the participants noted that the discomfort related to the needle pricks for the insertion of the intravenous line and / or the commencement of the local or regional anaesthetic, was real but that the pain or discomfort was short lived.

It is mandatory for anaesthetists to establish intravenous access prior to surgery for each patient. This is in order to ensure that patients are rehydrated following the long fasting period preoperatively and to ensure emergency medication can be administered without any delay in the event of unexpected complications.

When specifically asked about pain, participants narrated their experiences as follows:

P1AdMs:     *“I experienced no pain”*

P1CbMh:     *“nope no pain”*

There were some participants who acknowledge some pain.

P1BiMs:     *“the drip was a bit sore....the local burnt a bit”*

P1DaMv     *“the local was uncomfortable but not so bad”*

#### Suggestions for improvements

The few of patients who had experienced long delays felt that hospitals should pay attention to this problem

Some of the participants felt that there were too many documents to complete and that hospitals should streamline the admission process to decrease the paper trail.

#### Summary step two

Most of the participants had positive experiences during the admission processes, although a few participants had experienced “irritating” delays. Generally the participants experienced

communication as positive, however, discussions about the actual nursing tasks and explanation of routine nursing procedures, especially in the operating theatre were lacking. The largest number of participants experienced the nursing care as positive, describing the nurses as “caring”. Most participants experienced very little or no pain during their surgical journey, mostly related to the insertion of the intravenous cannula.

#### **4.4.5 Step three: Usefulness of the information pamphlet**

##### **Demographic data of participants in Group two**

Discussion of the demographic data for participants in “group two”

The greatest number of the participants (15) in step three of the study were as in the age group fifty one years to sixty years. The next most prevalent age group was the group from forty-one years of age to fifty years of age (10).

Males and females were again almost equally represented (21:19) The distribution of language was is representative of the population that the hospitals where the data was collected service, similarly, the educational data also represent the populations that are treated by the sample hospitals.

The data collected at the various sites related to the discipline were dictated by the convenience sampling method that the researcher applied. The demographic data for the participants in “Group two” is depicted in table 4.4.

**Table 4.4. Demographic Data of Participants in “Group two”**

Age:	18-30	31-40	41-50	51-60	60+
	2	6	10	15	7
Gender:	Male:	Female			
	21	19			
Language:	English	isiZulu	Afrikaans	isiXhosa	Other
	24		11		5
Education:	Degree	Diploma	Matric	Other	
	16	8	12	4	
Surgical Discipline	Ophthalmic	Orthopaedic	Urological	Plastic	
	10	10	10	10	
Site:	Hospital 1	Hospital 2	Hospital 3	Hospital 4	
	16	10	12	2	

During step three of the data collection the researcher once again identified the appropriate and convenient sample of ten participants from each discipline as was applied in step two. The selection of this group was done preoperatively and matched the sample of participants in “Group one”.

The researcher administered the information pamphlet to the participants preoperatively. The contents of the information pamphlet were explained and participants who had difficulty reading the content were assisted by the researcher.

The researcher visited the participants postoperatively and posed a dichotomous question relating to the usefulness of the information pamphlet.

The dichotomous question included the following:

- “Did you find the information that was contained in the information pamphlet that I handed to you before you went to theatre, useful during your experience in theatre?”

Thirty four participants described the pamphlet as useful.

Two participants felt the information pamphlet was a good idea but that it did not contain any new information.

Four participants described the pamphlet as not useful.

**Table 4.5 Totals for Dichotomous Questions.**

	TOTALS
YES INFORMATION PAMPHLET WAS USEFUL	36
NO INFORMATION PAMPHLET WAS NOT USEFUL	4

The dichotomous questions were analysed using the total responses to each option. In addition, participants were offered the opportunity to add any comments relating to the usefulness of the pamphlet.

The researcher once again posed probing questions in order to obtain a deeper understanding of the participants' perioperative experience.

Probing questions relating to communication and nursing care were posed by the researcher.

Summative content analysis was conducted on the comments that participants added to identify categories according to the method described by Hsieh and Shannon (2005).

## Communication concerns

Parse, (2011) describes the importance of nurse-patient relationships. Relationships develop when nurses and patients engage in dialogue and the nurse become immersed in the narrative of the patient in order to be able to “be with” the patient on his perioperative journey.

These participants did not feel that the nurses engaged in detailed communication

P2AcMs: *“the nurses get on with what they must do they don’t explain much”*

P2CfMs: *“we didn’t talk much when the doctor was operating”*

In contrast these participants had positive experiences of dialogue in the operating theatre:

P2DjMs: *we had a lot of fun we [the participant and the team] were chatting and laughing while he [the surgeon] was operating*

P2AjFm: *“the nurse told me what she was doing when she put the stickers on my chest and the cuff on my arm”*

P2BeFh: *“the nurses helped me to climb over onto the theatre bed”*

When asked about the usefulness of the pamphlet most of the participants experienced the information pamphlet as useful, whilst only a small number of participants experienced the information pamphlet as not useful.

Those that disagreed with the pamphlet felt that the information was repetition of information that they already had.

P2CeMs                    *“a good idea, but it’s got information that I already know”*

P2DjMh                    *“it’s a good idea but I think most people know all of this”*

P2AjFs                    *“no it is a waste of time”*

P2BfMs                    *“no, one already has to deal with far too many pieces of paper”*

P2DfMm                    *“no it is not necessary”*

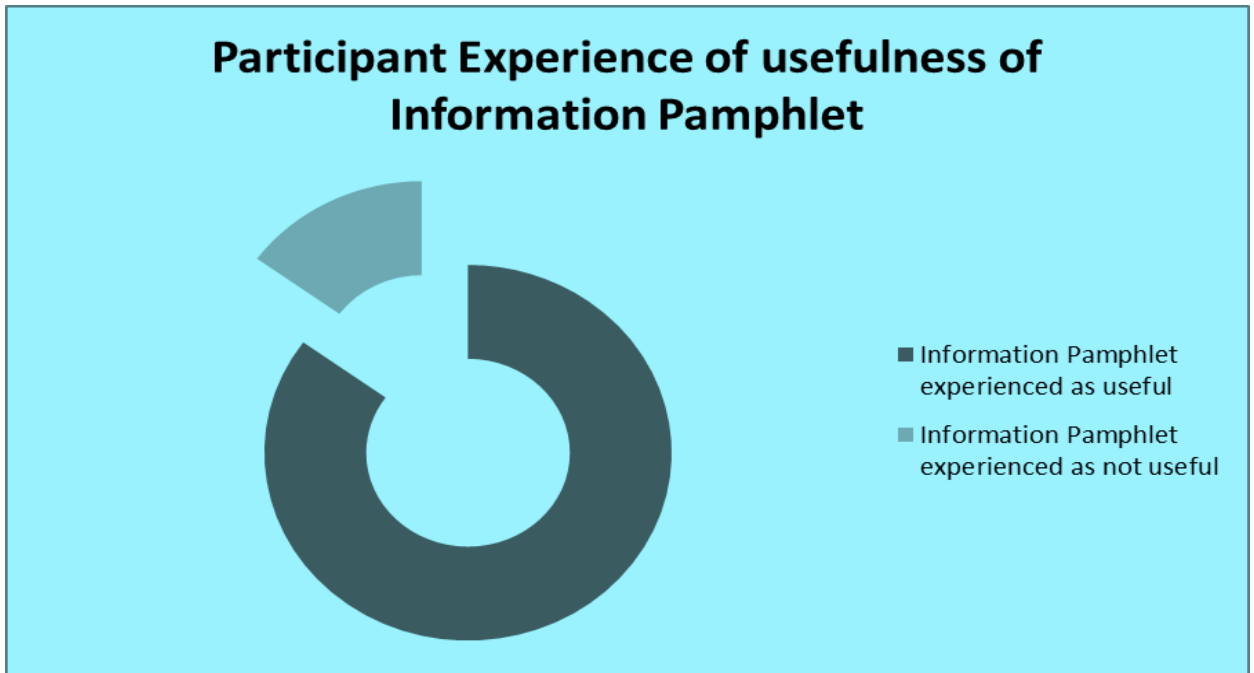
P2DjFv                    *“no I don’t think people want to know all the detail. It will stress them out”*

The patients who gave a positive response to the use of the pamphlet outnumbered those who did not think it was useful

P2 AeMs                    *“very nice idea good explanation, it would be very helpful”*

P2AgFh                    *“the pamphlet is very helpful—you should implement it”*

P2DfMv                    *“this looks well designed I like the information about theatre”*



**Figure 4.2 Findings of comments in summative content analysis**

The summative content analysis that was applied to the comments that participants made elicited the following categories:

The following sub-categories were identified:

Pamphlet appears attractive

P2DfMv                    *“this looks well designed I like the information about theatre”*

Understandable language

P2 AeMs                    *“very nice idea good explanation, it would be very helpful”*

Good intraoperative information

P2DfMv                    *“this looks well designed I like the information about theatre”*



Emerging categories:

Well-designed

User friendly

Summary step three

Thirty four participants described the pamphlet as useful. Two of the participants felt the information pamphlet was a good idea but that it did not contain any new information.

Four participants described the pamphlet as not useful. Four of the participants experienced the information pamphlet as not useful at all, describing it as a “*waste of time*” and expressing concern that too much information could be stressful to some people.

#### **4.5 SUMMARY**

This chapter has discussed the categories and findings of the data analysis. The qualitative data analysis as described by Hsieh and Shannon (2005) was used to identify the categories and subcategories. Three sub categories were extracted from the transcribed interviews. Two categories emerged from the subcategories. Discussion to substantiate the research findings is found in the next chapter using references to existing literature.

# **CHAPTER FIVE**

## **DISCUSSION, RECOMENDATIONS, LIMITATIONS AND CONCLUSIONS.**

### **5.1 INTRODUCTION**

This chapter discusses the findings of this study as well as the conclusions that were derived from the findings and recommendations. The limitations will be identified and discussed.

### **5.2 SUMMARY OF THE STUDY**

Awake surgery is a growing method of providing anaesthesia globally. Regional and local anaesthesia has many advantages that include enhanced homeostasis, protection of the immune system, reduced anxiety, reduced hospitalisation times and a reduction of cost to the patient.

This study aimed to investigate and explore the perioperative experiences of patients who had had awake surgery and what information they thought would improve their perioperative experience.

This chapter highlights the importance of providing patients with adequate information in order to enhance their preparedness for surgery, decrease fear and anxiety and in so doing improve surgical outcomes and the patient's experience of the perioperative journey. Furthermore, this chapter reflects on the lessons that were learnt during the study and the gaps identified in the knowledge relating to the patient's perioperative experience as well as the gaps within the perioperative nursing practice.

Limitations that were evident during data collection and at the conclusion of this study are highlighted and a report of the implications of the findings are included.

The study employed a qualitative research design and data was collected in three steps. Qualitative research was the best method for this study as this research method provided the researcher with the opportunity to engage with participant's narratives and analyse the meaning of their experiences. This is in line with the Human Becoming theory of Parse, (2011) who holds that each person experiences life in their own unique way and that nurses should support patients in their health journeys.

The objectives for this study were the following:

- To explore the experience of patients who undergo awake surgery.
- To determine the information needs of patients' undergoing surgery.
- To develop a pre-operative nursing information pamphlet.
- To evaluate the usefulness of the information pamphlet by exploring patients' experiences post awake surgery after having received the information pamphlet.

### **5.3 DISCUSSION OF FINDINGS**

The first objective of this study was to explore the experiences of patients who had undergone surgery whilst being awake. The researcher began the study with an interrogation of the existing literature in order to extrapolate findings of other researchers that would enhance understanding of the problem and provide a basis for the development of a questions that would be put to patients in order to establish what their information needs were.

The selected literature identified in the integrative literature review elicited the need for excellent communication, caring attitudes, the provision of information and patient education related to the perioperative journey.

The perioperative journey consists of the period from the time that a decision was reached by the patient and the surgeon that surgical intervention is needed up until the time that the patient is discharged from the hospital. This includes the admission processes to the hospital, admission to the ward and the transport and admission into the operating theatre.

The experiences of patients were grouped under four categories, the perioperative journey, communication, nursing care and finally pain control. The information extracted from the literature in these categories set the basis for the question and probes in step two of the study which assisted in identifying the experiences of the participants in this study.

The information gained from the literature was used to design an information pamphlet that was handed to participants during the data collection in step three.

Generally participants reported positive experiences. They found that the admission process went well. Some had made use of the preadmission process available and this resulted in the admission process being speeded up. On the whole the ward staff was attentive and made them feel welcome. Communication at ward level was good and the participants felt safe.

Some of the participants felt that the waiting time before being taken to theatre was excessive and once they were waiting in theatre they were sometimes left alone.

Intraoperatively it was the surgeons and anaesthetists who communicated with the patient although in some instances the nurses did chat to the participant.

The second objective for this study was to determine the information needs of perioperative patients. The findings of this study is based on the analysis of the participant's experience

The literature suggested that patients should receive adequate information regarding the perioperative processes in order to decrease anxiety and improve surgical outcomes (Gadler *et al.*, (2016). These authors hold that the use of media improves retention of information in the perioperative patient.

Haugen *et al.*, (2009) suggested that it is important for patients to be able to ask questions as this reduces levels of anxiety. Caljouw *et al.*, (2008) explain that it is important that perioperative patients are approached with kindness in order for them to understand the content of information given. This is a key component of Parse's theory that states that nurses need to "be with" patients in order to understand the patient's perspective (Parse, 2011).

During the data collection in step two of the study participants were asked how they experienced the perioperative processes in an attempt to identify possible needs and what information would have been useful. Interviews were conducted postoperatively with

participants who had undergone awake surgery.

The purpose of these interviews was to establish the participant experience of the perioperative journey and to elicit what information they thought would have been helpful to have had prior to their surgical interventions.

The greatest number of participants reported positive experiences however a few areas of concern were elicited. A few participants felt that long waiting periods between the time of admission and the actual time of surgery impacted negatively on their experience of the perioperative journey creating a feeling of uncertainty. It is important that admission processes be conducted quickly, smoothly and in an orderly fashion. This is achieved with good communication and effective organisation.

The lack of organisation may lead to adverse events such as incorrect identification of patients or patient records (Lingard *et al.*, 2004) and leaves the patients feeling anxious. Effective organisation results in the effective use of resources and the prevention of delays and inconveniences to patients during the perioperative period. (Lingard *et al.*, 2004).

A second concern that was identified was the participant's need for adequate information during the intraoperative period. Participants pointed out the lack of effective intraoperative communication and intraoperative nursing care.

Fung and Cohen, (2000) hold that nurses spend a limited amount of time with patients in the perioperative setting and in order to obtain adequate information from the patient, provide the patient with adequate information and provide effective nursing care, nurses need to develop good communication skills.

The importance of communication and providing information to the awake patient was described by Lindwall *et al.*, (2003) who explained that patients need continuous support

whilst being awake during their surgery.

The participants described the nurses as friendly and competent, but when probed the participants shared that the nurses provided them with very little information relating to what was expected of them in the theatre and what procedures were being performed on them such as for example the skin preparation and draping.

Garret, (2016) is of the opinion that communication in health care is multidimensional and complex and those different professional disciplines each have their its own unique culture and this influences information sharing in the perioperative setting. Garret, (2016) believes that effective communication ensures good team work and positively e affects patient outcomes. Saunders, (2004) posit that good communication skills are needed to ensure effective social interaction.

Traditionally, perioperative practices required of nurses to be technically skilled, focussing on the practical aspects of maintaining the integrity of the surgical field and assisting the surgeon and the anaesthetist.

As the practice of awake surgery increases, the perioperative nurse will be challenged to develop the ability to communicate well and build relationships with patients in order to ensure quality patient care by ensuring needs are met and patients have positive patient experiences (Saunders, 2004).

Building relationships with patients is one way to develop understanding of the way that patients experience their perioperative journey and is a key aspect of the theory of Human Becoming as described by Parse, (2011).

Nursing care in the ward setting involves the taking and analysing of vital data, measuring and analysing intake and output, administration of medication, performing wound care,

designing, implementing and evaluating care plans and providing comfort.

Nursing care in the operating theatre involves aspects of preparation of the environment and sterile supplies, safe positioning of the surgical patient, skin preparation and draping, maintaining the sterile field, controlling instruments, swabs and needles and ensuring wound care. (Saunders, 2004).

In the recent past most of the surgical patients were unconscious and perioperative nurses were not able to engage in meaningful dialogues or build relationships with patients in the operating theatre. This study elicited the fact that perioperative nurses refrained from communicating with the awake perioperative patient and that the information that the patients received were given to them by the doctors and anaesthetists.

The growing practice of awake surgery demands that perioperative nurses support these patients by developing the ability to communicate effectively with the patient in the operating theatre. (Brodin et al., 2017).

Carnwell, (2009) holds that skilful communication is required to build relationships within a short time frame, but perioperative nurses should endeavour to develop effective nurse-patient relationships. The information needs, although not many, were established thus meeting the second objective.

The third objective for this study was the development of an information pamphlet.

The information extrapolated from the data collected during these interviews were combined with the information gleaned from the integrative review was used to develop an information pamphlet that contained information relating to the perioperative journey with specific reference to the nursing procedures during the intraoperative period.



The last objective for this study was the evaluation of the usefulness of the information pamphlet. In order to achieve this objective these information pamphlets were administered to a second group of participants preoperatively who were matched by surgical discipline to group one in step one of the study. Postoperatively the same group of participants were asked if they found the information contained in the information pamphlet useful.

The demographic data for participants of both Groups in step two and in step three, were similar. The largest amount of participants was in the age group fifty one years to sixty years. This may possibly be because all of the participants who underwent eye surgery were in this age group.

Eye disorders necessitating surgical intervention such as cataracts mostly present in the older adult. The next most prevalent age group was the group from forty-one years of age to fifty years of age. This may possibly be due to the fact that urological disorders such as prostate biopsy and skin disorders such as excision of basal cell carcinoma requiring minor surgery are prevalent in this age group.

Males and females were again almost equally represented and the distribution of language and educational status was representative of the population that the hospitals where the data was collected service. The data collected at the various sites were dictated by the convenience sampling method that the researcher applied.

The dichotomous question was analysed by totals. The overwhelming greatest number of participants felt that the information pamphlet was useful and should be implemented by the hospitals.

Participants were offered the opportunity to add any comments relating to the usefulness of the information pamphlet if they wanted to. and probe questions were employed in order to elicit participant experiences with communication and nursing care that were identified during the interviews in step two of the data collection.

Summative content analysis was again conducted on the comments that participants added to identify categories according to the method described by Hsieh and Shannon (2005).

The conclusive findings were that the information pamphlet was:

Well-designed pamphlet

User friendly pamphlet

Those participants who did not find the pamphlet useful said that they already had most of the information and had got it in the public domain or from their surgeons.

It can thus be said that the usefulness of the pamphlet was confirmed and therefore the third objective was met.

## **5.4 RECOMMENDATIONS**

Recommendations are suggested based on the research findings of this study. The researcher made recommendations based on research findings. Recommendations refer to nursing management, nursing practice and nursing research.

## **Recommendation for nursing management**

A positive experience of the perioperative journey is important to ensure that patients can return to their normal work and family life as quickly as possible. Positive experiences of the perioperative journey of patients reflect positively on the service standard of a hospital and its staff. This study revealed that there are three areas that hospitals may pay attention to.

Hospitals could streamline the admission processes by combining questionnaires and encouraging patients to utilise the online admission facility. Technology is available that could allow for hospitals to make information given by patients available to the patients' anaesthetist and surgeon in a safe and secure manner in order to decrease duplication of processes and decrease the use of printed documents.

Simplifying admission processes could assist with the management of delays. Delays impact on the lives of the patients and their families and work life. Although it is not possible to predict the time that surgery would take all effort should be employed to minimise waiting periods. Staggering admission times for patients on long surgical lists and using evidence based information to plan surgical times could greatly assist in decreasing delays.

## **Communication**

Effective communication from the nursing staff is crucial in the process of caring for patients. Nurses and in particular perioperative nurses should strive to establish relationships with patients in order to enhance perioperative caring and recovery in line with Parse's theory.

Parse, (2011) Hospitals should ensure that nursing staff receive guidance and support in developing communication skills that would facilitate reaching this objective.

### **Recommendation for nursing practice**

Nurses who work in the operating theatres should be guided to understand the role of the operating theatre nurse in providing information to the patient during the surgical intervention especially when routine nursing tasks are being performed such as applying the monitoring equipment, skin preparation and draping, applying the inactive electrode of the diathermy and applying the wound dressing. Nurses should be encouraged to engage in perioperative dialogues with the patient to continually inform and allay anxiety and ensure a positive perioperative experience.

### **Recommendation for nursing research**

This was the first study exploring the experiences of the perioperative journey in South Africa. Further investigation is needed to explore whether these experiences differ between the patients in the private sector and the public sector. the perioperative experiences of patients undergoing awake surgery in other surgical disciplines and in other hospitals and provinces could also be explored.

### **What this study adds.**

Since awake surgery is relatively new and on the increase, the role of the theatre nurse will change. This study added knowledge and understanding of how patients experienced the perioperative journey and what information they needed to improve the experience. Nurses in this field can build on this information.

## 5.5 LIMITATIONS OF THE STUDY

This study was conducted in four private hospitals belonging to one private hospital group. Three of the hospitals were in Gauteng and one hospital was in Mpumalanga. Study results from a similar study conducted in different hospitals and in different provinces in South Africa or in the government sector and other countries may elicit different results.

The results of this study may thus not be fully generalizable. All the participants underwent awake minor surgery and were day cases. This posed a particular challenge when conducting semi-structured interviews post-operatively as the patients were discharged immediately once the surgery was completed and the patient's vital data was stable. Participants were therefore ready to go home.

This may have negatively affected the comprehensiveness of responses to probing questions due to some of the participants being in a hurry to leave. Participants who were not in a hurry to leave provided more comprehensive answers to probing questions.

During step three of the study a small number of participants left the ward before post-operative interviews could be conducted.

Patients who are awake during major surgery and who subsequently remain in hospital for longer periods may have different experiences relating to the perioperative journey.

Most of the participants in this study were in the middle age group of fifty one to sixty years. Stone *et al.*, (2010) referring to the large Gallup study conducted in the United States of America relating to levels of happiness in mature adults, agree with Louw and Edwards, (2011) that mature adults who enjoy good health and who have enjoyed satisfying lives are

generally happier and wiser and experience lower levels of stress than their younger counterparts.

Patients who are able to access health care in the private sector in South Africa have some form of medical insurance or are members of a medical aid scheme, or are financially able to pay up front for their hospitalisation. Thus we could deduce that the participants selected for this study would be part of the happier group of adults referred to by Stone *et al.*, (2010). These factors may have influenced the positive experience expressed by the participants relating to their perioperative journey and the usefulness of the information pamphlet.

## **5.6 CONCLUSION**

As techniques and drugs improve, an increasing number of anaesthesiologists are administering regional or local anaesthesia to patients. Whilst local anaesthesia is widely administered in ophthalmic surgery, minor plastic surgery, minor surgery on upper and lower limbs and also in angiography, regional anaesthesia is used extensively for obstetric surgery and major orthopaedic surgery (Morgan *et al.* 2006)

Research has shown that many patients who are scheduled for surgery experience fear and anxiety (Matthias and Samarasekera 2011; Morgan *et al.* 2006; JLala *et al.* 2010) These authors agree that both fear and anxiety are linked to a lack of information.

Patients who have had a positive experience during their hospitalisation and surgery experience less anxiety and pain (Hudson *et al.* 2015;). Mitchell, (2011) state conversely, patients who had a negative experience rated pain higher or more severe.

Loeb, (2004) and Charmel and Frampton, (2008) agree that nurses should ensure that patients receive excellent care in order to enhance a positive experience.

Phillips (2013); Rothrock (2011), Hinkle and Cheever (2014), JLala *et al.*, (2010) and Morgan *et al.*, (2006), all agree that providing patients with adequate information preoperatively and creating opportunity for patients to ask questions significantly decrease both anxiety and fear.

Participants reported that delays and excessive duplication of paperwork were experienced as irritation. The need for a meaningful relationship with perioperative nurses emerged and the apparent lack of communication skills of health care workers were discussed.

This study has elicited what information participants felt would be useful to have prior to embarking on a perioperative journey and the usefulness of a perioperative information pamphlet has been highlighted.

The aim of this study was to explore the information needs of patients relating to the perioperative journey and to develop an information pamphlet that contained the information that the participants needed. These objectives were concluded successfully.

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R14/49 Ms Johanna Martins

**HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)**

**CLEARANCE CERTIFICATE NO. M160787**

**NAME:** Ms Johanna Martins  
**(Principal Investigator)**  
**DEPARTMENT:** Nursing Education  
Mediclinic Morningside, Mediclinic Sandton,  
Vereeniging Mediclinic and Highveld Mediclinic


**PROJECT TITLE:** The Influence of a Preoperative Information Brochure  
on the Experience of Patients Undergoing Awake Surgery

**DATE CONSIDERED:** 29/07/2016

**DECISION:** Approved unconditionally

**CONDITIONS:**

**SUPERVISOR:** Andrea Hayward

**APPROVED BY:**   
\_\_\_\_\_  
Professor P Cleaton-Jones, Chairperson, HREC (Medical)

**DATE OF APPROVAL:** 21/10/2016

**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 Research Office Secretary in Room 10004, 10th floor, Senate House/3rd Floor, Phillip Tobias Building, Parktown, University of the Witwatersrand. 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.** The date for annual re-certification will be one year after the date of convened meeting where the study was initially reviewed. In this case, the study was initially reviewed in July and will therefore be due in the month of July each year.

\_\_\_\_\_  
Principal Investigator Signature

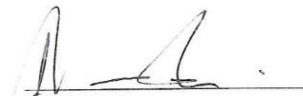
\_\_\_\_\_  
Date

**PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES**

**RESEARCH APPLICATION – J MARTINS**

Date: 5 September 2016

FOR APPROVAL

  
G VAN WYK  
HR Executive

**NOTES**

- Locality : Mediclinic Sandton, Mediclinic Vereeniging,  
Mediclinic Highveld
- Report : Report to nursing managers
- Employee : Yes
- Value of Study : Confirmed
- Topic : The influence of a preoperative information brochure  
on the experience of patients undergoing awake  
surgery in private hospitals
- Impact : Patients
- Supported by Hospital : Supported by Nursing Managers of the three hospitals,  
and Ansie Prinsloo

## APPENDIX C

Mrs J Martins  
37 Malva Street  
Northmead  
Benoni  
1501  
17 April 2016

### Participant information sheet: Group one.

#### Title of Study: The influence of a preoperative information brochure on the experience of patients undergoing awake surgery in private hospitals.

Good day,

My name is Jo-anne Martins and I am a registered student at the University of the Witwatersrand reading towards my masters in nursing science degree. The purpose of my study is to improve the preparedness of patients for awake surgery.

I would like to invite you to participate in my study. The aim of my study is to design an information pamphlet for patients who will undergo awake surgery. I would like to ask your permission to conduct a conversation with you regarding your experience in the operating theatre during your awake surgery.

The information that I will obtain during our interview will be included in an information pamphlet for patients undergoing awake surgery.

I also need to ask your permission to use a recorder to record our interview. This is to ensure that I have a record of all your input. The recorded interview will be typed out and both the recording and the typed record will be kept in a safe location for 6 years. The interview should take about 10 to 15 minutes to conclude.

Your identity and the nature of your surgery will not be made public. Your participation is voluntary and you may, at any time during our conversation, opt to discontinue our discourse.

I sincerely appreciate your participation.

Kind regards

Jo-anne Martins

Mediclinic Learning Centre Northern Region

011 709 2366

0824169000

Supervisor:

A Hayward: 011 488 4712

## APPENDIX D

Mrs J Martins  
37 Malva Street  
Northmead  
Benoni  
1501  
17 April 2016

### Participant information sheet: Group two.

**Title of Study: The influence of a preoperative information brochure on the experience of patients undergoing awake surgery in private hospitals.**

Good day,

My name is Jo-anne Martins and I am a registered student at the University of the Witwatersrand reading towards my masters in nursing science degree. The purpose of my study is to improve the preparedness of patients for awake surgery.

I would like to invite you to participate in my study. I have developed a pamphlet that contains information regarding what you may expect during your awake surgery. I would like you to read the pamphlet and then, once you have had your surgery, I would like to come back to you to ask how helpful you found the information in the pamphlet

The information that I will obtain during our post -operative interview will enable me to refine the contents of the pamphlet in order to make it more helpful.

I also need to ask your permission to use a recorder to record our interview. This is to ensure that I have a record of all your input. The recorded interview will be typed out and both the recording and the typed record will be kept in a safe location for 6 years. The interview should take about 10 to 15 minutes to conclude.

Your identity and the nature of your surgery will not be made public. Your participation is voluntary and you may, at any time during our conversation, opt to discontinue our discourse.

I sincerely appreciate your participation.

Kind regards

Jo-anne Martins

Mediclinic Learning Centre Northern Region

011 709 2366

0824169000

Supervisor:

A Hayward

011 488 4712

## APPENDIX E

### CONSENT TO PARTICIPATE IN A STUDY

I agree to participate in this study. I have read and understand the information letter. The researcher explained the purpose of her study and I was given opportunity to ask questions about the study and the procedure.

I understand that my identity and all information regarding my surgery will remain strictly confidential.

I understand that participation is voluntary, and refusal to participate will involve no penalty or loss of benefits to which I am otherwise entitled.

I understand that I may withdraw from the study at any time without any consequences to myself.

Participant name: \_\_\_\_\_

Participant signature: \_\_\_\_\_

Date: \_\_\_\_\_

**APPENDIX F**

**CONSENT FORM FOR RECORDING AN INTERVIEW.**

I have agreed to participate in this study. I understand that the interview will be recorded and give my permission for the researcher to do so. I have read and understand the information letter. The researcher explained the purpose of her study and I was given opportunity to ask questions about the study and the procedure.

I understand that my identity and all information regarding my surgery will remain strictly confidential.

I understand that the recording of the interview will be destroyed two years after publication of the findings or after six years if there are no publications.

I understand that participation is voluntary, and refusal to participate will involve no penalty or loss of benefits to which I am otherwise entitled

I understand that I may withdraw from the study at any time without any consequences to myself.

Participant name: \_\_\_\_\_

Participant signature: \_\_\_\_\_

Date: \_\_\_\_\_

## APPENDIX G

Group one postoperative data collection tool with examples of questions for the purpose of gaining information to guide the development of the preoperative information pamphlet.

### POST-OPERATIVE INTERVIEW GUIDE

<b>DEMOGRAPHIC INFORMATION:</b>	
<b>PARTICIPANT CODE</b>	
<b>AGE</b>	
<b>GENDER</b>	
<b>HOME LANGUAGE</b>	
<b>HIGHEST EDUCATIONAL QUALIFICATION</b>	
<b>SURGICAL PROCEDURE</b>	
<b>Question 1</b>	
How did you experience your perioperative journey?	
<b>Possible Probe questions</b>	
How did you experience the way that staff communicated with you?	
What was your experience of the nursing care that you received?	
How much pain did you experience?	

## APPENDIX H

### Group two postoperative data collection tool.

#### POSTOPERATIVE INTERVIEW GUIDE

<b>DEMOGRAPHIC INFORMATION:</b>	
<b>PARTICIPANT CODE</b>	
<b>AGE</b>	
<b>GENDER</b>	
<b>HOME LANGUAGE</b>	
<b>HIGHEST EDUCATIONAL QUALIFICATION</b>	

#### Question 1

Did you find the information contained in the information pamphlet useful?

YES	
NO	

#### Would you like to add any other comments?

Possible probe questions:

How did you experience that way that staff communicated with you in theatre?

What was your experience of the nursing care in theatre?



## APPENDIX I

### Transcript of interview.

#### P1AaFh

1 R: please share with me how you experienced the admission process when you arrived at the  
2 hospital

3 P: *it was a pleasant experience* **1** *we were nicely attended at the reception but then we sat in*  
4 *the coffee shop—I was very hungry—they forgot about me* **1** *you know. I read my book then*  
5 *later they came to call me.*

6 R: Was it the nurses who came to call you?

7 P: *no the lady from reception ---then she told me how to get to the ward.*

8 R: how did you experience being received in the ward?

9 P: *the staff in the ward was brilliant,* **3** *well done you can see there is good team work.* **3**

10 R: Won't you please share with me how you experienced being taken to theatre?

11 P: *no that was also fine,* **3/1** *but the area where I lay in theatre was very small.* **1/3**

12 R: do you mean your bed was pushed into a small space?

13 P: *there seem to be lots of patients,* **1/3** *the doctor; the anaesthetist didn't have space to*  
14 *move.* **1/3**

15 R: so how comfortable was it for you to lie in that small space

16 P: *I was not comfortable I felt my space; you know my personal space was too small* **1/3** *the*  
17 *anaesthetist was squeezing in between me and the patient next to me*

18 R: was this when the anaesthetist came to give you the local injection into your eye?

19 P: *yes.*

20 R: what did the anaesthetist say to you about the small space?

21 P: *no I don't think he said anything about that he just asked me if I have allergies, then he*  
22 *gave me the injection.* **2**

23 R: how much pain did you experience when he gave you that injection into your eye?

24 P: *no I didn't feel a thing* 4 *just some pushing onto my eye, you know. I think those eye drops*  
25 *take away the sensation and he also put up a drip.*

26 R: how much pain did you experience when he put the drip up?

27 P: *no not much,* 4 *you know, just a prick* 4, *he was very good.*

28 R: please tell me how you experienced the way that staff communicated with you throughout  
29 your stay

30 P: *they explained quite nicely* 2 *what they were going to do you know take my blood pressure*  
31 *everybody had a good human touch.*3

32 R: how did you experience the way staff communicated with you in theatre?

33 P: *I think they explained everything* 2

34 R: what were the things that the theatre nurses talked to you about?

35 P: *when they put on the blood pressure thing and the thing on my finger and the stickers [the*  
36 *ECG stickers]*2

37 R: what did the doctor explain to you in theatre?

38 P: *he told me everything he was doing* 2—*not that I understood everything he said-- but he*  
39 *was very nice* 1 *and I never felt a thing* .4

40 R: how did you experience the nurses care in theatre?

41 P: *that bed is not very comfortable* 1 *but the nurses did put a warm blanket on me* 3

42 R: how much did the warm blanket help you to feel comfortable?

43 P: *well they can't make the bed softer so I think it was more the kind gesture* 3

44 R: what else would you have liked the nurses to do or tell you?

45 P: *they didn't really talk* 2 *much after putting the monitors on*

46 R: did the nurse explain what she was doing when she cleaned your face?

47 P: *she just said she was going to do it* 2

48 R: and when she put the green drapes on you—did she explain what she was doing?

49 P: *no I don't think so* 2

- 50 R: please share with me how much pain you experienced
- 51 P: *no I didn't feel any pain* 4
- 52 R: how much discomfort did you experience at any time during your surgery?
- 53 P: *it was a bit uncomfortable to lie still but it wasn't too long* 3
- 54 R: what improvements could we make that would enhance your experience in our hospital.
- 55 P: *maybe they can look at the space where they put me and improve that.* 3
- 56 R: do you mean when they moved you to theatre?
- 57 P: *yes that small space made me feel a bit insecure.* 3
- 58 R: I am sorry about that. Would you like to make any other suggestions?
- 59 P: *just keep up the good work* 3
- 60 R: Thank you very much. Thank you for participating in my study. Please get better soon
- 61 **Key to highlighted text:** Yellow: positive experience Blue: negative experience

Category		positive	negative
Perioperative experience	1	3	
Communication	2	4	4
Nursing care	3	7	5
Pain	4	4	1

<p>APPENDIX J</p> <p>INFORMATION PAMPHLET</p> <p><i>Research Project Ms Jo-anne Martins M160787</i></p> <p><b>Your surgical journey explained</b></p> <p>Welcome to our hospital. We hope that you will have a pleasant experience during your stay.</p> <p>Please do not hesitate to ask any of our staff members for assistance.</p> <p>Your surgical journey consists of 4 stations</p> <ul style="list-style-type: none"> <li>➤ Your admission</li> <li>➤ Your surgery</li> <li>➤ Your recovery</li> <li>➤ Going home</li> </ul>	<p>Once your admission to the hospital has been completed we will ask you to report to your ward. In the ward a nurse will measure your blood pressure, temperature and pulse and will ask you about your health, habits, previous surgery that you have had, any allergies that you suffer from and the time you had your last meal.</p> <p>A nurse will place an arm band onto your wrist that contains your personal details. This is done to assist the doctors and nurses to identify you.</p> <p>A nurse will provide you with disposable underwear and a theatre gown. The gown closes with tags which should be at the back.</p> <p>It is not always possible to predict the exact length of surgical procedures; therefore it is possible that you may have to wait a little while before you are operated on. Please tell a nurse if you have any concerns.</p> <p>You will be taken to theatre on your ward bed. Your spouse, a family member or a friend may accompany you to the theatre department.</p> <p>At the theatre a nurse will identify you and repeat the set of questions regarding your health, habits, previous surgery, allergies and the time you had your last meal. The nurse will also provide you with a disposable cap to cover your hair.</p> <p>Once inside the theatre a nurse will help you to move from your ward bed onto the theatre bed. The theatre bed is quite narrow so it is best to move over slowly.</p>	<p>A nurse will place a blood pressure cuff on your arm, ECG stickers on your chest and a clip on your finger that will measure your pulse rate.</p> <p>Your Anaesthetist will put a drip up and will proceed to give you your anaesthetic.</p> <p>A nurse will clean the surgical site with an antiseptic solution and sterile drapes will be placed on the area. Please do not touch the sterile drapes.</p> <p>During your surgical procedure the theatre team will focus on your care and safety, but please feel welcome to ask questions during this time. Please let us know immediately if you feel any pain.</p> <p>Once the procedure is finished you will be assisted to move back onto your ward bed. You will spend some time in the Recovery Room where the staff will once again monitor your vital data.</p> <p>Back in the ward a nurse will take your vital data again and you will be offered something to drink.</p> <p>The nurse will tell you if you have to wait to see your surgeon before you may go home. Once you feel up to it and your vital data is within normal limits, the nurse will allow you to go home.</p> <p>Please remember your medicine to take home.</p> <p>We wish you a speedy recovery.</p>
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