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COMMUNICATION BETWEEN SURGEONS AND ANAESTHETISTS IN THE PERIOPERATIVE PERIOD: AN EXPLORATORY STUDY

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

November 2017

Declaration

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

_____

_____ day of _____ 2017

Acknowledgements

I would like to firstly praise my Creator and Sustainer, without whom I would not be where I am today. Glory be to You, the most Beneficent, the most Merciful.

To my beautiful wife, Nabeela, thank you for always being there for me and for constantly encouraging me to be the best that I can be. I love you.

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This report would not have been possible without the support and assistance from my supervisors: Lionel, Juan and Helen. Thank you. I am truly grateful. It was a long road with many pit stops and detours but we did it. Finally...

To Professor Lundgren and the staff of the Department of Anaesthesiology at Wits, thank you for the guidance and mentorship throughout my training. I will cherish it forever.

Abstract

Background: Communication between surgeons and anaesthetists in the perioperative period is critical to patient safety. Members of the perioperative team must harness a diversity of non-technical skills that complement their technical abilities. Teamwork and communication are essential to provide an effective teamwork environment and safe patient care. Currently, there is a perception that communication between surgeons and anaesthetists at the University of the Witwatersrand (Wits) is strained.

Method: This study explored communication between surgeons and anaesthetists in the perioperative period as well as barriers. Four focus group discussions were held amongst registrars and consultants (two amongst surgeons and two amongst anaesthetists).

Results: The results confirmed that communication between the two departments is sub-optimal. Participants say they work as parallel units instead of a cohesive perioperative team. Surgeons and anaesthetists have different values and responsibilities leading to the erosion of mutual respect. Other factors that contribute to a decrease level of communication include a lack of insight and knowledge amongst the junior staff, the high workload experienced at public hospitals, limited resources and staff turnover. Both surgical and anaesthetic participants were critical of the other's level of professionalism.

Conclusion: Training in communication needs to be included into the teaching programme for registrars as this could potentially improve theatre efficiency and patient safety.

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Abbreviations

Wits:	University of the Witwatersrand
WHO:	World Health Organisation
SSC:	Surgical Safety Checklist

Section 1: Literature review

1.1 Introduction

Multidisciplinary teams need to work together in order to achieve a desired outcome. This is true for any profession. Picture a construction site, the architect, the quantity surveyor, the bricklayer, the cement mixer, the plumber and the electrician etc, all work together to create a flawless building. Or a football team, there are defenders, midfielders, wingers, strikers and the goalkeeper, each having a responsibility yet also relying on the other team members to work together to win a game. The health profession is not much different. Various professions with various technical abilities have to work together to achieve a desired outcome. There is however a crucial difference, life. Healthcare professionals deal with patients' illnesses, injuries and ultimately patients' lives. If a duty is not carried out or a message not properly transferred, a patient may lose his/her life. In this profession, there is no rematch or miscalculating the number of bricks needed. We only get one shot and communication between team members is essential in making that shot count. This literature review will describe the importance of communication in the optimal functioning of health care teams.

1.2 The impact of communication on patient safety

Patient safety is of utmost importance, whether it is in the operating theatre or elsewhere in the hospital. Errors or miscommunication can have catastrophic consequences for patients, families, medical staff and institutions. Failures in nontechnical skills have been identified as causes in approximately 60% of major peri-operative complications (1). Nontechnical skills can be defined as cognitive and social skills that complement technical skills and contribute to safe and efficient task performance (1). These include teamwork, leadership and communication.

Mazzocco et al. (2) conducted a study in 2005 in four American surgical centres to determine the impact of teamwork amongst surgical teams on the outcome of surgical patients. They observed a 130 theatre staff during the conduct of 300 low, medium and high risk surgical cases performed on patients with variable anaesthetic risks. The study observed non-technical behavioural markers such as briefing, sharing of information, inquiry,

assertion, vigilance and awareness, and contingency management. For each domain, surgical teams were given scores from zero to four depending on how often the behaviour was observed. Data from the procedures were summarised using the Behavioural Marker Risk Index. Three patients had an outcome of death or permanent disability. The complication rate was higher in teams with fewer behavioural markers and lower with teams who communicated better even when adjusting for procedural and anaesthetic risk. Despite being unable to establish a cause-and-effect relationship, this study highlighted the importance of non-technical behavioural markers in patient outcome (2). This study pre-dated the implementation of the World Health Organisation (WHO) Surgical Safety Checklist (SSC) (3).

In 2008, the WHO, as part of their Safe Surgery Saves Lives programme, published recommendations to ensure the safety of surgical patients worldwide (3). They identified the need for better communication to improve patient safety. Studies showed that in developed countries, the rate of deaths in the perioperative period was 0.4 – 0.8% with major complications ranging from 3 – 17% of which at least 50% were preventable (4, 5). Haynes et al. (6), in 2007 assessed the benefits of using a surgical safety checklist to reduce the rates of death and major complications after surgery, across eight hospitals in Jordan, India, United States of America, Tanzania, Philippines, Canada, England and New Zealand. The study involved a checklist implementation programme in non-cardiac surgery. An investigator at each hospital would assess a baseline functioning of the operating room. This included the use of pulse oximetry, prophylactic antibiotics, formal team briefing, confirmation of patient's identity, the procedure and plan for intravenous access. Patient data including demographics, type of anaesthesia, procedure and safety was recorded. The patients were then followed up for 30 days or until discharge for any complications or demise of the patient. The authors wished to attain data from 500 patients at each hospital before continuing to the second phase of the study. The second phase included implementing a 19-step checklist spread over three crucial periods: the period before induction (sign in), the period before skin incision (time out) and before the patient leaves the operating room (sign out). Key points at sign in include patient verification, surgical site, pulse oximeter, allergies, airway management and estimated blood loss. Before the skin incision, the team members are introduced, the patient's identity and procedure are

confirmed, the team members voice specific concerns, antibiotic prophylaxis is confirmed and essential imaging is present. At sign out, instrument, needle and swab counts are reviewed, specimen labelling is complete, the procedure is correctly documented and final concerns are discussed. Complications were defined by the American College of Surgeons' National Surgical Quality Improvement Program (7). The study recruited 3 733 patients prior to the checklist implementation and 3955 patients were studied afterwards.

There was a significant decline in both the complication rate from 11% to 7% (P<0.001) and the mortality rate from 1.5% to 0.8% (P=0.003) (6). Post-operative complications fell by 36%. This study provides data from various socio-economic environments with a sample size in excess of 7 500 patients. This study demonstrates that communication in the operating room is vital in decreasing the rate of morbidity and mortality in patients. It has become the foundation of the SSC worldwide (3).

Lingard et al. (8) evaluated a similar pre-operative checklist compared to the WHO SSC for all general surgery elective procedures (223 surgical patients) conducted at an academic tertiary care hospital in Canada. The study, using a pre- and post- intervention design, observed theatre nurses (41), surgeons (11 specialists and 24 residents) and anaesthetists (28 specialists and 24 residents). During the pre-operative briefing, surgeons, anaesthetists and nurses reviewed the upcoming procedure including relevant medical details, allergies, antibiotic requirements and anticipated complications. The study observed every surgical procedure and recorded the total number of communication failures. These failures are instances in which communication happened too late, was inappropriate, failed to achieve its purpose, or excluded relevant team members. Communication failures per procedure decreased from 3.95 pre-intervention to 1.31 post-intervention, a 3-fold decrease (p <0.001) (6). In addition, there was a 71% reduction, from 133 to 38, of communication failures with no visible consequences. The overwhelming majority of participants (92%) agreed that communication improved after the introduction of the checklist. Problems were identified and resolved timeously.

The evidence is clear that lack of communication can negatively impact patient safety (2, 6, 8-11). The question that should be asked is whether the lack of communication is an error or a violation. Weller and Merry (12) define an error as “the unintentional use of a wrong plan

to achieve an aim, or failure to carry out a planned action as intended" while a violation is "a 'deliberate' deviation from those practices appreciated by the individual as being required by regulation, or necessary or advisable to achieve an appropriate objective while maintaining safety and the on-going operation of a device or system" (12). Reason (13) classifies human error as either, failures in action (slips and lapses) or failures in decisions (rule-based or knowledge-based errors) (13). Failing to attend the SSC briefing may be a knowledge-based error (if the team member is not aware of the relevant literature) but if a team member makes an active decision to avoid these practices, this may constitute a violation.

1.3 Communication within the perioperative team

The operating theatre is a very dynamic environment in which professionals from various disciplines work together to reach specific goals (14). Each member of the surgical team has specialised expertise and knowledge, are reliant on other team members and works in stressful environments (15). The technical abilities of each member is complemented by a diverse set of non-technical skills (16). Teamwork is defined as "an interrelated set of team member thoughts, behaviours, and feelings needed for the team to function as a unit" (1). Teamwork and communication between all members is essential to provide safe patient care. Sax (17) argues that while everyone in theatre is focussed on patient care, motivations are different. Surgeons want to treat the illness or injury and have built a relationship with patients and will be responsible for post-operative care. Anaesthesiologists are tasked with acutely maintaining haemodynamic function during an active surgical event. Nurses have a strong identity as patient advocates and protectors as well as facilitating operative procedures. Students are also part of the peri-operative team and want to learn the techniques of their mentors. Each of these members comes from a different background and this influences how they interact with other professionals. Leach (15) identified differences in attitudes among surgeons, anaesthesiologists and nurses, but found that all agreed that communication and coordination were important factors. Woods and Cook (18) argue that in the search for system reliability, it is found in the cooperative behaviours of people across the whole spectrum, rather than in any individual element (equipment, people or policies).

In 2004, Makary et al. (19) asked members of the perioperative team to rate their interactions with their own discipline as well as across disciplines in an attempt to understand teamwork. A survey using a Lickert scale to describe the quality of interdisciplinary interactions was returned from 2135 participants (77.1%). Results showed that surgeons had the lowest rating (3.68 of 5) for effective teamwork from all team members, with anaesthesiologists receiving the second lowest rating of 3.96. This was despite that fact that they rated their own teamwork within their discipline as the highest (anaesthesiologists rated anaesthesiologists at 4.80 and surgeons rated surgeons at 4.38). Theatre nurses received the highest rating from the team (4.20). Surgeons rated interaction with anaesthesiologists as 4.39 while the converse was only 4.03. The authors' findings translate into physicians being more satisfied with the physician-nurse interaction than nurses are.

A 2010 British study by Wong et al. (20) interviewed 33 operating theatre staff (16 surgeons/anaesthesiologists and 17 nurses) regarding the information they needed, the problems experienced accessing this information and potential interventions to improve the information transfer. All interviewees had a minimum of five years experience in their respective discipline. Results showed that physicians (surgeons and anaesthesiologists) identified twice as many information related problems as nurses and also identified more interventions to address these problems. A key emerging problem with information in the operating theatre was the lack of test results or patient notes, which results in the inability to make informed decisions. Most team members proposed a central computer based solution allowing any member to gain access to a patient's full record. A recurring grievance that came up was that one team member held information and the rest of the team had no access to it. Nurses felt that communication with them is essential so that they are able to prepare for the procedure. Patients are seen as the most important source of information followed by surgeons and anaesthesiologists ($p < 0.05$). The quality of information supplied by anaesthesiologists and diagnostic/imaging labs were significantly greater than that supplied by the patients and surgeons ($p < 0.05$). Considering that information is acquired from various sources, team members need to share this information to create a harmonious, efficient and safe patient environment.

In 2012, Hu et al. (21), from Massachusetts, used video and audio recording in a qualitative study, to analyse six complex cases from nurse setup to patient exit in order to better understand communication in the operating theatre. The authors defined a communicative event as "a verbal exchange between two or more team members with a unique intent or theme that occurred at a specific point in time" (21). Communication events were described as being started by an individual (x-initiated) or intended for an individual (x-directed). Patient communication was excluded. Each event recorded included the participants involved (surgery, anaesthesia or nursing) and the timing of the interaction. Each case was divided into four time periods: nursing setup; patient-in time; incision through closure time; and postoperative time. The content being discussed was divided into: equipment; progress report; medications; procedure; personnel; policy; and other (22). Communication failures, adapted from Lingard (11), were classified into: audience (exclusion of key individuals from a conversation); content (insufficient or inaccurate information); occasion (a discussion rendered futile by timing); purpose (the failure to resolve a discussed issue) and/or systems (communication that occurs at the organisational level).

Failed communication was observed in 8.7% of the 1 936 communication events observed. This translates into a communication failure every 7.7 minutes. Failure most frequently occurred during nurse-initiated or anaesthesiology-directed interaction. Nearly 65% of communication failure occurred cross-disciplinary. Most failures (54.2%) occurred between incision and closure matching the duration of this period. A significant number of communication failures (79%) resulted in inefficiency. Nearly 10% resulted in tension in the operating theatre and 18.5% resulted in resource wasting. In total, less than 10% of communication in the operating room failed. This failure rate occurred even though a SSC was in place. This study defined communication as only verbal interaction. Non-verbal communication was not taken into consideration. This study shows that failures in communication are still prevalent in theatres and may have important impact on the function.

1.4 Conflict as a result of inadequate communication

A conflict in the healthcare environment is defined as "any dispute, disagreement, or difference of opinion related to the management of a patient involving more than one

individual and requiring some decision or action" (23). The theatre environment is highly stressful where mere seconds can translate into life or death often resulting in such conflicts. Conflict can range from minor disagreements to personality clashes and blatant hostility. Mitra et al. (24) identified professional relationships, particularly anaesthesiologists with surgeons, as a stressor and a major source of conflict. Burns et al. (25) and Breen et al. (26) found that conflict between health care professionals occurred during the management of between 50% and 78% of patients and 38% to 48% of the conflicts occurred between clinicians.

El-Masry et al. (27) explored conflicts between anaesthesiologists and surgeons examining the triggers and group perceptions. This Egyptian survey was conducted after random selection of 117 clinicians (67 anaesthesiologists and 50 surgeons). The questionnaire was made up of four categories namely personal factors (6 items); patient related factors (2 items); work related factors (11 items) and hospital related factors (5 items). They found that 25% of anaesthesiologists were women and all the surgeons were men. A large majority (76.6%) of anaesthesiologists perceived the anaesthesiologist-surgeon relationship as disturbed whereas only 13.3% of surgeons concurred ($p < 0.001$). Every respondent (109) cited inadequate inter-personal skills as a cause of conflict. All 64 anaesthesiologists stated a lack of appreciation as a cause of conflict while every surgeon (45) expressed patient pressure on the surgeon as a reason for conflict. There was consensus amongst all respondents that management related factors (staff shortages, overworked, pressure to clear beds, lack of clear hospital policy and fear of litigation) all contribute to conflict between the disciplines. Anaesthesiologists felt work related factors were a significant cause of conflict. More than 90% reported that the following particular factors played a role: non-respect to anaesthesiologist instruction; uncooperative work attitude; poor patient information; decisions about operation urgency; time management; responsibilities and inadequate work facilities. The opinion of surgeons was significantly different ($p < 0.001$). Surgeons felt that cancellations of scheduled procedures were a major cause of conflict, the anaesthesiologists did not agree. Conflict was, in the opinion of many anaesthesiologists, the most challenging and stressful aspect of their job. Personality traits such as perfection and compulsiveness are commonly found in these professions and these traits could make relinquishing authority/power very difficult. A lack of a preoperative anaesthesia clinic,

allowing patients to meet the anaesthesiologists and understand their role, was cited as a cause of conflict. The creation of this clinic would facilitate better relationships with patients as well as give the anaesthesiologist an opportunity to order investigations (that could take time to arrange) as necessary, thus decreasing cancellations and improving theatre efficiency.

El-Masry's (27) study found various triggers of conflict that can be resolved with better communication. Lack of respect for anaesthesiologists' instruction, uncooperative work attitude, decisions about urgency, information provided about patients, patients' pressure on surgeons as well as cancellations of procedures can all be improved with better communication between anaesthesiologists and surgeons. This study reveals a different perspective concerning the potential conflict between surgeons and anaesthetists.

In 2005, Rosenstein et al. (28) assessed the status of nurse-physician-staff relationships in theatre. A customised 25-question survey was distributed (244 surveys completed) to all theatre staff (attending surgeons and anaesthesiologists, surgical and anaesthetic residents, surgical technologists, nurses from various disciplines) and included open-ended questions, Likert scales, multiple choice and yes/no questions. Disruptive behaviour in theatre was witnessed by 75% of surgeons, 64% of anaesthesiologists and 59% of nurses who responded. The different types of disruptive behaviour were also analysed. Yelling/raised voice occurred most often (79%) followed by disrespectful interaction (72%) and abusive language (62%). Actual physical abuse occurred 5% of the time. The participants in this study reported that disruptive behaviour caused stress (93%), frustration (92%), reduced collaboration and communication (89%), decreased information transfer (86%) and loss of concentration (84%). When asked about the influence of disruptive behaviour, participants believed that it was linked to the occurrence of adverse events (67%), medical errors (67%), compromise of patient safety (58%) and patient mortality (28%) (28). A specific adverse event was reported by 19% of the respondents as having been directly caused by disruptive behaviour. Disruptive behaviour also led to unwillingness to communicate because of fears of provoking an antagonistic response. This study highlighted the impact of disruptive behaviour and conflict in the operating theatre in general and not specifically the conflict in the surgeon-anaesthetic relationship. It identified decreased communication, affected levels

of concentration and increased levels of stress in theatre, all of which can adversely affect patient safety.

1.5 Communication in the preoperative and postoperative period

A surgeon's relationship with a patient begins at the first consultation. Once a diagnosis is formulated, a decision is made on whether surgical intervention is needed. If the decision to proceed to surgery is taken, the patient is then booked for theatre, either electively or as an emergency. This is when the anaesthetist gets involved in the relationship. Communication will occur between the patient and the surgeon regarding the diagnosis, the procedure, risks and benefits, recovery and possible outcomes. Patient-anaesthetist communication includes establishing the patient's general medical condition, options of anaesthesia, risks and benefits and possible outcomes. A very important relationship is the one between the surgeon and the anaesthetist. They will discuss the diagnosis and surgical intervention, type of anaesthesia, positioning of the patient in theatre, any investigations that were carried out and the need for any further investigation, fears and concerns regarding the patient or procedure and postoperative management. Communication is also vital between physicians (surgeons and anaesthetists) and nursing staff. Ward nurses need to provide care while the patient is in the ward as well as prepare the patient for theatre. They are also the quickest and most accessible form of communication to patients. Theatre nurses are responsible for preparing for the procedure, making sure the relevant staff and equipment is available and providing assistants to the physicians. Failure in any of these relationships can result is decreased patient safety and possible cancellations of cases.

In a multidisciplinary hospital in New Delhi, India, Kumar and Gandhi (29) analysed the reasons for cancellations of elective procedures over a period of one year (December 2009 – November 2010). A cancellation was defined as any operation that was either scheduled on the original theatre list or was subsequently added on the supplementary list and was not performed. Reasons for cancellations were obtained verbally or from patient records. Cancellations were classified as potentially avoidable (no theatre time, postoperative bed, administrative cause, equipment or transport issues, communication failure, patient not ready or no surgeon available) or unavoidable (cancelled by patient, clinical change of the patient, emergency priority, patient not ready or no surgeon available) (29). Some

categories (e.g. patient not ready) appeared in both the avoidable and unavoidable group because the reason stated determined into which group it fell. A total of 7 272 patients were scheduled for elective procedures during the 12 months with a total of 5986 being performed (an average of 25.9 cases per day over 231 days). A total of 1 286 (17.6%) patients were cancelled (an average of 5.5 cases per day). 809 (63%) patients were cancelled due to lack of theatre time, 244 (19%) patients did not arrive for theatre, 149 (11.6%) were cancelled because of medical reasons, 40 (3.1%) patients were cancelled due to equipment failure, 28 (2.1%) patients were not prepared for theatre and 16 (1.2%) patients' surgical plans were changed. In terms of speciality specific cancellations, general surgery had the highest total with 516 of the 1 286 patients being from their discipline, followed by orthopaedic surgery (504). Orthopaedic surgery, however, had the highest percentage of cancellations per cases booked with 504 patients out of 1812 being cancelled (27.8%). This was followed by general surgery (516 out of 2196 patients) with a 23.4% cancellation rate. The remaining disciplines (gynaecology, urology, Ear Nose and Throat) had a combined total of 266 patients being cancelled. 63% of patients were cancelled due to lack of theatre time. Cancellations, for any reason, created higher financial costs, logistical problems and psychological hardships for patients and their families. Feelings of frustration, disappointment and lack of trust in the medical field are as a result of patients being postponed or cancelled. Theatre time is wasted due to delays in starting the list, time interval between cases and delays in bringing patients to theatre, all of which can be improved by better management and communication throughout the operating team. Cancellations due to lack of time is also as a result of surgeons underestimating the time needed for operations or overbooking a list in anticipation of unexpected cancellations. Another factor that altered the expected time was the teaching of junior doctors in the surgical department. Inadequate medical optimisation of patients (hypertension, diabetes, respiratory tract infections and cardiovascular compromise) accounted for a fair portion of cancellations. There are areas where better communication could improve theatre utilisation. This study offers an important reflection on the impact of theatre systems in a developing country.

In 2012, Dimitriadis and Evgeniou (30) conducted a similar study in the United Kingdom. This hospital has a pre-assessment clinic, which assesses patients before being admitted for

theatre. Theatre statistics were captured using IQ Utopia patient management software. During 2012, 19 368 operations were performed at the two hospitals. There were 1 005 cancellations in this period (5.19%) which was lower than the study in India (17.6%) (29). Cancellations were divided into Patient-Initiated (PIC) and Hospital-Initiated (HIC) cancellations. The majority of cancellations were as a result of patients being unfit (PIC) for theatre (33.7%), followed by lack of beds and lack of theatre time (HIC), accounting for 21.79% and 17.31% respectively. Patients' non-attendance (6.87%) and staffing issues (6.37%) were the next biggest reasons for cancellations. This study reported on cancellation using the variables related to inadequate preoperative assessment or poor decision making by junior staff. A possible reason identified for the high cancellation rate due to patients not being fit is the disagreement between the outcome from the pre-assessment and the anaesthetist responsible for the list. The timing of the pre-theatre assessment is crucial. If it is too early, there could be deterioration in the patient's condition, and if it is too late, the time to needed to optimise the patient's condition is limited. Better communication between the anaesthetist at the pre-assessment and the anaesthetist responsible for the list is essential to reduce the cancellation rate of patients who are not being adequately prepared. An operation not being necessary was also a reason for cancellation. This could be as a result junior doctors booking cases without consulting the operating surgeon or a senior consultant. The number of cancellations could be reduced if there is better communication between the doctors in the surgical department. Patients not arriving for an operation can also be resolved by better communication between medical staff and patients. With regards to HIC, lack of beds and shortage of theatre time were responsible for 39% of cancellations. Improved communication between the wards, the outpatient clinics, booking departments, pre-assessment clinics, surgeons and anaesthetists will facilitate streamlining of elective procedures and will reduce cancellations due to lack of beds. Over-ambitious theatre lists, delayed starting, ineffective patient transport and theatre cleaning could all be improved by better communication at every level of the theatre process, thus improving theatre usage and reducing cancellations due to time constraints. This study identified various reasons for cancellations and linked better communication to a reduction in these factors (30).

In 2008, a qualitative study by Nagpal et al. (31) aimed to explore information transfer and communication (ITC) among healthcare professionals in London. Data saturation was

achieved with 18 interviews (7 surgeons, 5 anaesthetists and 6 nurses). Four phases of the patient's perioperative experience were identified as being vulnerable to ITC failures (preoperative assessment and optimisation, preprocedure teamwork, postoperative handover, and daily ward care). An ITC failure included failure at any stage of the system (source, transmission and receiver). In the preoperative and optimisation phase, all the surgeons acknowledged poor intra- and interdisciplinary communication with patient problems not being discussed (transmission failure) resulting in inadequate preparation of the patient for theatre. During the pre-procedure phase, ITC failure regarding allergies and preoperative medication was not transferred potentially endangering patients. In the postoperative handover period, the process was seen as informal and unstructured resulting in missing information. Many participants reported that the surgeons were not present in the recovery room so crucial surgical information is not transferred to the recovery nurses. In the wards, staff shortages and multiple handovers means information is not fully passed along. All the participants in the study agree the ITC failure can directly or indirectly lead to patient harm.

1.6 Conclusion

This literature review has highlighted the importance of communication, amongst the many non-technical skills, required in theatre where interdisciplinary teamwork is essential to improve patient outcomes. Every medical professional has taken the Hippocratic Oath, which is to 'do no harm'. By definition, not doing harm is implying an action that is intentionally causing harm to a patient. However, a broader understanding of the Oath suggests that we, as medical professionals have a responsibility to improve our technical and non-technical skills in order to improve patient safety. When Leach et al. (32) asked what makes surgery successful, the theatre environment was the most frequent mentioned influence. Professionals in the perioperative team appreciate a good working environment where their skills are recognised, valued, good communication is practised, and patient safety is prioritised.

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Section 3: Draft article

Communication between surgeons and anaesthetists in the perioperative period: An exploratory study

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Abstract

Background: Communication between surgeons and anaesthetists in the perioperative period is critical to patient safety. Members of the perioperative team must harness a diversity of non-technical skills that complement their technical abilities. Teamwork and communication are essential to provide an effective teamwork environment and safe patient care. Currently, there is a perception that communication between surgeons and anaesthetists at the University of the Witwatersrand (Wits) is strained.

Method: This study explored communication between surgeons and anaesthetists in the perioperative period as well as barriers. Four focus group discussions were held amongst registrars and consultants (two amongst surgeons and two amongst anaesthetists).

Results: The results confirmed that communication between the two departments is sub-optimal. Participants say they work as parallel units instead of a cohesive perioperative team. Surgeons and anaesthetists have different values and responsibilities leading to the erosion of mutual respect. Other factors that contribute to a decrease level of communication include a lack of insight and knowledge amongst the junior staff, the high workload experienced at public hospitals, limited resources and staff turnover. Both surgical and anaesthetic participants were critical of the other's level of professionalism.

Conclusion: Training in communication needs to be included into the teaching programme for registrars as this could potentially improve theatre efficiency and patient safety.

Keywords

Communication, Surgeons, Anesthetists, Perioperative period, Perceptions, Teamwork

Abbreviations

Wits: University of the Witwatersrand

1. Introduction

The operating theatre (referred to as theatre) is a dynamic environment in which professionals from various disciplines work together to reach specific goals (Catchpole, Mishra, Handa, & McCulloch, 2008). Each professional has specialised knowledge and expertise, is dependent on others and works under uncertain and time-pressured circumstances (Leach, Myrtle, & Weaver, 2011). Multidisciplinary teams need to work together using a combination of technical and nontechnical skills in order to achieve the desired outcome. These skills are defined as cognitive and social skills that complement technical skills and contribute to safe and efficient task performance (Dedy, Bonrath, Zevin, & Grantcharov, 2013). Within the perioperative team, there are many interdisciplinary relationships that are important for effective functioning of the team. One of these relationships is between surgeons and anaesthetists. Surgeons and anaesthetists are equally responsible for the safety and well-being of patients in the perioperative period.

In 2008, the World Health Organisation, as part of their Safe Surgery Saves Lives program, published recommendations to ensure the safety of surgical patients worldwide ("WHO Guidelines for Safe Surgery," 2008). They identified the need for better communication to improve patient safety. Patient safety is of utmost importance, whether it is in theatre or elsewhere in the hospital. Poor communication in theatre has been shown internationally to decrease patient safety (Haynes et al., 2009; Lingard, Regehr, Orser, & et al., 2008; Mazzocco et al., 2009). Failures in communication, teamwork and leadership have been identified as root causes in approximately 60% of major perioperative complications (Dedy et al., 2013). Improved communication in the perioperative period enhances patient safety and reduces this complication rate (Christian et al., 2006; Greenberg et al., 2007; Haynes et al., 2009; Lingard et al., 2004; Lingard et al., 2008).

The operating team members, at times, are placed in situations where mere seconds can translate into life or death. This high-pressure stress can lead to conflict among team members. Mitra et al. (2003) identified professional relationships, particularly surgeons with anaesthesiologists, as a stressor and a major source of conflict. Conflict between health care professionals can occur during the management of between 50% and 78% of patients (Breen, Abernethy, Abbott, & Tulsky, 2001; Burns et al., 2003) with poor inter-personal skills

being highlighted as a recurrent trigger for conflict (El-Masry, Shams, & Al-Wadani, 2013). Decreased information transfer is seen as a cause and as a result of conflict (Rosenstein & O'Daniel, 2006).

Theatre efficiency is crucial to the functioning of a hospital especially in a resource-limited setting. Between 5% and 17% of procedures booked for theatre are cancelled (Dimitriadis, Iyer, & Evgeniou, 2013; Kumar & Gandhi, 2012). Poor communication amongst the members of the perioperative team was identified as a cause for many cancellations. These included communication related to adequate preparation of patients for theatre, availability of investigations, preparation for procedures and postoperative care.

1.1 Problem statement

There are perceptions that surgeons and anaesthetists at the University of the Witwatersrand (Wits) communicate inappropriately on matters regarding perioperative management of patients, booking of theatre lists and theatre efficiency. Anecdotal evidence suggests that the relationship between surgeons and anaesthetists is strained and results in both parties becoming frustrated. This strained relationship may lead to an unpleasant work environment which may ultimately influence patient safety and surgical outcomes.

1.2 Aims and objectives

This study explored the current perceptions of communication between surgeons and anaesthetists in the perioperative period. The authors also explored and described the perceived barriers to communication between the two disciplines. This study aimed to improve the understanding of communication in the perioperative period.

2. Methodology

Approval was obtained from the Wits Human Research Ethics Committee (Medical) and other relevant authorities. This study employed a qualitative, contextual, exploratory and descriptive design. A qualitative design was selected to provide an in-depth understanding of the human experiences of the participants (Brink, van der Walt, & van Rensburg, 2012). Focus group discussions were chosen to allow participants to interact and build on topics/themes with their shared experiences. Two focus group discussions were conducted

with surgeons and another two with anaesthetists. Purposive sampling was used to select the participants. Participants were invited via email as well as the author (EG) addressing the academic meeting in each department. Participation was voluntary. The focus groups discussions were divided into junior staff members (registrars and medical officers) and senior staff members (consultants) in the respective departments. This allowed different experiences to be discussed amongst colleagues with similar work experiences. Each focus group discussion consisted of a minimum of six participants. Table 1 illustrates the breakdown of each focus group.

All focus group discussions were held in venues at the convenience and comfort of the participants. These focus group discussions were conducted by one of the authors (LGT) of this study with the assistance of an interview guide. LGT is a medical educationist with expertise in qualitative research. EG was present at all the focus group discussions as an observer. Consent was obtained for participation as well as to be audio recorded. The audio recordings were then transcribed verbatim. Trustworthiness was enhanced by member checking using participants to review transcripts. Data analysis was performed using a seven step process to ensure trustworthiness (Colaizzi, 1978). The researchers independently familiarised themselves with the transcripts and identified important statements. These were integrated into four themes. These are presented in the results section. Verification was performed by presenting the data to participants from the study.

Table 1: Focus group breakdown

Focus group	Duration (minutes)	Total	Male	Female	Experience
AS – Anaesthetists Senior	50	7	4	3	3 months – 15 years
AJ – Anaesthetists Junior	50	8	3	5	6 months – 4 years
SS – Surgeons Senior	85	12	9	3	2 months – 20 years
SJ - Surgeons Junior	62	7	2	7	8 months – 4 years

3. Results

All four focus groups were well attended. The participants had various levels of work experience ranging from three months to more than 15 years. Rich data was accumulated from the four focus group discussions. Four themes emerged:

- three parallel teams;
- different goals;
- multiple frustrations;
- and system failure.

3.1 Three parallel teams

A concept that emerged from all the focus groups was that there is no single perioperative team that worked cohesively. Rather, it is perceived that there are three parallel teams that function independently of each other. The teams are surgeons, anaesthetists and nurses. Although both the surgeons and anaesthetists acknowledge that the team should function as one unit, they agree that this does not happen.

> *"We don't function as a team, we rather function in parallel in theatre" (AS3)*

> *"It is appalling...it is like two worlds of people working in their own worlds. Anaesthetist busy with the upper side and the surgeon busy with his own" (SS2)*

Communication between the two groups in the perioperative period is sub-optimal and this is frustrating. Often, surgeons are told that it is 'your' patient as opposed to 'our' patient, implying that anaesthetists do not recognise that the patient belongs to the perioperative team rather than the specific surgical unit. Surgeons feel that if anaesthetists take a more involved stance and recognise that the patient belongs to the entire team, communication can improve. Support within each department also plays a pivotal role. Registrars from anaesthesia report good teamwork within their own department and substantially rely on

the support from their consultants. They notice that the juniors in the surgical department have great difficulty when it comes to support from their senior colleagues. The surgical registrars who admit that they are sometimes left without support from their consultants confirmed this opinion.

> *"I often feel sorry for surgeons because it's the most junior person left in theatre handling things and there's never any support for them. They fight for their reg [registrar] to come, they fight for their consultant to come." (AJ8)*

> *"I think the consultant surgeons are sometimes on the anaesthetic team, they feel it's not their responsibility. You deal with it, how you deal with it is up to you but you deal with it." (SJ4)*

A certain level of planning is required when undertaking difficult procedures. A review of the plan should take place between the senior member from each discipline and any potential problems identified. A discussion held between the consultants before every list could reduce adverse outcomes. Both anaesthetic groups feel that the senior surgeons are never present at the beginning of a theatre list to discuss these issues. The only available surgeons are the juniors in the department who cannot provide the required information.

> *"The surgeon isn't there, he sends his poor lowly intern to be the face of surgery until the patient is asleep." (AJ8)*

> *"For complex elective cases, the consultant saw this patient, THEY need to discuss with the consultant from anaesthesia, to anticipate what kinds of things you need." (SJ3)*

Leadership in the perioperative period is of vital importance and it seems that the responsibility of team leadership is not held by any single discipline. The surgical consultants see themselves as leaders of the perioperative team, but the anaesthetists feel that they are also equipped to take on that role. From the anaesthetic consultants group, an opinion was shared that the surgeon can be the team leader but currently that role is not fulfilled.

Both of the surgical focus groups reported that there is no balance in the relationship between surgeons and anaesthetists in the public sector. They are of the opinion that surgeons need anaesthetists more than anaesthetists need them resulting in an unfair balance of power. This imbalance influences the communication process between the two

disciplines. A comparison was drawn to the private health sector where communication is reportedly better as the balance of power is more equal. Anaesthetists are seen to be more accommodating in private than public.

> *"In the public sector, it looks like we need anaesthetists more than they need us. In private, because of the income, then it may be 50/50." (SS8)*

3.2 Different goals

Participants from both groups suggest that surgeons and anaesthetists have different sets of values leading to a sense that there is no common goal. The anaesthetic groups are of the opinion that the surgeons' main objective is to get cases done and to complete the lists that have been booked. Very little consideration is given to other factors such as time constraints and patient safety.

> *"I think it borders on malpractice to cut a patient open that you've seen for the first time when they're anaesthetised already." (AJ3)*

> *"They don't respect our input, they just see us as the technician who's there to keep the patient lying still." (AS4)*

Complex cases are not properly discussed between the relevant disciplines and patients are not being adequately assessed and investigated. This creates conflict when the anaesthetists cancel these patients. One of the roles of the anaesthetist is to assess the patients that are booked for the following day. If additional investigations are required, this should be noted and communicated to the surgeons involved in the case. Anaesthetists feel that surgeons are relying upon them to dictate the entire investigative process without assessing the patient themselves and making appropriate decisions. One of the surgical registrars shared this opinion.

> *"I'm not saying it happens all the time, but sometimes I think we place too much burden on the anaesthetic registrar to order certain things like, if you think about it, maybe the patient should have had it before you booked the operation." (SJ4)*

A lack of communication from both sides can result in patients not being ready in time for their procedure, hence being postponed or cancelled. The converse has also been reported to be a problem where junior staff members from anaesthesia request unnecessary investigations for patients or requests investigations late in the afternoon/evening with no possibility of them being completed before the next day. This can lead to unnecessary delays in theatre and under-utilisation of precious theatre time.

> *"The anaesthetist saw the patients late on Sunday evening and then wanted high care beds for both, cardiology and pulmonology consults, on a Sunday night at 8 o'clock, for a patient that's going to theatre on Monday morning." (SJ1).*

For elective lists, the surgeon and anaesthetist are obligated to that list until it has been completed or the end of the workday (4pm). If an operation is ongoing at 4pm, the anaesthetist is required to stay until its completion. An opinion highlighted by both surgical focus groups was the perception that anaesthetists are unprofessional and are more concerned with working to time limits. This leads to patients being cancelled and spending more time in hospitals than initially required. It also increases the number of cases that are still awaiting surgery. Both the surgical consultants and registrars felt that if a financial incentive was present for anaesthetists, fewer cases would be cancelled due to time constraints.

> *"For me, if I don't do my case, it's seen to me as a burden but for them, if you don't do the case, it's like a relief. They get to go [home] early" (SS10).*

> *"Beyond 4 o'clock, they don't want to stay so they become a conflict. But in private, the more you, the more you get, they don't mind." (SS8).*

Anaesthetists are seen as not being dedicated to the profession as surgeons are and would rather be elsewhere than providing the service they are required to perform. There is no obligation for the anaesthetist to start a case towards the end of the workday and they have no responsibility to the patients that have been cancelled. Surgeons see themselves as more dedicated and do not mind working extra hours to complete their duties. A perception that anaesthetists have chosen the profession simply because it allows them a convenient

lifestyle was brought up in the surgical consultants' discussion, but this opinion was not shared by the entire group.

> *"The reason why us as surgeons have chosen a career in surgery is because we have a passion for operating. The reason why anaesthetists choose their career is generally a lifestyle choice, because they will have more time with their families." (SS5).*

Patient safety is of utmost importance. However, both disciplines felt that they were more concerned about the safety of patients than their counterparts were. The anaesthetic consultants and registrars' groups voiced opinions that they work in the patients' best interests and are more concerned about outcomes than surgeons are. The anaesthetic registrars felt that surgeons see patients as just a procedure, not as an individual. Performing a procedure is sometimes not in the patient's best interest. Regarding the anaesthetists' opinion that they are more concerned about the patient's outcome, the surgeons felt that *"they (anaesthetists) are more interested in their [professional] outcomes, not patient outcomes. It's more about 'I lost a patient on the table' or 'this patient died on my table' as opposed to what actually happens to that patient because if that patient is delayed surgery and dies as a result of not having an operation, that's got no reflection on them at all, when in fact, they should be completely to blame for that." (C10)*. A point was made that anaesthetists rarely follow-up patients postoperatively unless the patient has been sent to the Intensive Care Unit. Continuity of care was mentioned as a cause for concern from both disciplines. Anaesthetists work set hours when on call and emergency cases get handed over to the shift coming on. At times, not all the information is relayed to the oncoming shift, this can pose a danger to the patient. This also happens amongst surgeons with the same danger posing a threat.

> *"… from eight to four, the first anaesthetist will give you some instruction, ask for some investigations, and then you do all the things. The one that comes at 4 o'clock gives another investigation to do again. People [keep] shifting the cases." (SS8).*

> *"In emergency theatres, lots of stuff doesn't get handed over from surgeon to surgeon and they don't know anything about the case." (AJ5).*

The anaesthetic participants felt that surgeons do not understand the role of the anaesthetist in theatre. The lack of insight from surgeons into the role of the anaesthetist

was a recurrent idea. However, the anaesthetists who have worked in other academic circuits in South Africa mentioned that this problem seems to be unique to the Wits circuit. Elsewhere, anaesthetists are *"seen as a wealth of knowledge and experience" (AS2)* and surgeons *"respected their opinion." (AJ1)*

> *"If you had to look at an anaesthetist, you get no sense of what he is doing. Because much of the time, he is just standing around looking at things. All it looks like that he does is he injects two things at the beginning, and that's it. So why should this person have all these questions and all these concerns and be you know, be this obstructive or not in theatre. Because people don't know what we do. It's one of the fundamental flaws in this system. You put on any TV show, you'll never see the anaesthetist, you know, the patients just go off to sleep on their own. The world doesn't know what we do." (AS3)*

From a non-technical skills perspective, opinions differed between the two departments. The surgeons felt that anaesthetists *"are reluctant to offer their services" (SS8)* and *"irrespective of where you went, the anaesthetists were extremely difficult." (SS7*). This difficulty may emerge from inappropriate concepts of each discipline as reflected here:

> *"We see ourselves as facilitators, the impression I get is that they perceive us as obstructors. I get the impression a lot of the time that our surgical colleagues believe that we try and find reasons not to bring patients to theatre." (AS6)*

> *"In terms of emergency theatre, we run the show, we run the list, we run the theatre, we see what needs to be done, where it needs to be done and when, what time." (AJ5)*

A main component of communication is the sharing of information between team members. Information received by one team member influences the function of the rest of the team. All of the focus groups agreed that sharing of information does not routinely happen in the perioperative period. Both disciplines accept that the fault lies with both departments.

Several general comments on poor communication were made. However, all four focus groups stated that communication also depends on the people involved and cannot be generalised. Personalities play a pivotal role in communication and can influence how information is shared. The anaesthetic and surgical consultants are of the opinions that

certain personality types are drawn to certain specialities. These personality traits can influence the way they communicate.

> *"I think as a surgeon, sometimes you need to have some arrogance to actually carry out what you do. I think it's part of their jobs, so it's not even necessarily a negative trait that they have. But it doesn't help them with personal skills and communication skills." (AS2)*

3.3 Multiple frustrations

Breakdown in communication between surgeons and anaesthetists is multi-factorial and leads to multiple frustrations. Exploring the frustrations that affect both groups, a common factor that emerged was the immense workload experienced in the public sector. Healthcare professionals working in public hospitals face a tremendous burden of disease. Long lists of patients are awaiting emergency procedures in various surgical disciplines, all utilising the same emergency theatres. An anaesthetist is often responsible for managing these lists, prioritising the more critical patients without compromising patient safety, while considering theatre and staff availability, equipment and resources. Surgeons' anger and frustrations are as a result of this workload, sometimes having to wait hours before getting to operate on their patient with little communication from the anaesthetist. Surgeons report that anaesthetists do not understand the workload that surgeons have, needing to cover the surgical wards, casualty as well as theatre.

> *"It is all very well for the anaesthetists, they have got one patient to look after at a time. So to get upset because we haven't resuscitated 10 patients at the same time. Sometimes, you are alone, you've got an intern who may or may not be coping and you can only do so much." (SJ5)*

Interestingly, both the surgeons and the anaesthetists felt that their counterparts are very arrogant and behave with a sense of superiority. Surgeons believe that anaesthetists feel that their knowledge base is higher than that of surgeons and use this to dictate orders. Anaesthetists on the other hand feel that surgeons *"expect everything to be ready for them without having communicated what they're going to do." (AS4)*.

"They look down on us because I feel that their consultants look down on our consultants. We aren't respected colleagues." (AJ1)

"Somewhere, whether it is by omission or commission, in the training process, anaesthetists get the belief or this idea that they are at a higher cerebral level than any other health care professional." (SS2)

"... you will hear them joking, like we have a [separation] screen, they will call it a 'blood brain barrier', so we are the blood side and the screen is the barrier and they are the brain side." (SS6)

This pervaded the discussion in all the focus groups. This includes the lack of insight from the surgeons not knowing what anaesthetists do and the reasons behind requesting certain investigations. Surgeons report that anaesthetists do not understand the progression of disease processes and the need for early intervention. The lack of insight from both departments causes frustration leading to poor communication. The lack of mutual respect and trust are factors preventing the sharing of vital information and put patients at risk.

"You can't work as effectively if you're working with someone that you doubt every single thing they say." (AJ3)

"... with a potassium of 2.8 [normal value is 3.5 – 5.5], you want to hide it and you want to push a case. It happens, we know, surgeons do that." (SS9)

Experience also plays a role in communication. Both groups report that communication between them is better when it is between seniors. Limited knowledge and skills and the lack of insight have been suggested as some of the factors that limit communication.

"The issue of incompetence, sometimes, people will hide incompetence by being aggressive, they don't want to communicate, they refuse to accept what either the surgeon said or the anaesthetist said." (SS9)

The World Health Organisation Surgical Safety Checklist is an intervention designed to improve patient safety by encouraging communication between surgeons, anaesthetists and nurses. Little respect is given to this process and both anaesthetic groups confirm that it is not done properly. It is seen as a source of tension and it is completed by the most junior

team members and most of the time it is only done at the end of the case. The Surgical Safety Checklist was not brought up in the surgical focus groups.

Another cause for frustration is the unreasonable requests from both surgeons and anaesthetists, particularly the junior doctors. Surgeons report that some investigations are requested late in the evening with little time given to have them completed before the elective list the next day. Some of the requests are perceived as unnecessary. The anaesthetists report that elective theatre lists are overbooked with little possibility of them being completed, yet all the patients have to be assessed in advance by the anaesthetist allocated to the list. These lists are booked with no insight into the patients' conditions, the procedure itself or the estimated duration. This puts an unnecessary burden on the anaesthetist. Junior doctors are also seen as being too proud to ask for assistance putting their patients at risk of an adverse outcome. Early recognition of one's limitations can assist in communication and prevent these outcomes. Solutions to these problems were discussed in all the focus groups and it emerged that discussions between the consultants from both departments could alleviate this problem.

3.4 System failure

The theatre is a dynamic environment with high resource demands. In a resource limited setting like the public sector, shortage of consumables, equipment issues, delays at the laboratory, patient volume and access to a monitored care environment like the Intensive Care Unit can be indirect factors in miscommunication. These factors play a role in deciding what procedures can be performed safely. A delay in identifying deficiencies in the system and sharing this information timeously can result in unnecessary delays in theatre. The patient workload that public hospitals experience is also a cause of frustration and a possible reason that some information is not shared.

> *"... they have to wait the whole day to do their case. I don't think it's the surgeon's intention to be aggressive, but it is the situation that's leading them to become hostile." (AJ6)*

> *"... we always in a rush, we have so many consults to do so we just need to see the anaesthetist and speak with him. And sometimes, the anaesthetist asks a lot of questions. It is good but we don't have enough time to do that." (SJ3)*

3.5 Improvements

With a high turnover of registrars on the Wits circuit, there are, at times, doctors in theatre who have not worked together before. This prevents professional relationships from developing. Both the surgical and anaesthetic consultants shared opinions that communication is better in rotations where there is some stability in the staff.

> *"I find that in rotations where there are more long term designations, such as vascular [surgery], where you have anaesthetists who is doing your list for a week or two weeks or sometimes three weeks at a time, that the communication does improve greatly throughout that time." (SS10)*

The surgical groups' discussions felt the need for preoperative clinics, run by anaesthetists, which will provide early assessments of specific patients, thereby allowing sufficient time to perform all the necessary investigations. They see this as a system problem, which can be rectified.

The surgical groups feel that anaesthetists need to be more involved in the postoperative period including the management of the postoperative fluids and analgesic requirements. Improved discipline is an opinion shared by all participants. This includes theatre starting times, theatre ending times and communication between consultants

4. Discussion

This study confirms the perceptions of inadequate communication between surgeons and anaesthetists at Wits. The study echoes findings in the literature mentioned earlier (Breen et al., 2001; Dimitriadis et al., 2013; El-Masry et al., 2013; Kumar & Gandhi, 2012; Mitra et al., 2003; Rosenstein & O'Daniel, 2006).

El-Masry (2013) reported that every anaesthetist in his study felt unappreciated. Similar results have been identified in our study with participants experiencing frustration in the relationship. Studies (Dedy et al., 2013; Mazzocco et al., 2009) identified the link between non-technical skills and patient safety. Participants in this study acknowledge that communication is not optimal. Breakdown in communication can result in a decrease in

patient safety. The Surgical Safety Checklist implemented by the World Health Organisation was designed with the intention of improving communication and patient safety in the perioperative period ("WHO Guidelines for Safe Surgery," 2008). Failure to conduct this checklist correctly can be seen a violation of the patient. Weller and Merry (2013) define error as, “the unintentional use of a wrong plan to achieve an aim, or failure to carry out a planned action as intended”, while a violation is “a ‘deliberate' deviation from those practices appreciated by the individual as being required by regulation, or necessary or advisable to achieve an appropriate objective while maintaining safety and the on-going operation of a device or system” (Weller & Merry, 2013).

Sax (2012) argues that although everyone in theatre is drawn by patient care, their motivation is different. Members of the operating team come from a different background and this influences their professional interaction. In a study evaluating professional interactions in theatre, surgeons received the lowest rating with anaesthetists receiving the second lowest rating despite rating themselves as the highest (Makary et al., 2006). Our study confirmed that each discipline perceived their counterparts as being arrogant and this can result in decreased communication. A lack of insight into the participants’ own interaction is prevalent and training in communication is required to improve the dynamics of the perioperative team.

Although our study revealed that the frustrations experienced in the surgeon-anaesthetist relationship is multi-factorial, a number of these factors can be eliminated by improved communication. A preoperative assessment clinic will provide anaesthetists early access to patients enabling them to request necessary investigations without risking cancellations of procedures. An assessment clinic has already been implemented at one of the hospitals. An American study (Schofield et al., 2005) found that 31% of theatre lists were predictably overbooked. Participants in this study also experienced this problem. Communication between the two disciplines and insightful scheduling of procedures could decrease the cancellation rate at our institution. Environmental factors such as limited resources, a large workload and equipment shortages lie outside of the surgeon-anaesthetic relationship. However, with improved communication, surgeons and anaesthetists will be able to function better within these limitations.

This study explored the relationship between surgeons and anaesthetists in the public sector hospitals affiliated to Wits. The results might not reflect the opinions of doctors working in different environments. Another limitation of this study is that only a single surgical discipline was explored. Results could differ with other surgical specialities.

5. Conclusion

The tension in the relationship between surgeons and anaesthetists is recognisable. Training in communication could relieve some of this tension and have a positive impact on patient safety and theatre efficiency.

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Section 4: Appendices

4.1 Appendix A

Letter to Professor Martin Smith (Head of the Department of Surgery).

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2033

24 November 2013

Professor Martin Smith
The Head, Department of Surgery
University of the Witwatersrand
Johannesburg

Attention: Prof. Smith

Re: Consent to conduct study

My name is Ebrahim Gangat. I am an anaesthesiology registrar at Wits University. As part of my MMed, I would like to conduct a study titled: "Communication between surgeons and anaesthetists in the perioperative period: an exploratory study".

Communication between operating team members is important for an effective work environment and patient safety. This is a qualitative study to explore the communication between surgeons and anaesthetists in the perioperative period. It will also attempt to highlight perceived barriers to communication between the two disciplines.

This study will be conducted using focus group interviews with doctors working in the departments of surgery and anaesthesiology. These interviews will be held in the Wits Health Science Library at a time that is convenient to all participants without conflicting with the duties of the doctors.

This study will be put forward to the Human Research Ethics Committee (Medical) for approval and to the Post-Graduate Committee of the University of the Witwatersrand.

I hereby request consent to conduct this study in the Department of Surgery.

Yours sincerely

Ebrahim Gangat

Approved

4.2 Appendix B

Approval letter from the Graduate Studies Committee.

Faculty of Health Sciences
Private Bag 3 Wits, 2050
Fax: 027117172119
Tel: 02711 7172040

Reference: Ms Thokozile Nhlapo
E-mail: thokozile.nhlapo@wits.ac.za

28 May 2014
Person No: 0103796R
PAG

Dr E Gangat
P O Box 42728
Fordsburg
2033
South Africa

Dear Dr Gangat

Master of Medicine: Approval of Title

We have pleasure in advising that your proposal entitled *Communication between surgeons and anaesthetists in the perioperative period: An exploratory study* has been approved. Please note that any amendments to this title have to be endorsed by the Faculty's higher degrees committee and formally approved.

Yours sincerely

Mrs Sandra Benn
Faculty Registrar
Faculty of Health Sciences

4.3 Appendix C

Approval letter from the HREC.

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)

CLEARANCE CERTIFICATE NO. M140132

NAME: (Principal Investigator)	Dr Ebrahim Gangat
DEPARTMENT:	Department of Anaesthesiology CH Baragwanath Academic Hospital
PROJECT TITLE:	Communication between Surgeons and Anaesthetists in the Peroperative Period: An Exploratory Study
DATE CONSIDERED:	31/01/2014
DECISION:	Approved unconditionally
CONDITIONS:	
SUPERVISOR:	Mrs Juan Scribante

APPROVED BY: Professor PE Cleaton-Jones, Chairperson, HREC (Medical)

DATE OF APPROVAL: 09/05/2014

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

DECLARATION OF INVESTIGATORS

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

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

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES

4.4 Appendix D

Information letter to potential participants

Dear colleague

My name is Ebrahim Gangat. I am a registrar in the Department of Anaesthesiology. I would like to invite you to participate in my MMed research study entitled: "Communication between surgeons and anaesthetists in the perioperative period: an exploratory study". You have been identified by your Head of Department as a potentially valuable participant to this study.

The aim of this study is to explore the communication between surgeons and anaesthetists in the perioperative period. Communication is crucial to an effective work environment and patient safety.

You will be required to take part in a focus group interview in the Wits Health Science Library at a time convenient to your department. The group will consist of 6 - 10 of your colleagues with similar qualifications from within your department. The duration of the meeting will be approximately 60 minutes and light refreshments will be provided. The exact date of the meeting will be provided once all relevant participants have been contacted and a convenient time is chosen.

This focus group will be audio-recorded and you will be required to sign an informed consent form for inclusion in this study and to be audio-recorded . Your participation in this study is entirely voluntary and no discrimination shall be held against you should you wish to refuse or withdraw from proceedings. You are not being evaluated and none of information provided by you will be used to discriminate against you. Any information given will be valuable to the study and there are no correct and incorrect answers. Any information provided by you will be recorded and treated by the researchers with the strictest confidentiality however anonymity and confidentiality cannot be guaranteed as you will be known to the other participants of the group.

You will not directly benefit from this study but the results from the study could positively change the environment in which you work and improve the safety of your patients.

This study has been approved by the Human Research Ethics Committee (Medical) (Number: M140132) and the Post-Graduate Committee of the University of the Witwatersrand. Permission to conduct this study has been obtained from the Heads of Departments of Surgery and Anaesthesiology.

If you have any questions or require any further information, please feel free to contact the following people:

Dr Ebrahim Gangat (researcher): 072 202 8653

Prof. Cleaton-Jones (Chairman of HREC): 011 717 1234

Thank you for your time

Yours sincerely

Ebrahim Gangat

4.5 Appendix E

Informed consent form

I_____ hereby confirm that I have read and understood the Information Letter regarding the study titled: "Communication between surgeons and anaesthetists in the perioperative period: an exploratory study", and I am satisfied with all the information provided.

I am aware that the information provided by me will be treated in a confidential manner, will not be used to discriminate against me, and will be used anonymously when the study is reported.

Participant

I hereby give consent to take part in this study.

_____ _____ _____

(Participant Name) (Participant Signature) (Date)

I hereby give consent to be audio-recorded during the focus group discussion.

_____ _____ _____

(Participant Name) (Participant Signature) (Date)

Researcher

I_____ hereby confirm that the above participant has been fully informed about the nature and benefits of this study.

4.6 Appendix F

Interview guide for the focus group moderator

Communication between surgeons and anaesthetists in the perioperative period

1. Welcome and introductions

2. Signing of the consent forms

3. Introduction to study and to focus group discussion

Problem statement: Communication between surgeons and anaesthetists is important to work environment and patient safety.

Aim: The aim of this study is to explore and describe perceptions in communication between surgeons and anaesthetists during the perioperative period at Wits. Signing of consent forms

4. Discussion:

Questions to stimulate conversation

- What are your perceptions of communication between surgeons and anaesthetists in the perioperative period?

- What do you perceive are barriers to effective communication between surgeons and anaesthetists in the perioperative period?

- Any further information that may be of relevance?

5. Thank participants and close

Section 5: Proposal

Communication between surgeons and anaesthetists in the perioperative period: An exploratory study

Ebrahim Gangat

Student no: 0103796R

Supervisor:

Prof. L. Green-Thompson

Centre for Health Science Education

Co-supervisor:

Ms J. Scribante

Department of Anaesthesiology

5.1 Introduction

The operating theatre is a dynamic environment in which professionals from various disciplines work together to reach specific goals (1). Each professional has specialised expertise and knowledge, is reliant on other team members and works in uncertain and time-pressured circumstances (2). Multidisciplinary teams need to work together using a combination of technical and nontechnical skills in order to achieve the desired outcome. Non-technical skills can be defined as "cognitive and social skills that complement technical skills and contribute to safe and efficient task performance" (3). These include leadership, communication and teamwork.

In 2008, the World Health Organisation, as part of their Safe Surgery Saves Lives program, published recommendations to ensure the safety of surgical patients worldwide (4). They identified the need for better communication to improve patient safety. Patient safety is of utmost importance, whether it is in the operating theatre or elsewhere in the hospital. Errors or miscommunication can have catastrophic results for patients, families, medical staff and hospitals. Failures in non-technical skills have been identified as causes in approximately 60% of major perioperative complications (3). Sufficient evidence is available in the literature to show that improved communication in the perioperative period improves patient safety and reduces this complication rate (5-9).

The theatre is a very stressful environment with high expectations being placed on the professions involved. Often, team members are placed in situations where mere seconds can translate into a favourable outcome. Communication can literally mean life or death. As a result of these stressful high-pressure situations, conflict can arise between team members. A conflict in the healthcare environment is defined as "any dispute, disagreement, or difference of opinion related to the management of a patient involving more than one individual and requiring some decision or action" (10). It can range from minor disagreements to personality clashes and blatant hostility. Mitra et al. (11) identified professional relationships, particularly surgeons with anaesthesiologists, as a stressor and a major source of conflict. Conflict between health care professionals can occur during the management of between 50% and 78% of patients (12, 13) with poor inter-personal skills

being highlighted as a recurrent trigger for conflict (14). Decreased information transfer is seen as a cause and as a result of conflict (15).

Theatre efficiency is crucial to the functioning of a hospital especially in a resource-limited setting. Between 5% and 17% of cases booked for theatre are cancelled (16, 17). Poor communication between the perioperative team is identified as a cause for many cancellations. This includes patients not being adequately prepared for theatre, results of investigations not being available, nurses being unaware of the necessary equipment needed and postoperative care not being arranged.

5.2 Problem Statement

Members of the perioperative team must focus on a diversity of non-technical skills that complement their technical abilities (18). Non-technical skills include communication and teamwork. Teamwork and communication between all members is essential to provide an effective work environment and safe patient care.

Lack of communication in the operating theatre has been shown internationally to decrease patient safety (5, 6, 19). Poor interdisciplinary interaction results in inefficient theatre utilisation with cancellations of procedures (16, 17), increased conflict between team members (14, 15) and decreased job satisfaction (20, 21).

Within the perioperative team, the many interdisciplinary relationships are important for effective functioning of the team. One of these relationships is between surgeons and anaesthetists. The surgeon-anaesthetist relationship is vital in the communication pathway. Surgeons and anaesthetists are equally responsible for the safety and well-being of patients in the perioperative period. Each has their own duties, which can influence the other.

Before attempting to improve a system, the various components need to be understood in order to identify factors that could be remedied. Currently, there are perceptions that surgeons and anaesthetists at the University of the Witwatersrand (Wits) often disagree on matters regarding perioperative management of patients, booking of lists and theatre efficiency.

5.3 Aims

The aim of this study is to explore perceptions of communication during the perioperative period between surgeons and anaesthetists affiliated to Wits.

5.4 Objectives

The objectives of this study are to:

- explore perceptions of communication between surgeons and anaesthetists
- explore the perceived barriers to communication between surgeons and anaesthetists.

5.5 Research Assumptions

The following definitions will be used in the study.

Communication: "the exchange or transmission of ideas, attitudes, or beliefs between individuals or groups" (22). This includes verbal (spoken word) and non-verbal (tone, volume, facial expression, body language) communication.

Perioperative team: the operating staff responsible for the patient's wellbeing while the patient is in theatre. The team includes surgeons, anaesthetists, anaesthetic nurses, scrub nurses, nurse assistants, technical assistants and allied staff.

Surgeon: the doctor responsible for carrying out a surgical procedure on a patient. For the purpose of this study, the definition includes consultants, registrars and medical officers working in the Department of General Surgery.

Anaesthetist: the doctor responsible for providing anaesthesia to a patient. For the purpose of this study, the definition includes consultants, registrars and medical officers working in the Department of Anaesthesiology.

Consultant: a doctor who specialised in a specific branch of medicine e.g. Surgery.

Registrar: a doctor currently training in a specific discipline.

Medical officer: a doctor working in a specific discipline who is not in a training post

Perioperative period: the time period before, during and following a surgical procedure. This consists of the following periods:

- **Preoperative period** the period before a surgical procedure from admission to the day of surgery
- **Intraoperative period** the period during the surgical operation from the commencement of anaesthesia to emergence from anaesthesia
- **Postoperative period** the period following a surgical procedure to the day of discharge.

5.6 Demarcation of study field

This study will be conducted in the surgical and anaesthetic departments that are affiliated to Wits. The doctors in these departments work at the academic hospitals in Johannesburg such as Chris Hani Baragwanath Academic Hospital, Charlotte Maxeke Johannesburg Academic Hospital, Wits Donald Gordon Medical Centre, Helen Joseph Hospital and Rahima Moosa Mother and Child Hospital.

5.7 Ethical considerations

Consent was obtained from the Head of Department of Surgery at Wits (Appendix A) prior to planning this study. Further approval shall be obtained from the Human Research Ethics Committee (Medical) and the Graduate Studies Committee of Wits.

This study shall be conducted in accordance with the Declaration of Helsinki (23) and the South African Good Clinical Practice Guidelines (24). The human rights of all participants will be ensured in accordance with these guidelines.

Anonymity and confidentiality cannot be guaranteed but participants will be requested to keep any discussion private. Participants will be invited to participate in the study. Participants will be given an information letter (Appendix B). Participants shall also sign an informed consent which includes the consent to audio recording (Appendix C).

The audio recordings and transcribed data will be kept for six years.

The transcribed data will be securely stored on a password-protected computer for six years

5.8 Methodology

5.8.1 Research Design

This study will have a qualitative, contextual, exploratory and descriptive design

Qualitative research is used to describe and provide in-depth understanding of human experiences which are difficult to quantify (25). It was developed in the social and human sciences. This study aims to explore the perception of communication between surgeons and anaesthetists.

Context refers to the circumstances that form the setting for an event, the “small scale world” (26). This study will be conducted contextually within the Departments of Surgery and Anaesthesiology at Wits.

Exploratory studies are designed to increase the knowledge of the field of study (27). This study explores the perceptions of communication between surgeons and anaesthetists.

This study aims to describe the perceptions of communication.

5.8.2 Study Population

The study population is the group of individuals that is of interest to the study (25). This study will include medical doctors working in the Departments of General Surgery and Anaesthesiology at Wits.

5.8.3 Study Sample

5.8.3.1 Sample Size

While a large sample is often an advantage in quantitative studies, the same cannot be said for qualitative studies (25). The sample size will be determined by the depth and nature of the information received. The sample size in this study will be four focus groups each consisting of 6 – 12 participants and a possible fifth group if necessary.

5.8.3.2 Sampling Method

Due to the qualitative nature of this study, a non-probability sampling method, namely purposive sampling will be used. Non-probability sampling requires the researcher to select participants who know the most about the research topic. The researcher shall consult with the registrar committee of each department to find suitable registrars to participate. The Heads of the Departments of Surgery and Anaesthesiology shall be consulted to find suitable consultants from their respective departments to participate. All participation is entirely voluntary.

5.8.3.3 Inclusion criteria

Inclusion criterion will be willing participants who have signed consent to participate and to be audio-recorded.

5.8.3.4 Exclusion criteria

Exclusion criteria will be doctors working in the departments who are not affiliated to Wits. This includes interns.

5.8.4 Data Collection

5.8.4.1 Focus group interviews

Focus groups are a method of data collection in which a discussion is held with a small number of participants. Focus groups encourage people to express and clarify their views in ways that are unlikely to occur in one-on-one interviews. They should be held in private, permissive, non-evaluative and non-threatening environments to facilitate group interaction. Focus groups were initially used by market researchers but are now commonly used by the applied social sciences in dealing with programme development, evaluation and implementation (26). A focus group should be conducted by a moderator who can skilfully facilitate the discussion between members of the group. The discussion will be limited to the theme of the study (28). The moderator can be the researcher or an external person. The moderator will be one of the supervisors of this research, Lionel Green-Thompson. He is a medical educationist with expertise in qualitative research.

The size of the focus group will be limited to 6 – 8 participants (27). Groups larger than 12 participants limit the opportunity for participants to share their experiences. Smaller groups are not able to provide substantial information (29). Participation shall be entirely voluntary and no remuneration shall be offered.

5.8.4.2 Number of groups

One focus group session will be conducted with each of the following groups:

Group 1 (AS): anaesthetic seniors (consultants)

Group 2 (AJ): anaesthetic juniors (registrars and medical officers)

Group 3 (SS): general surgery seniors (consultants)

Group 4 (SJ): general surgery juniors (registrars and medical officers)

Group 5: This group will only take place if data saturation does not occur after the first four focus group sessions. It will include members from both disciplines with various levels of experience. It will address issues and topics that surface in the other four focus groups sessions and which have not been fully addressed.

5.8.4.3 The interview guide

Focus group interviews give an opportunity to participants to express their views on a particular subject without having to answer a specifically structured questionnaire. The direction of the interview is not predetermined but an interview guide (Appendix D) is available to ensure that key concepts are addressed. The design of the interview guide therefore establishes the agenda for the interview and provides the structure within which the group members will interact (28). The questions must be carefully selected and phrased to elicit maximum information (29). The questions on the interview guide should be broad and be limited to less than five.

5.8.4.4 Conducting the focus group interview

Discussion shall take place with the respective heads of departments regarding a suitable time for these interviews to be conducted. The time chosen should not inconvenience the relevant participants and should not interfere with the duties of the doctors involved. Wednesday afternoons are allocated to academic meetings in both departments. Theatre lists are booked as half days (ending at 12:00), allowing surgeons and anaesthetists to attend these meetings.

Participants shall be invited to take part in the focus group interview. They shall be given advanced notice of the date, time, location and duration of the interview.

The location of the interviews will be in a relaxed setting where participants can sit comfortably in a circle or U-shape and can maintain eye contact with each other. The acoustics of the room should be adequate and the audio recorders shall be placed unobtrusively (27). The choice of location will depend on convenience of the participants.

Participants will be greeted and welcomed by the researcher and the moderator and offered some light refreshments. Written informed consents shall be obtained from all participants. A few minutes shall be spent on introductions.

At the beginning of the session, the moderator shall explain the reason for the meeting and provide a brief description of the aims and objectives of the study. The moderator will outline the process of the session and explain that the participants are not being evaluated or judged and that their input is important to improving the understanding of the topic. Participants will be encouraged to participate freely and be assured that any emotions, opinions or experiences of the participants will not be seen as negative. Access to the recordings shall be limited to the researcher, supervisors and the transcriber only. Once the session commences, the researcher shall be in an observational capacity. It is anticipated that the focus group sessions shall last for approximately one hour

5.8.4.5 Field notes

The researcher will act as an observer during all the focus group discussions. Not all communication is verbal. Facial and hand gestures, interaction between participants and

other body language can contribute to the spoken word of participants. These non-verbal communications need to be documented to allow the researcher to capture the participants input in its entirety. De Vos (26) describes observational notes as what the researcher observes. No interpretation is provided. It is the who, what, when, how and where of human activity (30).

5.8.4.6 Audio recording

Two audio recording devices will be used during the focus group interviews. They will be placed strategically to capture all conversation that occurs within the group. The devices will be tested before commencement of the session and spare batteries will be available.

5.9 Data management plan

All audio recordings from the focus group interviews shall be professionally transcribed verbatim. The researcher shall verify the transcriptions by comparing them to the recordings. Once this has been completed, a final document shall be produced.

Field notes compiled by the researcher and moderator shall be typed out, placed into context with the recordings and be used as supporting information to the discussion.

5.9.1 Data analysis

Analysis of the data obtained shall be done in conjunction with the supervisors who are experienced in research. There are various approaches to analyse data from qualitative research (31-34). A simple seven step process designed by Collaizi (35) will be used in this study:

- Step 1: The researcher will read all the transcripts from the interviews to get an understanding of them.
- Step 2: Each transcript will then be reviewed and significant statements will be extracted.
- Step 3: A meaning will be formulated for each statement.

- Step 4: The formulated meanings will then be clustered into themes. These clusters will be referred back to the original transcripts for validation and discrepancies noted.

- Step 5: Integration of results into an exhaustive description of the perceptions of communication between surgeons and anaesthetists.

- Step 6: Formulation of the above description into an unequivocal statement of identification.

- Step 7: Validation of the findings should be sought from the participants

5.9.2 Data evaluation

Once the data analysis is complete, the information extracted is evaluated and compared with current literature. A report will be written discussing the outcome of the study.

5.10 Trustworthiness

Trustworthiness refers to the level of confidence qualitative researchers have in their data. Various criteria are used to determine trustworthiness and a model proposed by Lincoln and Guba (31) will be used in this study. It comprises of four aspects namely truth value, applicability, consistency and neutrality.

5.10.1 Truth value

This establishes how confident the researcher is with the truth of the findings reflecting on the research design, informants and context. In qualitative research, information is usually obtained from human experiences as perceived by participants. There is no single objective measurement of these experiences (internal validity). If the objective measurement is replaced by multiple subjective measurements, the researcher is now responsible for representing these experiences as adequately as possible. This is termed credibility

The techniques that will be used to establish credibility will be:

Prolonged engagement: data collection will continue until data saturation is achieved. In this way, in-depth understanding of communication can be attained. A time frame of one hour is proposed for each session of this study. If, however, the participants are still providing valuable information, the duration of the session will be extended.

Member checks: to correct for any errors and to provide additional information participants will be re-consulted with the information available. This will help clarify misinterpretations and confirm original data.

5.10.2 Applicability

Applicability refers to the degree to which the findings of this study can be applied to other groups or populations in other settings (26). Trustworthiness cannot be established if the results of a study are only applicable to the setting in which it took place. Results from this study should be able to be duplicated in other settings with other variables. Sufficient descriptive data will be made available to allow future studies in communication in different settings to be able to achieve similar results. This is known as transferability.

5.10.3 Consistency

Consistency refers to the ability of the results to be consistent if the study was replicated with the same participants in a similar context. It is defined as the extent to which repeated administration of a measure will provide the same data (26). If a test is not able to repeat similar data outcomes, that test would not be reliable.

5.10.4 Neutrality

The researchers need to remain free from bias during the data collection period as well as during the data interpretation period. Neutrality is the degree to which findings are a function solely of the informants and the study conditions, and not other biases (26). This can be compared to objectivity in quantitative research.

5.11 Significance of the study

Communication has been identified as a key factor to improving patient safety in the perioperative period (5, 6, 8, 9, 19, 36). There are also studies that link communication to theatre efficiency (16, 37) and conflict (14, 15). The results from this study may provide a better understanding of the communication between surgeons and anaesthetists and the possible barriers that exist. This may result in improved communication which will improve patient safety and better theatre utilisation.

5.12 Potential limitations

This study is conducted contextually in the surgical and anaesthesiology departments at Wits and the results of this study may not be generalisable to other OR's. However, this study addresses an important problem at Wits.

Communication with other members of the perioperative team is also important however, due to the scope of the study, only the communication between the surgeon and anaesthetist will be explored.

5.13 Project outline

5.13.1 Time frame for completion of the study

The estimated time frame is shown in the Gantt chart below:

Activity	Oct 2013	Nov 2013	Jan 2014	May 2014	June 2014	Jul 2014	Aug 2014	Sep 2014	Oct 2014	Nov 2014	Dec 2014	Jan 2015
Protocol preparation												
Writing Chapters 1-3												
Ethics Assessment												
Post Grad Assessment												
Data Collection												
Data Capturing												
Analysis of Results												
Writing Chapters 4-5												
Submission of MMed												

5.13.2 Financial Plan

5.13.2.1 Budget

The estimated financial cost for this study is shown below

Item	**Price per item**	**Quantity**	**Total**
Printing (proposals, information sheets, consent forms, transcriptions, interview guides, reports)	R 0.60/page	±1000	R 600
Binding of research report	R 150	3	R 450
Batteries for audio-recording devices	R 20	4	R 80
Transcription cost	R 1000	4	R 4000
Refreshments for focus groups	R 200	5	R 1000
			R 6130

5.13.2.2 Funding

The printing expenses shall be covered by the Department of Anaesthesiology. Binding of reports, refreshments and batteries shall be purchased by the researcher. An application for funding for the transcription costs shall be made to the Jan Pretorius Fund.

5.14 Appendices

5.14.1 Appendix A:

Dr Ebrahim Gangat
MBBCh (WITS) DA (SA)
Anaesthesiology Registrar
Student no: 0103796R

Cell: 072 202 8653
ebrahimgangat@gmail.com
PO Box 42728
Fordsburg
2033

24 November 2013

Professor Martin Smith
The Head, Department of Surgery
University of the Witwatersrand
Johannesburg

Attention: Prof. Smith

Re: Consent to conduct study

My name is Ebrahim Gangat. I am an anaesthesiology registrar at Wits University. As part of my MMed, I would like to conduct a study titled: "Communication between surgeons and anaesthetists in the perioperative period: an exploratory study".

Communication between operating team members is important for an effective work environment and patient safety. This is a qualitative study to explore the communication between surgeons and anaesthetists in the perioperative period. It will also attempt to highlight perceived barriers to communication between the two disciplines.

This study will be conducted using focus group interviews with doctors working in the departments of surgery and anaesthesiology. These interviews will be held in the Wits Health Science Library at a time that is convenient to all participants without conflicting with the duties of the doctors.

This study will be put forward to the Human Research Ethics Committee (Medical) for approval and to the Post-Graduate Committee of the University of the Witwatersrand.

I hereby request consent to conduct this study in the Department of Surgery.

Yours sincerely

_____

Ebrahim Gangat

5.14.2 Appendix B:

Information letter to potential participants

Dear colleague

My name is Ebrahim Gangat. I am a registrar in the Department of Anaesthesiology. I would like to invite you to participate in my MMed research study entitled: "Communication between surgeons and anaesthetists in the perioperative period: an exploratory study". You have been identified by your Head of Department as a potentially valuable participant to this study.

The aim of this study is to explore the communication between surgeons and anaesthetists in the perioperative period. Communication is crucial to an effective work environment and patient safety.

You will be required to take part in a focus group interview in the Wits Health Science Library at a time convenient to your department. The group will consist of 6 - 10 of your colleagues with similar qualifications from within your department. The duration of the meeting will be approximately 60 minutes and light refreshments will be provided. The exact date of the meeting will be provided once all relevant participants have been contacted and a convenient time is chosen.

This focus group will be audio-recorded and you will be required to sign an informed consent form for inclusion in this study and to be audio-recorded . Your participation in this study is entirely voluntary and no discrimination shall be held against you should you wish to refuse or withdraw from proceedings. You are not being evaluated and none of information provided by you will be used to discriminate against you. Any information given will be valuable to the study and there are no correct and incorrect answers. Any information provided by you will be recorded and treated by the researchers with the strictest confidentiality however anonymity and confidentiality cannot be guaranteed as you will be known to the other participants of the group.

You will not directly benefit from this study but the results from the study could positively change the environment in which you work and improve the safety of your patients.

This study has been approved by the Human Research Ethics Committee (Medical) (Number:_____) and the Post-Graduate Committee of the University of the Witwatersrand. Permission to conduct this study has been obtained from the Heads of Departments of Surgery and Anaesthesiology.

If you have any questions or require any further information, please feel free to contact the following people:

Dr Ebrahim Gangat (researcher): 072 202 8653

Prof. Cleaton-Jones (Chairman of HREC): 011 717 1234

Thank you for your time

Yours sincerely

Ebrahim Gangat

5.14.3 Appendix C:

Informed consent form

I_____ hereby confirm that I have read and understood the Information Letter regarding the study titled: "Communication between surgeons and anaesthetists in the perioperative period: an exploratory study", and I am satisfied with all the information provided.

I am aware that the information provided by me will be treated in a confidential manner, will not be used to discriminate against me, and will be used anonymously when the study is reported.

Participant

I hereby give consent to take part in this study.

_____ _____ _____

(Participant Name) (Participant Signature) (Date)

I hereby give consent to be audio-recorded during the focus group discussion.

_____ _____ _____

(Participant Name) (Participant Signature) (Date)

Researcher

I_____ hereby confirm that the above participant has been fully informed about the nature and benefits of this study.

5.14.4 Appendix D:

Communication between surgeons and anaesthetists in the perioperative period

Focus group interview guide for moderator

1. Welcome and introductions

2. Signing of the consent forms

3. Introduction to study and to focus group discussion

Problem statement: Communication between surgeons and anaesthetists is important to work environment and patient safety.

Aim: The aim of this study is to explore and describe perceptions in communication between surgeons and anaesthetists during the perioperative period at Wits. Signing of consent forms

4. Discussion:

Questions to stimulate conversation

- What are your perceptions of communication between surgeons and anaesthetists in the perioperative period?

- What do you perceive are barriers to effective communication between surgeons and anaesthetists in the perioperative period?

- Any further information that may be of relevance?

5. Thank participants and close

5.15 References

1. Catchpole K, Mishra A, Handa A, McCulloch P. Teamwork and error in the operating room: Analysis of skills and roles. Annals of Surgery. 2008;247(4):699-706.
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