



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Health Sciences
School of Health Care Sciences
Department of Radiography

**Exploring the role of communication between mammographers and patients during imaging
in selected hospitals in Limpopo province**

Research dissertation submitted in fulfilment
of a
Masters of Radiography: Diagnostics

Author: MK CHEGO

Student number: 10185349

Contact details

Principal researcher:

Cellphone: 082 398 5403

Email: katlego5306@gmail.com

Supervisor: Dr RM Kekana

Cellphone: 082 544 4165/012 356 3114

Email address: Mable.kekana@up.ac.za

Co supervisor: Dr K Malherbe

Cellphone: 071 673 2188

Email address: kathryn.malherbe@up.ac.za

DECLARATION

I, MK Chego with student number: 10185349, declare that the research study titled *Exploring the role of communication between mammographers and patients during imaging in selected hospitals in Limpopo province* is my own original work and has not been submitted to any other institution of higher learning. All sources quoted in this research report have been acknowledged by means of a complete reference list.

MK Chego

06 December 2022

TABLE OF CONTENTS

DECLARATION	II
TABLE OF CONTENTS	III
LIST OF ANNEXURES	VI
LIST OF TABLES	VII
LIST OF ABBREVIATIONS	VIII
ABSTRACT	IX
CHAPTER ONE	1
OVERVIEW OF THE STUDY	1
1.1 INTRODUCTION	1
1.2 BACKGROUND	3
1.3 PROBLEM STATEMENT	4
1.4 RESEARCH QUESTION	5
1.5 AIM AND OBJECTIVES	5
1.6 CLARIFICATION OF KEY TERMS	5
1.7 SIGNIFICANCE OF THE STUDY	6
1.8 PHILOSOPHICAL ASSUMPTIONS	6
1.8.1 ONTOLOGICAL ASSUMPTIONS.....	7
1.8.2 EPISTEMOLOGICAL ASSUMPTIONS	7
1.8.3 METHODOLOGICAL ASSUMPTIONS	7
1.9 ETHICAL CONSIDERATIONS	8
1.9.1 NON-MALEFICENCE	8
1.9.2 RESPECT FOR PERSONS.....	9
1.9.3 BENEFICENCE	9
1.9.4 JUSTICE	10
1.9.5 PROTECTION OF PERSONAL INFORMATION ACT, 2013 (ACT No. 4 OF 2013) (POPI ACT)	10
1.9.6 NATIONAL HEALTH ACT, 2003 (ACT No. 61 OF 2003) (NHA).....	10
1.9.7 GUIDELINES FROM THE HEALTH PROFESSIONS COUNCIL OF SOUTH AFRICA.....	11
1.10 OUTLINE OF THE DIFFERENT CHAPTERS IN THE STUDY	11
1.10.1 CHAPTER ONE	11
1.10.2 CHAPTER TWO.....	11

1.10.3	CHAPTER THREE.....	12
1.10.4	CHAPTER FOUR.....	12
1.10.5	CHAPTER FIVE.....	12
1.10.6	CHAPTER SIX.....	12
1.11 CONCLUSION	13
	13
	CHAPTER TWO.....	14
	LITERATURE REVIEW.....	14
2.1	INTRODUCTION.....	14
2.2	SCOPE OF PRACTICE FOR MAMMOGRAPHER INTERNATIONAL ACR (AMERICAN COLLEGE OF RADIOLOGY AND AMERICAN SOCIETY OF RADIOLOGIC TECHNOLOGIST (ASRT)	14
2.3	SCOPE OF PRACTICE OF A DIAGNOSTIC RADIOGRAPHER IN SOUTH AFRICA	16
2.4	STUDIES ON COMMUNICATION IN THE HEALTH CARE PROFESSION	17
2.5	STUDIES ON BREAST CANCER, MASTECTOMY AND BODY IMAGE	19
2.6	STUDY ON ROLE OF MAMMOGRAPHERS.....	21
2.7	CONCLUSION	21
	CHAPTER THREE.....	23
	RESEARCH METHODOLOGY.....	23
3.1	INTRODUCTION.....	23
3.2	RESEARCH METHODOLOGY AND STUDY DESIGN.....	23
3.2.1	OVERVIEW OF THE DIFFERENCES BETWEEN THE QUALITATIVE AND QUANTITATIVE RESEARCH APPROACHES..	23
3.2.2	STUDY DESIGN	24
3.3	STUDY SETTING.....	25
3.4	STUDY POPULATION, SAMPLING AND SAMPLING SIZE	25
3.5	STUDY PARTICIPANTS	26
3.6	INCLUSION AND EXCLUSION CRITERIA	26
3.7	ETHICAL CONSIDERATIONS.....	27
3.8	DATA COLLECTION TOOL	27
3.9	DATA COLLECTION PROCESS	29
3.10	DATA	ANALYSIS
	29
3.10.1	CONTENT ANALYSIS	30
3.10.2	AN OVERVIEW OF THE STEPS FOLLOWED/TAKEN TO ANALYSE THE DATA ACCORDING TO SUMMATIVE CONTENT ANALYSIS	31

3.10.3 CODING.....	31
3.10.4 THEMES.....	32
3.11	CONCLUSION
.....	33
CHAPTER FOUR.....	34
PRESENTATION OF RESULTS	34
4.1 INTRODUCTION.....	34
4.2 A RECAP ON THE ACTIVITIES THAT LEAD TO THE RESULTS.....	34
4.3 PARTICIPANTS’ RESPONSES TO THE INTERVIEW QUESTIONS	35
4.3.1 RESPONSES FROM THE PATIENTS	35
4.4 PRESENTATION OF RESULTS	40
4.5 CONCLUSION	42
CHAPTER FIVE.....	43
DISCUSSION.....	43
5.1 INTRODUCTION.....	43
5.2 DISCUSSION OF THE OBJECTIVES AND RESULTS	43
5.3 DESCRIPTION OF CODES AND THEMES OF THE DATA COLLECTED.....	44
5.3.1 CODES.....	44
5.3.2 THEMES.....	47
5.4 COMPARISONS BETWEEN MAMMOGRAPHERS AND PATIENTS	49
5.5 RELATION TO PREVIOUS LITERATURE	50
5.6 CONCLUSION	51
CHAPTER SIX.....	53
CONCLUSION, LIMITATIONS AND RECOMMENDATIONS.....	53
6.1 INTRODUCTION.....	53
6.2 LIMITATIONS TO THE STUDY	54
6.3 RECOMMENDATIONS	54
6.4 CONCLUSION	55
REFERENCES	56

LIST OF ANNEXURES

1. Annexure A
 - A1: Invitation to patients and mammographers
 - A2: Information leaflet, consent form for patients (English version)
 - A3: Information leaflet, consent form for patients (Sepedi version)
 - A4: Information leaflet, consent form for mammographers
 - A5: Interview guide for patients (English version)
 - A6: Interview guide for patients (Sepedi version)
 - A7: Interview guide for mammographers
2. Annexure B: Declaration of Helsinki
3. Annexure C: Declaration by Principal Investigator
4. Annexure D: Storage of research data and/or documents
5. Annexure E: TNM 800 attendance certificate
6. Annexure F: Confirmation from HOD for funding
7. Annexure G: Request for permission to conduct research at hospitals
8. Annexure H: Plagiarism form
9. Annexure I: Turnitin form
10. Annexure J: Approval from Postgraduate Committee of the School of Health Care Science
11. Annexure K: Memorandum of agreement for academic supervision of postgraduate students
12. Annexure M: Approvals from the hospitals
13. Annexure N: Rejection letter from the Pietersburg Hospital
14. Annexure O: Approval from Ethics Committee
15. Annexure P: Excel spread sheet for patients
16. Annexure R: Excel spread sheet for Mammographers
17. Annexure S: Atlas TI report for patients and Mammographers
18. Annexure T: Gap Kamazoo Communication Assessment form (GKCSAF)
19. Annexure U; ICF Core Sets for Breast Cancer
20. Annexure W: Language Editor's certificate

LIST OF TABLES

Table 3.1: Steps followed when using the summative content analysis.....30
Table 5.1: Code for patients45
Table 5.2: Code for mammographers46

LIST OF ABBREVIATIONS

ABBREVIATION	EXPLANATION
CEO	Chief Executive Officer
DALY	Disability-adjusted life year
EASE	European Association of Science Editors
GKCSAF	Gap-Kalamazoo Communication Skills Assessment Form
HOD	Head of Department
HPCSA	Health Professions Council of South Africa
ICF	International Classification of Functioning, Disability and Health
MRI	Magnetic Resonance Imaging
NGO	Non-governmental organisation
NHA	National Health Act, 2003 (Act No. 61 of 2003)
NM	Nuclear medicine
NPO	Non-profit organisation
WHO	World Health Organisation
ASRT	American Society of Radiologic Technologist
ACR	American College of Radiology
FDA	Food and Drugs Administration
PBRCT	Professional Board for Radiography and Clinical Technology
ALARA	As Low As Reasonably Achievable

ABSTRACT

Communication is essential in management and treatment of breast cancer in the breast imaging department. Communication takes place between health care professionals and patients as well as among health care professionals, which includes mammographers. Mammographers are the essential members of the breast imaging team. The study aimed to explore and describe the communicative role of mammographers before, during and after imaging of post-mastectomy patients in the Limpopo province. The objectives of the study are as follows:

- To explore and describe the views of post-mastectomy patients on the role of communication with mammographers before, during and after the imaging procedure;
- To explore the views and experiences of mammographers regarding their communicative role before, during and after imaging of patients who have had a mastectomy in the Limpopo province; and
- To develop strategies to enhance the communication between mammographers and post-mastectomy patients.

A qualitative exploratory and descriptive design was adopted in this study. Individual in-depth interviews were conducted with patients who had mastectomy, as well as mammographers in selected health care institutions in Limpopo. Purposive sampling was used to allow participants that were more knowledgeable about the subject to part of the study. The collected data was analysed according to the summative content analysis approach. The Head of the departments in the selected hospitals were approached to grant permission for the study and they did. The Research Ethics Committee, in the Faculty of Health also gave permission for the study to be conducted. From the results of the interviews, it can be said that mammographers are accommodative, sympathetic towards patients and mostly try to support these women, making every effort to maintain a good communication path and comprehension between them and their patients. The patients, on the other hand, have high admiration for the work and support of mammographers and perceive mammographers as health care providers who can be trusted and held in high regard.

The outcome of this study provides a better understanding of the role of communication by the mammographers before, during and after the imaging of patients, post mastectomy. Based on the outcome of this research, it is recommended that the role of mammographers be extended in terms of what information they can communicate with patients, as well as how they can communicate this information. Communication in health care service delivery is key in ensuring that there is cooperation between health care professionals and their patients. In

addition to that, the mode of communication should be taken into consideration. Further to that, attention should be given to patients receiving information in languages they are comfortable in. It is recommended that the role extension for mammographers be considered by the Radiography and Clinical Technology Board of the Health Professions Council of South Africa regarding the information they can communicate with patients to allow a more flexible environment without any boundaries regarding information that can be shared.

Key terms: Breast cancer; communication; mammographer; mastectomy; post-mastectomy patient

CHAPTER ONE

OVERVIEW OF THE STUDY

1.1 Introduction

In this chapter, a brief background is given of the communicative role between mammographers and patients during breast cancer imaging procedures. Communication in a health care facility is also described, especially how health care professionals can communicate with patients, ensuring that there is a common understanding and that quality service delivery is not compromised in how health care providers communicate with patients. The effectiveness of communication is discussed, as well as how it can affect the treatment and prognosis of patients. The responsibilities and skills of mammographers are described, as well as the research problem, objectives and aim of the study to understand the communicative role between mammographers and post-mastectomy patients during imaging procedures. An outline is given of the problem that led to this study being conducted, as well as the research question, aim and objectives of the study. The key terms used in this study are also defined in this chapter.

Communication in health care service delivery is key in ensuring that there is cooperation among health care professionals, as well as between health care professionals and their patients. Similarly, the role of communication in breast cancer imaging is essential for the best outcomes in terms of the treatment and management of this clinical condition. Patel and Parikh¹ state that mammographers and ultrasonographers spend more time with breast cancer patients than any other professional categories.¹ It is for this reason that they recommend that mammographers should be trained to educate patients about breast cancer, breast imaging and associated activities.¹ To strengthen this notion, the following paragraph describes the extent of breast cancer incidence, globally and in the South African context.

Breast cancer is the most common and leading cause of death in women from the ages of 40 years and older.² Post-menopausal women are more prone to developing breast cancer than premenopausal women.² The global fight against this disease has led to high standard treatment, management and awareness. According to the 2015 Global Burden of Disease Report, there have been at least 17,5 million general cancer cases globally and according to Breast Cancer Prevention and Control Policy South Africa, the increasing incidence of breast cancer is a major health concern.³ A multidisciplinary team comprising mammographers, oncologists, radiologists, physicians, nurses, surgeons and counsellors need to facilitate diagnosis and care for breast cancer patients, employing strategies for timely access to

treatment.⁴ Following personal communication with the oncologists from the Pietersburg region where the researcher works as a mammographer, it became clear to the researcher that a high number of mastectomies are done in the Pietersburg and Mankweng hospitals compared to breast-conserving treatment. The above factors led to the researcher discussing the topic of interest to multidisciplinary team members, such as the oncologist of the region the study was based.

According to a personal communication with oncologist Dr M Mabona, there seems to be a lack of information and community education regarding breast cancer. Patients seem to have little knowledge of breast cancer, the different treatment options available and how to continue enjoying quality life post mastectomy. The oncologist further stated that most patients report late for consultation with health care professionals, resulting in a subsequent delayed diagnosis and management of breast cancer. The question arose as to what kind of communication takes place between mammographers and breast cancer patients before, during and after the imaging process. The following literature discussed the role of communication further.

Schapira and Barlow⁵ state that the lack of effective communication between health care providers, patients and imaging facilities might result in a delayed diagnosis and possible widening of disparities.⁵ According to Schapira et al⁵, communication plays a very important role in ensuring diagnosis and treatment of patients is not compromised. Therefore, should there be lack of communication between the health provider and the patient or lack of important information communicated to the patients that might have negative impact or delays on the diagnosis of the patient. The authors conducted a study which evaluated the different modes of communication that can be used by members of a breast imaging team, and subsequently identified verbal and written communication as the two modes that are commonly used in breast imaging. Owing to the nature of their work, mammographers tend to have a more prominent patient-practitioner relationship as they are in close proximity to patients before, during and after having been diagnosed with breast cancer.⁸ By communicating and educating patients, mammographers can contribute to the early detection of breast cancer.⁹ The International Classification of Functioning, Disability and Health (ICF) promotes the treatment and management of diseases, for example, breast cancer, to accommodate all aspects of life and all body systems to eliminate restrictions.⁷ The ICF further takes into consideration the importance of communication between health care professionals and patients.

1.2 Background

The way in which health care professionals, such as mammographers in the case of this study, communicate plays an important role in a patient's experience in a mammography department during their breast imaging procedures. According to Kindratt, et al.¹⁰, positive and effective communication from mammographers allows the transference of information and knowledge between a patient and a radiologist. Therefore, positive communication between a health care provider and a patient reduces anxiety, allows the patient to ask questions and improves overall patient engagement.¹⁰

Mammographers are trained diagnostic radiographers with postgraduate specialisation in mammography, as per the Regulations of the Health Professions Council of South Africa (HPCSA), for screening, diagnoses and/or treatment purposes.¹² Therefore, performing these examinations necessitates mammographers to be in close proximity to patients from the initial stage of breast cancer diagnosis to even beyond mastectomy. The role of mammographers include emotional assurance and providing information regarding breast conditions, according to their scope of practice.¹² The scope of practice of a diagnostic radiographer, as outlined by the Professional Board for Radiography and Clinical Technology (PBRCT) of the HPCSA, guides the performance level and limits any practice that may be harmful or unethical to patients. It clearly requires optimum care, human rights, ethics and health laws to be known, as well as being expected to work in a multidisciplinary health setting. Mammographers are required to observe the well-being of patients, provide support and be considerate in terms of their physical and educational needs.¹²

Mammographers also act as links to transfer information between a patient and a radiologist. The relationship between patients and mammographers must, therefore, be sound to ensure that the recommendations made by radiologists for possible follow-up procedures are communicated well and understood by patients.¹³ Relating this communication to the Gap-Kalamazoo Communication Skills Assessment Form (GKCSAF), there are essential elements listed which must be taken into consideration when communicating.¹⁴ In relation to this study, the essential elements can be summarised as follows in relation to a mammographer:

- Effective communication begins immediately when a patient enters the imaging department. This is the time for a mammographer to take history into consideration, reassure the patient that the mammogram is needed, as well as explaining the imaging procedure.
- Communication is essential in obtaining the best quality mammography images. This can be related to the ICF where a mammographer needs to gain a full understanding

of the patient, including their abilities or disabilities to perform certain functions. A patient who might have undergone a mastectomy might be experiencing discomfort that can be related to body image and overall confidence levels. A mammographer's empathy and sensitive communication skills will help put the patient at ease and, therefore, make it easy to produce the required images.

- Following the imaging procedure, a mammographer is responsible for sending the images to radiologists for reporting. The professional scope of a diagnostic radiographer (mammographer is classified under this category by the PBRCT of the HPCSA) does not include image interpretation. A mammographer will, therefore, not communicate mammography findings to a patient.

In a study conducted by Priyanath, et al.¹⁵ and in terms of the Reauthorisation Act of 1998, as related to Mammography Quality Standards, a patient satisfaction survey was conducted to assess the communication standards related to their mammographic results. It was found that the majority of women preferred direct communication with radiologists where imaging was done, to discuss and be informed of the results of their mammograms. It was concluded that future research should focus on methods of improving communication among patients following their imaging procedures as a means to improve the adherence to follow-up recommendations and associated anxiety.¹⁵

The current study is further supported by Schapira and Barlow,⁵ who highlighted two modes of communication that can be used by mammographers as they relate messages to patients, namely verbal or written communication. Considering the population of the Limpopo province, where this study was conducted, especially the socioeconomic status of the community, it was necessary to use verbal and written communication. It remains a mammographer's responsibility to choose the best mode of communication for a patient, as well as taking into consideration the message that is being communicated.

1.3 Problem statement

A problem statement is an area of concern or a description of issues that need to be addressed.²⁸ De Calvalho, et al.²⁹ describe a significant number of women diagnosed with breast cancer as suffering from anxiety, depression, fatigue, sleeping problems, sexual and body image disturbances.²⁹ It is important that these conditions be communicated to mammographers or that mammographers must be in a position to identify these when communicating with patients. Mammographers have more time with patients before, during and after the imaging procedure. Mammographers, therefore, are in a good position of to support and be empathetic towards women that are diagnosed with breast cancer or have

undergone mastectomy . In a study conducted by Louw, et al.,¹⁷ it was found that patients rate mammographers according to the following four traits, namely the way they instil trust, the care they give, how safe they make a patient feel, as well as how well they communicate.¹⁷ It is important to note that communication is overarching as the first three traits depend on communication. The researcher could not find a study that focused on the communicative role of mammographers in the Limpopo province and in South Africa.

The problem that led to the study being conducted was that the mammographers and patients seemed to be less cognisant of the communicative role of mammographers before, during and after imaging patients post mastectomy.

1.4 Research question

A research question is a question that a study is aiming to answer or to which a response is provided.¹⁶ The question that this study was attempting to answer was: “What is the communicative role of mammographers before, during and after imaging post-mastectomy patients?”

1.5 Aim and objectives

A research aim describes the purpose and focal point of a study.¹⁶ This study was aimed at exploring and describing the communicative role of mammographers before, during and after mammographic imaging of patients post mastectomy in the Limpopo province.

Research objectives are clear, concise declarative statements that describe what a research study is trying to achieve.¹⁶ The following research objectives directed the research process:

- To explore and describe the views of post-mastectomy patients on the role of communication with mammographers before, during and after the imaging procedure;
- To explore the views and experiences of mammographers regarding their communicative role before, during and after imaging of patients post mastectomy in the Limpopo province.
- To develop strategies to enhance the communication between mammographers and post-mastectomy patients.

1.6 Clarification of key terms

The following terms were used in this study:

- Communication: The imparting or exchanging of information or data using different media, such as telephone, in person or computers.¹⁶ Communication in the context of

breast imaging entails clinical history taking, explaining the procedure. These roles are covered in the scope of radiographers-mammographers, as defined by the PBRCT of the HPCSA. Mammographers do not communicate the diagnosis or treatment options with their patients.

- Role of communication: In the context of breast imaging, it is the act of exchanging information or conversing with another individual (patients) with the aim of educating them or supporting them.²⁶
- Mammographer: A trained diagnostic radiographer with postgraduate specialisation in mammography for screening, diagnoses and/or treatment purposes.¹²
- Breast cancer is an abnormal division and growth of cells in the breast tissue.^{2,26}
- A mastectomy is a form of surgical procedure aimed at preventing or treating breast cancer, which involves removing the breast tissue.²⁶
- Bodily image refers to an individual's perception of their physical self or their own body, which involves how a person sees and feels about themselves compared to societal standards.¹¹

1.7 Significance of the study

The outcome of this study provides a better understanding of the communicative role of mammographers before, during and after the imaging of patients post mastectomy. It is recommended that there be a role extension for mammographers in terms of what information they can communicate with their patients. Recommendations on how to meet the needs and how to support women who have been diagnosed with breast cancer and who have had a mastectomy are also made. Structures such as workshops, awareness campaigns and non-governmental organisations (NGOs) or non-profit organisations (NPOs) will be used as platforms to share the findings of this study.

1.8 Philosophical assumptions

Philosophical assumptions are used as frameworks that guide a research study.^{28,30} It is important to understand the philosophical foundation and assumptions of human experience and knowledge on which research is based. Therefore, knowing assumptions helps in directing the research process, especially with the selection of methods, analysis of data and how it is interpreted.^{28,30} Closely related to assumptions are research paradigms. A paradigm is defined by Polit and Beck³¹ as a world view or lens through which a researcher can narrow his or her focus on the phenomenon of interest. The authors further state that there are three main paradigms, namely positivist, constructivist and pragmatism. The constructivist paradigm

is more applicable to qualitative research; hence, the discussion of the philosophical assumptions in line with this paradigm. According to Polit and Beck,³¹ constructivists do not see reality as a fixed entity, but rather a construction of the people participating in the research.³¹

1.8.1 Ontological assumptions

Ontology refers to the nature of reality being studied or a person's view.³⁰ Ontology is a belief system that reflects an individual's interpretation about what constitutes a fact.³⁰ It assumes that from how individuals behave and interact with each other, the reality of that nature can be explored.^{28,30} Patients are satisfied with the communicative role mammographers play and the support they receive from them. According to patients, mammographers are kind, informative, treat them with warmth and are mostly professional in the work they do. On the other hand, mammographers view patients as anxious and fearful when they have to undergo a mammogram examination and, therefore, they feel it is their responsibility to ensure that patients feel welcomed, supported and treated well during imaging procedures.

1.8.2 Epistemological assumptions

Epistemology is the study of knowledge of human beings and how individuals understand their reality.³⁰ It assumes that study participants are more knowledgeable about the subject under investigation and may reflect their reality.³⁰ In this study, the women who had mastectomies perceived the communication they had with mammographers as a good experience during their mammography examinations and had good feedback about the level of service they receive from mammographers. During the interviews mammographers also expressed their views on the communicative role they play before, during and after imaging procedures. Mammographers criticised themselves on how little they communicate with patients. Mammographers believe they can do more; hence, the constant need to always ensure smooth communication between them and patients. Mammographers do demonstrations to ensure that patients understand, use different languages to avoid language barriers, ask personal questions to reduce anxiety and fear in patients, and ultimately ensure a great experience for each patient when they arrive at the mammography department.

1.8.3 Methodological assumptions

Methodological assumptions are strategies used to obtain knowledge about reality. These are assumptions made by the researcher during the research process. Methodological assumptions are based on the researcher's experience during data collection and the analysis of data.³⁰ An exploratory qualitative and descriptive design was adopted in this study as the

researcher was seeking to gain an in-depth understanding of what patients and mammographers regard as the communicative role of mammographers. It has been established that mammographers regard their communicative role as efficient and productive, yet limited to a certain extent, with patients being satisfied with the communicative role of mammographers during mammography examinations. The researcher found the data collection process less complicated and the reception from the participants was warm. Patients were anxious at first but later relaxed as the interview progressed while mammographers were focused and quite transparent and open to have a dialogue about the role of communication of mammographers during the imaging procedures. Therefore the structured uniform questions directed to the participants provided a baseline understanding of the dynamics of communication between mammographers and patient because patients seem satisfied with the communication experience they have with mammographers. Mammographers on the other hand seem to be trying their best to provide and explore their role of communication and ensure that the communication between them and patients is efficient and productive.

1.9 Ethical considerations

According to the National Health Act 61 of 2003, every study that involves human subjects must comply with the ethical considerations which have been outlined to ensure that people are not abused.⁴⁶ The study was conducted after ethical approval was granted by the Research Ethics Committee of the Faculty of Health Sciences (ref no 549/2022, Annexure O). In addition to that, the researcher obtained approval from the Mammography departments in the selected hospitals, see annexure M. The declaration of Helsinki was also taken into consideration, it outlines the ethical principles for medical research involving human subjects, including research on identifiable human material and data developed by the World Medical Association. The declaration is intended to protect the well-being of human subjects. In the case of this study, it is mammographers and breast cancer patients who had mastectomy (see annexure B).

The following ethical principles were taken into consideration during the study:

1.9.1 Non-maleficence

Non-maleficence means that a researcher will not intentionally do harm to participants.^{3,16} Therefore, in this study, the participants were not subjected to any harm and were protected from undesirable circumstances due to their participation in the study. These were highlighted or brought to their attention during recruitment for participation and through the consent form that they were given before the interviews were conducted.

1.9.2 Respect for persons

The researcher respected the rights of the participants their autonomy and dignity. Truthfulness, honesty and sincerity were fulfilled. Gray *et al*⁵² describe right to privacy as an individual's right to determine, the time, extend and general circumstances under which information is shared with or withheld from others. This information includes attitudes, beliefs, behaviours, opinions and records. The researcher took every participant through the information leaflet, explaining the objectives of the study as well as how it will be conducted. This aligns well with the right to self-determination. As the researcher was taking each and every participant through the information leaflet, she acknowledged that they are humans and capable of making their own decisions. Each participant was therefore treated as an autonomous agent.

In addition to this, the researcher took into consideration, the stipulations in the (Protection of Personal Information) POPI Act and sought permission from the mammography departments in the selected hospitals. Permission was requested from the Chief Executive Officer at each hospital (see Annexure M). Consent was obtained from the participants before data collection (see Annexures A2, A3 and A4).

The researcher further took into consideration the right of the participants to anonymity and the right to have their details and information shared confidential. This will be demonstrated in chapter four when the results are presented.

1.9.3 Beneficence

This refers to benefits and risks, and is defined as honouring the best interest of the participants.^{3,16} This principle is further described by Botma Greet, Mulaudzi and Wright as being grounded from the premise that:

- A person has a right to be protected from harm and discomfort
- One should do good and above all, do no harm

The researcher made efforts to minimise risks and maximise benefits for participants and society. No harm or risks were associated with the study.

In terms of the outcome of the study benefiting the research participants, the researcher explained that there might not be direct benefits immediately after the study has been concluded. The participants might, however, benefit indirectly when the recommendations are taken into consideration and implemented later.

1.9.4 Justice

Justice in research is defined as the fair selection and treatment of participants.^{3,16} Grove et al⁵², describe the principle of justice in research as the need to ensure that every research participant is treated fairly and receive what he or she is owed or was promised. The researcher was upfront in explaining the objectives of the study and what was expected of both the mammographers and patients who were invited to participate in the study. There was no discrimination or favouritism, this means, there was no special treatment given to the mammographers and not to patients or vice versa.⁵² Hospitals and participants were treated with the same fairness. Distributive justice was applied by asking the same type of questions to all participants regardless of their different settings.

1.9.5 Protection of Personal Information Act, 2013 (Act No. 4 of 2013) (POPI Act)

The purpose of this act is to *give effect to the constitutional right to privacy, by safeguarding personal information when processed by a responsible party, subject to justifiable, limitations that are aimed at—*

(i) balancing the right to privacy against other rights, particularly the right of access to information; and

*(ii) protecting important interests, including the free flow of information within the Republic and across international borders.*³⁵

The POPI Act sets out the minimum standards regarding accessing and processing any personal information belonging to another. The study complied with the POPI Act³⁵ to ensure that the participant were not compromised in any way and that they were not subjected to any harm. The act specifies the following in terms of research, that the researcher must meet all the requirements outlined by the Faculty Research Ethics Committee, the protection of research participants and handling of collected data as well as the storage thereof.

1.9.6 National Health Act, 2003 (Act No. 61 of 2003) (NHA)

The NHA provides a framework for a structured uniform health system within the Republic of South Africa, taking into account the obligations imposed by the Constitution of the Republic of South Africa, 1996 (Act No. 108 of 1996) and other laws on national, provincial and local governments with regard to health services, and providing for related matters. The objectives of this Act are to regulate national health care and to provide uniformity in respect of health care services across the nation⁴⁶. The study complied with the NHA to ensure that the health care service the patients are supposed to receive during the period of study was not compromised.

1.9.7 Guidelines from the Health Professions Council of South Africa

The Health Professions Act, 1974 (Act No. 56 of 1974) is aimed at establishing the HPCSA to provide for control over education, training and registration for and practising of health care professions registered under this Act. Therefore, the guidelines from the HPCSA on ethical considerations were emanated from this Act. This study involved human subjects. In terms of the NHA, studies that involve human subjects must comply with specific requirements. These requirements are further elaborated on in the HPCSA booklet for health researchers.⁴⁷

A practitioner who is or becomes involved in research, development or the use of defensive chemical, biological or nuclear capabilities shall obtain prior written approval from the board concerned to conduct such research, development or use⁴⁷. Therefore, the study complied with this guideline and obtained approval to conduct the study from the Faculty of Health Science Research Ethics Committee of the University of Pretoria (reference number 529/2022), the respective Heads of Department (HODs) and Chief Executive Officers (CEOs) of all the relevant hospitals.

1.10 Outline of the different chapters in the Thesis

In this section, all the chapters that are included in this report are presented, as well as the processes that took place in conducting the study, from what is known about the subject, namely the literature review; the methodology adopted to conduct the study; the results and analysis of the data that were collected, to the recommendations and conclusion of the study.

1.10.1 Chapter one

Chapter one introduced the study and the role of communication in the healthcare facilities, the aims and objectives as well as the problem statement were outlined. The significance of the study was described and key words were clarified to provide more understanding and context that was used. The ethical principles applied in the study were described to ensure that the study complies with the ethical considerations in place for any medical research are implemented or adopted, and the philosophical assumptions were also described to provide a framework that was used to guide the study.

1.10.2 Chapter Two

Chapter Two discusses factors that are related to the perceptions of mammographers and patients on the role of communication during breast cancer imaging procedures. Studies that have been conducted in relation to communication in health care facilities, what is known about the effect of the role of communication on breast cancer patients and the impact of health care professionals' communication skills in a health care facility, and the scope of practice of mammographers are described in this chapter.

1.10.3 Chapter Three

In Chapter Three, the methodology used for this study is presented, which includes the study design, setting and sampling of the population, the data collection process, data analyses, and the coding process. The processes and guidelines followed to achieve the objectives of the study and answer the research question are presented in this chapter.

1.10.4 Chapter Four

In Chapter Four, the results from the collected data are presented. The sample of the voices of the research participants, as gathered during the individual interviews, are presented alongside the questions asked. This is true for both the mammographers and breast cancer patients who participated in this study. All these were presented in preparation for the data analysis. Content analysis are used to analyse the data from the conducted interviews. Codes were identified.

1.10.5 Chapter Five

Chapter Five is the discussion of the research results. It is aimed at explaining the codes and themes used for data analysis, the possible relationship with the research problem, question and aim of the study. The description of the possible relationship between the themes and an in-depth discussion of the results and their alignment with the objectives, as well as a comparison of the known literature to the results is outlined in this chapter.

1.10.6 Chapter Six

In Chapter Six, an overview of the results and findings from this study are described. The chapter also touches on the limitations to the study as well as the recommendations. Finally the overall conclusion to this study, is presented.

1.11 Conclusion

Communication plays a vital role in the diagnosis and treatment of any cancer patient and the overall service in any health care facility. Therefore, effective communication will ensure that all gaps are bridged and that patients, especially those patients who had a mastectomy, receive the support and information they need during imaging procedures. Aligning mammographers' duties and skills, as well as knowledge of the kind of support patients need, and taking into consideration what is stated in the literature on the role of communication are important in answering the research question and achieving the highlighted objectives of this study.

CHAPTER TWO**LITERATURE REVIEW****2.1 Introduction**

Conducting a literature review involves a process of summarising and critiquing already existing literature or knowledge which is used for context and background in a research project.¹⁶ In this chapter, a vast discussion ensues on all factors related to the perceptions of mammographers and patients on the role of communication during breast cancer imaging procedures. The scope of practice of mammographers is described and what is known about the effect of the role of communication in breast cancer patients and the impact of health care professionals' communication skills in a health care facility.

A literature review is conducted to investigate what is known about a topic and the knowledge gap.¹⁶ In searching for literature for this study, the Google Scholar search engine and PubMed database were used. The key terms used in searching the databases were 'mastectomy', 'communication', 'clinical history taking', 'health professionals' and 'breast cancer'. According to what is known about breast cancer and the communicative role of mammographers as members of the breast imaging team, In a study conducted by Jones,¹⁸ it was found that mammographer communication can improve the quality of the images produced as the patient will be more relaxed following the clarification and explanation of the procedure. The author further states that a part of the communication includes accurate history taking.¹⁸ This can be related to the ICF, which is in support of accurate and effective communication. In the study by Mendat, et al.,¹⁹ it was found that communication is also important in minimising discomfort during a mammography examination.¹⁹

The scope of practice for mammographers is further discussed in this Chapter, by first assessing the international standards of practice in mammography, and thereafter the local context and how they differ in opinion.

2.2 Scope of practice for mammographer international ACR (American College of Radiology and American Society of Radiologic Technologist (ASRT)

ACR and ASRT developed an educational tool to guide practitioners in providing appropriate radiological care for patients. According to the ACR, Mammography is the radiographic and tomographic examination of the breast by using dedicated electronic detectors to record images and having the capability for image display on a computer monitor. The goal of mammography is to detect, characterize and evaluate the finding suggestive of breast cancer or other breast diseases. In the United States of America mammograms are performed under

the mammography Quality Standard Act legislation and regulation which was published by the Food and Drugs Administration. The practice of mammography is performed by health care professionals responsible for the administration of ionizing radiation and high-frequency sound waves for diagnostic, therapeutic or research purposes.^{54,55}

2.2.1 Responsibilities of a mammographer according to the American Registry of Radiological Technologist.

The following list explains the responsibilities of a mammographer:

- Perform breast imaging procedures that create mammographic and sonographic images needed for diagnosis at the request of and for interpretation by a licensed practitioner.⁵⁴
- Mammographers must demonstrate an understanding of human anatomy, physiology, pathology and medical terminology.⁵⁴
- They must maintain a high degree of accuracy in positioning.⁵⁴
- Mammographers must possess, use and maintain knowledge about radiation protection and safety and biologic effects of high-frequency sound waves. Mammographers prepare, administer and document activities related to medications and radiation exposure in accordance with federal and state laws, regulations or lawful institutional policy.⁵⁴
- Mammographers independently perform or assist the licensed practitioner in the completion of mammographic and sonographic breast imaging procedures.⁵⁴
- Mammographers must comprehend the complexities of the appropriate federal and state laws, regulations and have knowledge of the quality control and quality assurance requirements for mammography and breast sonography.⁵⁴

2.2.2 The scope of practice of the medical imaging (mammographers) and radiation therapy professional includes:

The following list describes the responsibilities of a mammographer;

- Administering medications with an infusion pump or power injector as prescribed by a licensed practitioner.⁵⁵
- Applying principles of ALARA to minimize exposure to patient, self and others.⁵⁵
- Applying principles of patient safety during all aspects of patient care.⁵⁵
- Assisting in maintaining medical records, respecting confidentiality and established policy⁵⁵
- Collaborating a patient's clinical history with procedure and ensuring information is

documented and available for use.⁵⁵

- Evaluating images for proper positioning and determining if additional images will improve the procedure or treatment outcome.⁵⁵
- Evaluating images for technical quality and ensuring proper identification is recorded.
- Imaging pathologic breast specimens as prescribed by a licensed practitioner⁵⁵
- Performing breast ultrasound procedures as prescribed by a licensed practitioner.⁵⁵
- Performing mammographic procedures per facility policy or as prescribed by a licensed practitioner.⁵⁵
- Providing or assisting with physical breast inspections or palpation⁵⁵
- Performing ongoing quality assurance activities.⁵⁵
- Providing education and optimal patient care.⁵⁵
- Receiving, relaying and documenting verbal, written and electronic orders in the patient's medical record.⁵⁵
- Selecting the appropriate protocol and optimizing technical factors while maximizing patient safety.⁵⁵

Following the international standards for mammographers, the next paragraph states the scope for a diagnostic radiographer in SA.

2.3 Scope of practice of a diagnostic radiographer in South Africa

The scope of practice of a diagnostic radiographer, as presented by the PBRCT of the HPCSA, describes the role of a diagnostic radiographer as a member of the health care team and provides a framework for the quality of improvement programmes.¹² Some activities require that a diagnostic radiographer be in possession of a board-approved additional postgraduate qualification in order to practice, for example, mammography. Furthermore, the following roles are listed in the scope of practice:

- Assessing patients and their clinical history to determine appropriate radiographic protocols and techniques;¹²
- Observing the well-being of patients and maintaining contact with them during their waiting, examination and post-examination stay in the radiography department;¹² and
- Providing support and reassurance to patients, considering their physical and educational needs.¹²

Following the review of the literature in this section, one can clearly see the differences between global and local mammography standards. There are clear differences such as: International mammographers have clear and specific guidelines which is lacking in our

country and have a broader scope of practice in comparison to South African mammographers. Mammographers who practice internationally, appears to have more responsibilities which allows them to communicate more information with patients compared to our local mammographers.

The following section discusses the role of communication during mammographic examinations so as to further strengthen the need for role extension of mammographers

2.4 Studies on communication in the health care profession

Reeves and Kaufman²⁰ conducted a study on effective communication and effective clinical history taken during mammographic examinations. Furthermore, they outline the communicative role of a mammographer as being to verify patient identity and clinical history, explain the procedure, strive to obtain all required information, explain discomfort with compression and the possibility of taking additional projections and possible follow-up visits.²⁰ Closely related to this study, Patel and Parikh¹ focused their study on the impact that diversity has on creating communication gaps.¹ The focus on diversity related well to the current study as it was conducted in two public and two private hospitals in the Limpopo province and used two languages namely Sepedi and English for patients during interviews. Diversity in the breast imaging departments, as reported by these authors, include ethnicity, age, race, socioeconomic class and geographical location. Relating back to how diversity can impact communication, the authors list the following communication gaps, namely language barrier, gaps in understanding, as well as effective communication. The researcher has noted communication gaps or language barriers in the study; hence, the need to have the data collection instrument translated into Sepedi.

Communication practices and the need for effective communication are very important in breast imaging as, in most cases, patients are expected to honour follow-up visits. Besides attending follow-up visits, there is also a need for communication to be shared with the patients between visits. In a study conducted by Schapira and Barlow,⁵ communication with a patient is classified as being either verbal or written. The focus of their study was on radiologists communicating with patients. This can, however, be related to mammographers. The only difference is that mammographers do not communicate diagnostic information. However, they might be expected to clarify why additional projections of the breast must be taken, why the patient might have to undergo a specialised procedure or even attend a follow-up examination. The authors further list 10 essential elements of communication, which can be related to the ICF. These elements were found to be useful in the design of the questions to use in the

interviews.⁵ The elements were further related to the GKCSAF.¹⁴ This was also found to be very useful in the design of the questions that were asked in this study.

Benedictus¹³ conducted a study that was focused on the communication skills of radiologists that could well be used for mammographers. The author describes communication as being important in image interpretation and procedural skills. Relating this to mammographers, it will involve all the steps taken in explaining the procedure to patients, providing assurance and comfort during the procedure, as well as relating instructions after the mammography procedure.¹³

Informed decision-making during screening mammography has received increased interest in the past decade; however, there is limited training and standard approaches to communication with patients. In a study conducted by Neckhlyudov, et al.,²¹ an ethically sound model dialogue is mentioned, which could be used as part of an informed decision-making framework. Such dialogues may be used in academic and clinical settings to allow patient-centered communication.²¹ Jorgensen, et al.²² assessed the role of communication during breast cancer screening. It was found that there is a discordance among medical professionals regarding screening education relayed to patients. Decision-makers in the health care sector should start identifying key focus areas to be used in communication policies to allow ethical decision making in the hands of patients before and during screening mammography.²²

In a study conducted by Barlow and Schapira,²³ the association of communication practices of mammography in facilities and timely follow-ups of a screening mammogram with a Bi-RADS 0 assessment were evaluated in a population-based research optimising screening through personalised regimes. It was found that the value of telephonic communication to patients related to timely follow-ups is more efficient than other modes of communication, such as email or post mail. They further mention that the lack of effective communication between facilities, providers and patients tend to delay diagnosis and follow-ups, and may cause anxiety in some patients.²³

Madula, et al.²⁴ conducted a study on the nature of communication between health care providers and patients. It was mentioned that the factors that may act as a bridge to obtain effective communication between the two parties are disrespect, language barriers, discrimination due to socioeconomic status, as well as the failure of health care providers to answer certain questions.²⁴ Therefore, Madula, et al.²⁴ opine that when there is good or positive communication between patients and health care providers, patients are more

encouraged to use the health care facility services. As it is believed that health care providers have the privilege of meeting and caring for people in one of the most vulnerable times of their lives, advocating and ensuring the safety of patients when they are under their care holds more priority and it is their responsibility to equip patients with the resources needed for a healthy recovery. According to O'Daniel *et al*²⁵ professional communication and team collaboration are essential in ensuring that effective clinical practice is of high priority as critical information must be communicated accurately to avoid putting a patient's safety at risk.²⁵

A study about the body image of women with breast cancer after having had a mastectomy was conducted in Turkey by Kocan and Gursoy.²⁶ The objective of the study was to gain a holistic and deep understanding about how women with breast cancer feel about their body image after having had a mastectomy.²⁶ In relation to this study and the communicative role of mammographers, the study explored the role that mammographers play in communicating some of these findings and concerns with which women in the Limpopo province may be grappling. In another study conducted by Barbosa, et al.,²⁷ it was reported that immediate reconstruction has a positive impact on a patient's well-being.²⁷ The level of depression these women endure after having had a mastectomy is discussed, regardless of the period after the surgery, which seems to be high in all aspects. Regarding how they perceive their body image and the satisfaction of how their lives have turned out, most of these women are grateful that they have been healed, but they are not satisfied with their body image.²⁷ In a study by Jones⁴⁸, mammographer communication can improve the quality of the images produced, because the patient will be more relaxed following the clarification and explanation of the procedure. The author goes on to state that part of the communication includes accurate history taking. This can be related to the ICF which is in support of accurate and effective communication.

Considering above literature on communication, it is evident that perception of body image related to breast cancer following mastectomy is of concern. The following paragraph is the review of literature on breast cancer, mastectomy and body image.

2.5 Studies on breast cancer, mastectomy and body image

Breast cancer is the most common and leading cause of death in women between the ages of 40 - 90 years. Post-menopausal women are more prone to developing breast cancer than premenopausal women.² The global fight against this disease has led to high standard treatment, management and awareness. Globally, breast cancer amounts to 2.4 million new cases and 523 000 deaths, as reported in 2015². According to the 2015 Global Burden of Disease Report, there have been at least 17.5 million general cancer cases globally, the

increasing incidence of breast cancer is a major health concern. About 19.4 million women are at risk of having breast cancer from the ages of 15 years and older. In 2011 breast cancer was the leading cause of death in South African women. Forty six percent were new cancer cases with an average of 6 849 new cases per annum reported. Approximately 19.89% occurred to be white women, 35.44% were Indian women and 26.63% were coloured women whereas only 20.87% were black women. Eight thousand, two hundred and three new cases of breast cancer were observed per the National Cancer Registry in 2012.

According to the literature on breast cancer and the communication role of mammographers, the desire to be more involved as a way for providing support to these women could not be ignored. Jones⁴⁹ says that a mammographer should also have an understanding of the reasoning behind certain treatment methods and surgical interventions for each patient. as provided by the surgeons. Some of the reasons include the age of the patient whereby for women under the age of 35 years, mastectomy lowers the risk of recurrence. Other reasons are strong family history of breast cancer, the size of the cancer (>5cm), multicentricity of the cancer whereby the cancer is in more than one area and lastly if the woman has a widespread ductal carcinoma in situ or not.⁴⁹ According to Othman⁵⁰ there are oncological reasons, individual reasons, and cosmetic reasons that prompt doctors and patients to actually consider mastectomy, which were explored with a choice of having a breast reconstruction afterwards.⁵⁰

Comparison of mastectomy and wide local excision as treatment options was common in most studies, and the aims were to establish which treatments are mostly preferred by the doctors and patients. According to Schmauss *et al*⁵¹ wide local excision seems to be more appealing to most women since it gives most women the chance to save one or both the breast regardless of the breast's physical/structural distortion.⁵¹ The comparison between radical mastectomy and skin-sparing mastectomy was also explored because skin-sparing mastectomy allows a chance of breast reconstruction after treatment.⁵¹ In contrast, radical mastectomy is an old procedure that involved removing the whole breast tissue underlying skin and the pectoralis muscle. A study about body image of women with breast cancer after mastectomy was conducted in Turkey by Kocan *et al*²⁶. The study's objective was to gain a holistic and deep understanding about how women with breast cancer felt about their body image after mastectomy. The findings to this study suggested mastectomy had a negative impact on how women that had this surgical treatment for breast cancer view their body-image. The results presented show that some of these woman used negative words to describe their bodies and some said that they felt '*half of themselves was missing*'. In relation

to this study and the communication role of mammographers, the study would like to assess the role that the mammographers play in communicating some of these findings and concerns that women in Limpopo might be coping with.

2.6 Study on role of mammographers

A study by Louw⁵³ assessed current training programs of mammographers so as to support an extended scope of practice for South African mammographers. According to Louw, the lack of radiologist present in departments making use of Teleradiography services have a negative impact on the throughput of image interpretation and service delivery as a whole for mammography patients because the responsibilities and duties that lie on a radiologist tend to delay the diagnosis and treatment for breast cancer. Therefore, some countries implemented the extended role of mammographers to reduce the workload of radiologists and share the service rendered among the two professionals (mammographers and radiologists).

Mammographers in the United Kingdom are not only involved in the imaging procedure of mammograms but have other roles added on their scope of practice which are: image-guided biopsies, vacuum-assisted biopsies, Fine Needle Aspirations, image interpretation, image-guided localisation and breast ultrasound. Australia also implemented this extension of roles because of the same challenges of lack of radiologist to offer quality health care services to their population.⁵³ The united states of America also supports the role extension for mammographers and the development of and implementation of advanced training in programs.⁵³ The study was a developmental research study design which adopted both qualitative and quantitative characteristics. A purposive sampling technique was used and the data collected was analysed according to content analyses by Saldana. Therefore, Louw suggests role extension for mammographers in South Africa given our own existing challenges and the positive impact the implementation of advance training programs will have on the healthcare system in our country and the eradication of breast cancer prevalence.⁵³

Based on all the above literature, the following summary can be concluded.

2.7 Conclusion

From the reviewed literature, it was demonstrated that communication is important in ensuring smooth information relay between mammographers, doctors and patients. According to mentioned studies conducted on effective communication between health care professionals and patients, it can be concluded that proper care and support given to patients should not be compromised and therefore, the communication role played in health care facilities should be high priority. The statistics on breast cancer also show how paramount the breast cancer

diagnosis and treatment is and the delicacy it deserves. The studies on breast cancer, mastectomy and the roles extension for mammographers by Louw⁵³ indicated the dire need of high quality services in the healthcare facilities and the implementation of new strategies to facilitate good communication among health professionals and patients and proper service to be offered to patients should be of high priority. Therefore, as no other study relating to communication has been conducted in the Limpopo province, it is important for this study to bridge the gap in order to have a holistic understanding of the communicative role of mammographers in the province.

The methodology related to the current study is discussed in the following chapter.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

In this chapter, the methodology adopted in this study is presented. It includes matters such as the study design, setting and sampling of the population. A research methodology is a systemic technique used to structure and identify, select, process and analyse a topic being investigated.²⁸ Based on the research problem and question that this study sought to answer, a qualitative research approach was found to be appropriate. It aligned with the constructivist paradigm. As explained by Botma *et al*³², qualitative researchers construct their own reality through their lived experiences. This is the ontological perspective. From the epistemological perspective, qualitative researchers, believe that knowledge is developed through the interaction with others.³² These relate well to the current study that is focussed on the role of communication in the breast imaging department. The interaction between the mammographers and the breast cancer patients, who had undergone mastectomy.

The research design was exploratory and descriptive, which is elaborated on in the following section.

3.2 Research methodology and study design

The difference between qualitative and quantitative research approaches are discussed in this section of the study to justify the adoption of the research design that was found to be appropriate for this study. This aligns with what Botma *et al*³², recommend as being important in the research methodology. These authors say: “the researcher must give a theoretical perspective on each aspect of the methodology”. Starting with the definition of the term, why it was found to be appropriate for this study, its advantages and disadvantages as well as the strategies that will be used in the study.

3.2.1 Overview of the differences between the qualitative and quantitative research approaches

Quantitative research involves the process of collecting and analysing numerical data. According to Grove, et al.,⁴⁴ the purpose of quantitative research is that it assists a researcher in gaining knowledge and an understanding of the subject or hypothesis by using methods that will produce objective data and will be analysed using numbers and statistics.⁴⁴ There are five types of quantitative research, namely descriptive, survey, correlational, quasi-experimental and experimental. Validated data collection and structured instruments are used

to produce quantitative data, which is based on precise measurements. This approach eliminates researcher bias on collecting data and the participants' characteristics are usually hidden from the researcher. It allows larger sample sizes to be used that are representative of the population. The finding of the study can be generalised and related to other populations. Quantitative studies are usually focused, fast, reliable and scientific, but the disadvantage of quantitative experiments is that they can be time consuming, complex and expensive. Quantitative studies require extensive statistical analysis, which can be a challenge for a researcher if they lack knowledge of statistical tools and how to use them. Data collection tools that can be used are surveys, which can either be online, over the phone or on paper, as well as conducting interviews.^{28,33,44,45}

Qualitative research is the study of subjects that are difficult to quantify, such as art history, words, pictures and objects that are used as data. It is descriptive rather than predictive and assists in understanding how individuals grasp a certain phenomenon. According to Brink, et al.,²⁸ qualitative studies provide information about the human element of an issue and people's emotions, opinions, beliefs and relationships.²⁸ Furthermore, it provides a complex textual description of how people experience a given research issue. The collected data are observed rather than measured. There are four types of qualitative research studies, namely case study, grounded theory, phenomenology and ethnography. Phenomenology was adopted for this study because the participants(mammographers and post mastectomy patients) chosen for the study fit the criteria as they have different characteristics but share the same experience of the phenomenon under study. The sampling techniques that can be adopted for a study of this nature are probability sampling and non-probability sampling, whereby probability sampling allows the random selection of participants that make statistical inferences about the entire group and non-probability sampling involves a non-random selection of participants, which is based on convenience or certain criteria. Therefore, qualitative studies adopt non-probability sampling strategies, namely purposive sampling, snowball sampling, voluntary response sampling, quota sampling and convenient sampling. The sampling techniques of this approach produces data rich in information, can achieve depth of phenomena and has more conceptual than numerical consideration. The three methods of collecting qualitative data include focus groups, in-depth interviews or participation observation.^{28,33,44,45}

3.2.2 Study design

A study design refers to how a study is structured, which involves the process or guideline followed in a set of logical steps by a researcher to answer a research question.¹⁶ Botma, et al. describe the purpose of exploratory research as being to develop the initial, rough

understanding of a phenomenon.³² According to Gray *et al*⁵², exploratory-descriptive designs are often used by researchers who want to address a specific question, may or may not use a theoretical framework to structure their study design. This is applicable to the current study where the researcher addressed the question on the role of communication between mammographers and post mastectomy patients, before, during and after the breast imaging procedure.

There is literature on the communication of different categories of health care professionals in the breast imaging department.¹³ However, very little is known about the experiences and views of breast cancer and patients post mastectomy in the Limpopo province, as well as the communicative role of mammographers. The exploratory descriptive design was, therefore, found to be appropriate for this study. Polit and Beck³¹ describe descriptive qualitative studies as being eclectic and based on constructivist inquiry.³¹

There was a need to build on previous literature, confirming the important role mammographers play during initial patient assessment and history taking by providing effective methods of future communication in a breast care centre. The advantage of using this research design was that it provided a comprehensive understanding of the research problem and allowed more context-specific answers to the research question.

3.3 Study setting

In Limpopo province, there are two public hospitals that have a breast clinic or mammography unit namely the Mankweng Regional Hospital and the Pietersburg Provincial Hospital. The private hospitals that have breast imaging departments in Polokwane are the Medi-Clinic and Netcare Pholoso hospitals. The four above-mentioned public and private hospitals formed the identified study setting proposed for data collection. Participants were invited from these facilities upon receipt of the approval from the relevant authorities. The Pietersburg Hospital operates only two days a week (Mondays and Fridays) and they book approximately six patients a day, of which three or four of those women had had a mastectomy. The Mankweng Hospital operates from Mondays to Fridays and books about five patients a day. The Pholoso Netcare Hospital does not use a booking system. They manage walk-in patients and have approximately three to five patients a day, whereas the Medi-Clinic Hospital book approximately 8-10 patients a day and operates Mondays to Fridays.

3.4 Study population, sampling and sampling size

Population is the group of persons/objects that meet the criteria for a study.^{28,33} This refers to the entire group of interest to the researcher. The population in this study was patients who

had been referred for breast imaging and mammographers at the four mammography departments, as stated in the preceding section. Pietersburg hospital has 6 mammographers, Mediclinic has 4 mammographers, Netcare Pholoso has 3, and Mankweng has 5 mammographers.

Sampling is the process of selecting elements, units or small groups of subjects from a population.^{28,33} Purposive sampling was found to be appropriate for this study as it is qualitative in nature. Purposive sampling is a non-probability sampling method, which is selected for a study that is based on preconceived purposes, such as the characteristics of a population and the objectives of a study.³³ This sampling technique was adopted as it allowed only the participants that were more suitable to answer the research question and it complemented the qualitative nature of the study.^{16,18,33} The chosen hospitals operated on different days of the week and, therefore, according to the number of patients each hospital booked, the researcher was aiming to have at least 50 participants during the planned period of two months of data collection.

3.5 Study participants

Participants are people who voluntarily participate in a research study and give informed consent.^{28,33} Women who have undergone either a uni- or bilateral mastectomy, as well as mammographers (radiographers who have a postgraduate certificate in Mammography), were invited to voluntarily participate in the study. As the focus of the study was on the communicative role of mammographers, both mammographers and patients (diagnosed with breast cancer or having had a mastectomy) were appropriate to provide the required data to address the research question.

3.6 Inclusion and exclusion criteria

The study included patients who have had a unilateral or bilateral mastectomy, in other words, those who have not gone for breast reconstruction. Mammographers who are registered with the HPCSA and working in either private or public hospitals in the Limpopo province that have a mammography department, were included in the study.

The study excluded any patient diagnosed with breast cancer who has received treatment other than surgery (mastectomy), such as wide local excision and systemic management treatment such as chemotherapy, hormones or targeted therapy. All qualified diagnostic radiographers in the identified radiography departments in the Limpopo province who do not have a certificate in Mammography were also excluded in the study.

3.7 Ethical considerations

In relation to obtaining ethical clearance, the researcher approached different institutions, ranging from the Faculty's Research Ethics committee to the mammography departments. Letters (see Annexures G1- G4) and research proposals were sent to the selected hospitals, requesting permission to conduct the study. An application was also submitted to the Faculty of Health Science Research Ethics Committee for ethical approval to conduct the study. The submission was made in January 2022. The first ethical approval to conduct the study was obtained from the Faculty of Health Sciences Research Ethics Committee of the University of Pretoria (reference number 529/2022). Permission to conduct the study was sought from the respective HODs and CEOs of all relevant hospitals, namely the Mankweng District Hospital, the Medi-Clinic Hospital and the Netcare Pholoso Hospital. This study involved human subjects. In terms of the NHA, studies that involve human subjects must comply with specific requirements. These requirements are further elaborated on in the HPCSA booklet for health care researchers.

3.8 Data collection tool

There are three methods of collecting qualitative data, namely focus groups, participant observation and in-depth interviews. According to Grove, et al.,⁴⁴ focus groups are effective in extracting data from the cultural standard of a group and in generating broad overviews of issues of concern to the cultural groups or subgroups represented. They assist in obtaining a variety of perspectives or reactions to a certain issue in a short period and is effective in evoking values and feelings about a phenomenon studied, as well as being cost effective. The only limitation of focus group discussions is that it restricts a number of questions being asked, silences a minority of views, confidentiality is not assured and responses by each participant may be constricted. According to Carter, et al.,⁴⁵ participation observation is optimal in collecting data on naturally occurring behaviours in their context, whereas in-depth interviews are effective in collecting data on individuals' personal histories, perspectives and experiences, particularly when sensitive topics are being explored. Participant observation confirms the perception of respondents, and requires training, preparation and discipline as data can be missed or taken for granted.^{14,44,45}

In-depth interviews were chosen as the best option for the current study as they allow a researcher to evoke feelings, opinions, experiences and the meaning people give to certain issues or phenomena. Researchers can choose from different types of interviews, namely

informal conversational interviews, a general interview guide approach, closed-fixed interviews, standard open-ended interviews and a combination of approaches.^{14,44,45}

In-depth interviews were conducted with the mammographers and breast cancer patients who volunteered to participate in the study. The question guide was developed in accordance with the Gap-Kalamazoo Communication Skills Assessment Form (GKCSAF).¹⁴ The GKCSAF(annexure T) is one of the three assessment tools developed by Elizabeth A. Rider. The three tools are content-valid, paper-based instruments that assess physician-patient communication skills.

Kalamazoo Essential Elements Communication Checklist (KEECC) and the Kalamazoo Essential Elements Communication Checklist-Adapted (KEECC-A). All three instruments use Likert scales.¹⁴ This means that these assessment forms were developed for quantitative data collection. The other aspect about these forms is that they can be used as clerkship teaching tools to evaluate actual and simulated physician-patient communication encounters. The essential elements of the GKCSAF were outlined in chapter one of this dissertation.

To address the research question in this study, the researcher needed open ended questions. It was for this reason that the World Health Organisation (WHO) standardisation instrument, the International Classification of Functioning, Disability and Health (ICF), was used. Using these two instruments, the researcher developed the interview guide that was used in this study. The questions were further modified and phrased as open-ended to gather in-depth information. As already mentioned, the ICF core sets(annexure U) for breast cancer was also used as a guide in the structuring of questions as well as the GKCSAF(annexure T) for the interviews for both mammographers and patients , to explore the experiences and views of patients and mammographers regarding the communicative role of mammographers before, during and after breast imaging examinations (see Annexures A5, A6 and A7). The questions were further modified to make them comprehensive and easy for patients to understand without losing the focus of the study. Based on the study setting and the population of this study, the patient's interview guide was translated into Sepedi (see Annexures A3 and A6). This was done to accommodate patients who can neither read, nor understand English. The translation was conducted according to the guidelines from the European Association of Science Editors (EASE).³⁴

3.9 Data collection process

The recruitment of participants followed after the institutions gave permission allowing the researcher to collect data in their facility. The next step was negotiating access. This means trying to find appropriate time that would not be disruptive for the clinical services. Invitations (Annexure A) for the study were given to mammography departments before the data collection process.

The Mankweng Hospital has a breast clinic on Thursdays and, therefore, a room was allocated to the researcher to use for conducting interviews with the patients. This allowed privacy and effectiveness in the data collection process. The Netcare and Medi-Clinic hospitals do not use a booking system for their patients. Therefore, the researcher went to these departments on random days, recruited patients for the study and interviewed them the same day. A separate room was also allocated to conduct these interviews. Mammographers in all selected hospitals were invited to the study and appointments were set on days that they were available for the interviews.

Therefore, face-to-face interviews were scheduled with the participants (mammographers and patients) at the time (operating days) that was convenient to them. Each interview took approximately 45-60 minutes and a recording device was used to record the interviews. Permission was asked from the participants to record the interviews. Consent was obtained verbally. The questions for mammographers are included in Annexure A7 and those for the patients are included in Annexures A5 and A6. The questions were open-ended to gather in-depth information. The contact details of professional counsellors or social workers were included in the information leaflet should other participants need more support after the interview (see Annexures A2, A3 and A4). The referring health professionals were aware of the study and were available to offer their services during the course of the study and data collection. Data collection took approximately two months (June 2022-July 2022). The researcher anticipated approximately 50 participants, however saturation was reached after 11 mammographers and 36 patients were interviewed. The researcher saw a pattern of similarities in answers therefore data collection was stopped.

3.10 Data analysis

Botma *et al*³² advises that, the researcher must follow the same ontological and epistemological stance. As this study is qualitative in nature and in-depth information was gathered from the participants during the interviews, the researcher is expected to bring in the analytic eye (Botma *et al*) to the data analysis process. Gray *et al*³³ define data analysis in qualitative research as the reduction and organization of data, with the focus being on the revelation of meaning.

3.10.1 Content analysis

Qualitative content analysis is defined as a research tool/method used to identify patterns in recorded communication, words or texts.³⁶ It was used to analyse the qualitative data collected from the interviews, which is in a narrated format. There are three types of content analysis approaches, namely directed, conventional or summative content analytic approaches. Qualitative content analysis is said to be geared towards allowing the researcher to understand and interpret social reality in a subjective and scientific manner.³⁶ The difference between the three approaches is the coding schemes, origins of codes, and the threads to trustworthiness. Direct content analysis is a deductive approach to qualitative analysis with an existing theory and uses information which either support or build that existing theory. Conventional content analysis involves coding categories that are derived directly from text data. Conventional content analysis starts with a theory or relevant research findings as guidance for initial codes. Summative content analysis involves counting and comparing key words or content, which is interpreted for what it means or its context. It basically determines the existence and frequency of concepts or phases in a text data.^{36,42}

Summative content analysis was used to analyse the data that were collected through the interviews with the patients and mammographers. The mechanism of this approach was appropriate for this study as it demonstrated or assisted in explaining the perception the participants had of the communicative role of mammographers. The patterns of the terms/phrases used by the participants, helped in addressing the research problem and aligning the results with the objectives of the study. There are steps involved in the analysis process, which are outlined in Table 3.1. ALAS.ti was used to create codes and categories as part of the qualitative content analysis process.

Table 3.1: Steps followed when using the summative content analysis

Steps followed
<ul style="list-style-type: none"> • Searched for identified terms used by participants.³⁶ • Conducted word frequency counts for each term, with speakers identified.³⁶ • Used counting to identify patterns in the data and contextualised the codes.³⁶ • Explored term usage or the different meanings of the terms used by looking at their commonalities and by comparing the terms used to describe the communicative role of mammographers.³⁶

3.10.2 An overview of the steps followed/taken to analyse the data according to summative content analysis

A total of 11 mammographers and 36 patients were interviewed between June and July 2022. The interviews were recorded using a voice recorder. The interview guide for the patients was in two languages (Sepedi and English) and the one for mammographers was in English only. The recorded interviews were transcribed verbatim by the researcher using the EASE guidelines³⁴ and the data were recorded on a Microsoft Excel sheet. The recorded data on the Excel document was then uploaded on ATLAS.ti software to create codes and categories. From the ATLAS.ti report, the researcher searched for identical terms that had been used by the participants. A word frequency count was then conducted for each term that was used by each participant. A pattern was identified from the data and the counted frequently used words which then contextualised the codes. The researcher explored the identified patterns of the usage of terms by looking at the different meanings of these terms and categorised them by their context and meaning. The last step was finding commonalities, comparing the patterns and establishing the relationship that may exist between them in order to describe the role of mammographers according to the results obtained from the analysis.

3.10.3 Coding

Alyona⁴⁰ defines qualitative coding as the process of categorizing collected non-numerical information into groups and assigning numerical codes to those groups⁴⁰. According to Saldanah,⁴² a code in a qualitative study is a word or short phrase (term) that symbolically assigns a summative, salient and/or evocative attribute for a portion of language-based or visual data.⁴² On the other hand, Gibbs⁴¹ defines it as a process to identify a text or other data items such as a photograph, searching and identifying concepts, and finding relation between them.⁴¹

There are different types of coding processes, namely content, narrative, discourse, framework analyses and grounded coding, which can either be done manually or automatically. Automatic coding uses software that has advances in natural language processing and machine learning that makes it possible to automate the analysis of the qualitative data collected in a particular content and framework analysis. It is perceived to be more time efficient and accurate,⁴¹ whereas with manual coding, a researcher has to transcribe the recorded data and translate it into English if it is in a different language, which can be biased and time consuming. Coding allows a researcher to provide a systemic account of the recorded or observed phenomenon. The code frames used can either be flat, which is

faster to use and convenient, or hierarchical, which is more organised. These code frames allow a researcher to be more flexible about the results and use them in different contexts.^{41,42}

ATLAS.ti is a computer program or software that is used in a qualitative study to analyse data, code, analyse transcripts and field notes, build literature, and create network diagrams and data visualisation. ATLAS.ti was used for this study as a coding software system during qualitative analysis, as follows:

- The mammographers and patients' data as Excel sheets were imported into the system and tabulated according to various questions and open-ended answers received from each.
- The use of ATLAS.ti helped to reduce researcher bias from the manual reading of data as their own viewpoint can deter the views from the actual study participants. ATLAS.ti also makes use of natural language processing to discover recurrent phrases or quotations and to assist in coding. Therefore, inductive coding was used to start the process by reading through all the interview data and developing codes based on the answers provided by each study participant. The inductive coding data were divided into smaller groups of context to start with a code from a first small sample, then moving onto the next sample group and allocating it similar codes. This allows an iterative method of coding with less bias.

Coding can be done manually and these are the reason to justify manual coding according to Saldanah,⁴²

- To provide a reader with source descriptions, examples and exercises for coding and further data analysis;
- To briefly discuss the function of the codes, coding and analytic memo writing during the data collection and data analysis; and
- To profile a selected yet repertoire of coding methods generally applied in the data analysis.

3.10.4 Themes

Thematic analysis is the process of analysing data or features of participants characterising particular perceptions or experiences that might be relevant to the research question.⁴⁰ According to Braun and Clarke,⁴³ themes are ideas or concepts that capture and summarise the core point of coherent and meaningful patterns in the data and a common recurring pattern across a data set that is clustered around a central organising concept.⁴³ By developing

themes from these recurring phrases, a critical analysis of common words or phrases is provided, which guides the researcher in a specific context.

The process of thematic analysis starts from developed structured interviews that are recorded. The recorded audio is transcribed into different portions, followed by an in-depth examination of the text and lastly the development of themes that are scrutinised and finally identifying the relation between the developed themes.

3.11 Conclusion

In this chapter, the methods used for the current study were discussed and the methods and procedures that were followed to answer the research question and achieve the objectives of the study were presented. The coding, coding process and analytic approach applied to analyse the data collected were described in order to draw a conclusion from the results obtained.

In the following chapter, the results found during the data collection period of the current study are presented.

CHAPTER FOUR**PRESENTATION OF RESULTS****4.1 Introduction**

In this chapter, an overview is given of the activities that took place before and during data collection. Reference will further be made to the study setting, the participants, the objectives of the study, and all these leading to the analytic process. The analytic process helped the researcher in collating and organizing the collected data and hence the focus of this chapter is the presentation of the results of the study.

4.2 A recap on the activities that lead to the results

The study received ethical clearance from the Faculty of Health Research Committee of the University of Pretoria (see Annexure O). Four hospitals were chosen for the study setting, but only three gave permission for the researcher to conduct the interviews. These hospitals are the Mankweng Hospital, the Medi-Clinic and Pholoso Netcare hospitals (see Annexures M1, M2 and M3 – approvals for the above-mentioned hospital). The inclusion criteria included women who had had a mastectomy done and excluded those who had received a different treatment, such as hormonal treatment or a lumpectomy. Diagnostic radiographers who have a certificate in Mammography and work in the selected hospital that has a mammography department were included in the study. Any patient who had been diagnosed with breast cancer and had received different treatment other than surgery (mastectomy), such as wide local excision and systemic management treatment such as chemotherapy, hormones or targeted therapy) was excluded. All qualified diagnostic radiographers in the identified radiography departments in the Limpopo province who do not have a certificate in Mammography were also excluded from the study.

There were two interview guides for participants; one for mammographers and one for patients. The interview guide for mammographers was in English and had 11 open-ended questions (see Annexure A7), whereas the interview guide for patients was in two languages, namely Sepedi and English, and had eight open-ended questions (see Annexures A5 and A6). The questions asked in the interviews were aimed to achieve the following objectives:

- To explore and describe the views of post-mastectomy patients on the role of communication between the mammographers and patients before, during and after the imaging procedure;

- To explore the views and experiences of mammographers regarding their communicative role before, during and after imaging of patients post mastectomy in the Limpopo province; and
- To develop strategies to enhance the communication between mammographers and post-mastectomy patients.

4.3 Participants' responses to the interview questions

Data collection took approximately two months (June 2022-July 2022), 11 mammographers and 36 patients were interviewed.

The interview questions were structured to help the researcher understand the views of patients and mammographers regarding the role of communication between them during imaging procedures. These questions allowed the researcher to know what the patients expected from mammographers and how they perceived the treatment and manner of communication they received during their visit in the mammography department. The researcher also got to understand the perceptions of mammographers about the way they communicate with patients are acquired. Getting opinions from these two parties helped in identifying gaps that may exist in the health care facility concerning communication dynamics.

4.3.1 Responses from the patients

The interview guide for patients had eight questions. Due to the different languages used in Limpopo, the researcher had this questionnaire translated in Sepedi because Sepedi is the most common and most understood language in Limpopo Province. This section is the presentation of the results focuses on the information gathered from the patients during the interviews.

As already indicated above, the researcher managed to interview 36 patients from the different clinical facilities that granted permission. The examples of the responses given are presented according to each of the questions asked.

Responses to question 1: "*Briefly describe your impression of the way the mammographers communicate with you upon your arrival in the imaging department*"

- P1 answered "*I was treated well, I had no problems*"
- P11 said "*they spoke to me well and I felt at home*"
- P30 said "*the communication was good*"

Reponses to question 2: *“Describe your experience with the communication you had with the mammographer before, during and after a mammogram examination”*

- P9 said: *“The communication was good. I did not see anything wrong with how it went and how the mammographer helped me”*.
- P22 said: *“Mammographers are always friendly and welcoming every time I come here for a mammogram since this is my 4th time coming here. I do this annually. So I have no complaints.”*

Reponses to question 3: *“Briefly describe the kind of questions you have about your breast and are mammographers open to communicate this information?”*

- Patient P8 *“I did not ask any questions, I thought they will automatically tell was wrong.”*
- P 14 *“I had no questions but I believe they will be comfortable to answer if I had any questions.”*
- P21 said *‘no I did not ask any questions. I was scared to ask’* ‘
- P23 said *“I asked if they will do a mammogram if I was pregnant and they were comfortable to answer me”*

Reponses to question 4: *“Briefly describe the kinds of instructions that mammographers give you? “*

- P2 said *‘ I was told to wait next to the machine, was positioned and after I was told to wait outside’*
- P23 said *‘ I was told to take off my clothes, stand next to the machine and put my arms around it’*

Reponses to question 5: *“ Indicate the mode of communication you prefer between verbal and written communication and give reasons why”*

- P15 said *‘ I prefer verbal because when you are scared and have fear, what is written might be misunderstood”,*
- P32 said *‘ I prefer verbal communication, I want the person helping me explain the procedure”*

- P 9 said ‘ *I cannot read so I will understand better with verbal communication*’

Reponses to question 6: “*the way mammographers communicate with you, briefly explain if you can trust a mammographer about your feelings regarding your condition*”

- P5 said “*If I have something to share or a problem, I can talk to mammographers*”
- P 25 said “*yes I have no problem or doubt, I can trust them*”
- P 33 said “*I yes I can talk to them but it depend on how I was treated*”

Reponses to question 7: “*Describe the communication upon completion of the imaging procedure and state if this addresses all your questions or needs about the examination*”

- P15 said ‘ *it was not harsh so I’m satisfied*’
- P35 said ‘ *I was welcomed, treated well and had no problems*’.

Reponses to question 8: “*Do you have any other suggestions or recommendations towards the role of communication of mammographers before, during or after the imaging procedure?*”

- P3 said ‘ *Compression is a bit painful, is there a way to make it less painful*’
- P11 said “*how they communicate with us is good, therefore I have no recommendations*’
- P 26 said “ *please have a translator in our home language so that we can understand better*’
- P30 said ‘*when explaining the procedure, use simple terms and basic terms so that we can understand*”

The following section discusses the responses recorded from mammographer interviews...

4.3.2 Responses from the Mammographers

The interview guide for mammographers had 11 questions which were structured based on the GKCSAF.¹⁴ The questions were modified and phrased as open-ended to gather in-depth information. The IFC core sets for breast cancer was also used as a guide in the structuring of questions from the GKCSAF for the interviews to explore the experiences and views of mammographers regarding their communicative role before, during and after breast imaging examinations (see Annexure A7). The questions were further modified to make them comprehensive and easy for mammographers to understand without losing the focus of the

study. An overview of the questions and directed of mammographers during the interviews is given below.

Reponses to question 1: “ *Describe your experience with the communication you had with the patients before, during and after a mammogram*”

- M1 said “*the patients seem embarrassed and uncomfortable at the beginning of the examination but they open up eventually*”
- M4 said “ *they are scared and uncomfortable and most of them need assurance*”
- M8 said that “*the experience is smooth because most of them are familiar with the examination*”.

Reponses to question 2: “*Briefly describe the kind of questions patients have about breast cancer and are you open to communicate this information with them?*”

- M2 said “ *will the cancer come back?*”
- M8 “*why are you imaging the excess skin and has it moved to the other breast?*”
- M9 “ *what do you see?*”

Reponses to question 3: “ *Describe the mode of communication you prefer between verbal or written when communicating with patients and give reasons for your answer*”

- M1 said “*I prefer verbal communication because most of our patients are elderly people and some are illiterate*”
- M8 said “ *I prefer verbal communication because I can explain and demonstrate for my patients so that they can understand better*”

Reponses to question 4: “ *Describe how you explain the nature of the examination and its importance to patients?*”

- M10 said “*Yes I explain the nature of the examination but not the importance of it.*”
- M7 said “ *yes I do explain so that the patients can what we are doing and why we are doing the mammogram*”

Responses to question 5: *“Describe how you ensure that patients understand the instructions and proceedings of the examination”*

- M2 said *“I normally use the language that they can understand”*
- M7 *“I you do demonstration”*
- M9 *“I constantly ask if the patient understand”*

Responses to question 6: *“Describe how you determine if the patients are knowledgeable and open about their condition”.*

- M3 said *“some patients are knowledgeable and some are not and most elderly patients do not know much”*
- M8 *“ not really, most of the patients do not understand the stages of breast cancer and treatment plans”*

Responses to question 7: *“Elaborate on how patients view their body image following mastectomy”*

- M4 said *“most patients are shy to take off their clothes”*
- M6 said *“well it depends on age, the middle age women are insecure about their body image while the elderly women are not ”*

Responses to question 8: *“ In your own words, describe if the way the mammographers communicate with patients, can affect if the patient will come for their follow-up appointments during and after their mammogram examination?”*

- M1 said *“ Yes if I’m not sympathetic”*
- M4 said *“ yes, by showing kindness and explaining the importance of regular check-up”*

Responses to question 9: *“Do you think mammographers affect how these women view their bodies?”*

- M1 said “I try to be accommodative, give assurance and compliment them”
- M6 said “ *no I do not think so*”
- M9 said “*it depends on how we communicate with them*”.

Reponses to question 10: “*Do you show interest in the lives of the patients that come for mammography by having a conversation about their lives before or during the imaging process?*”

- M5 said “*yes, sometimes and it depends on how open the patient is*”
- M 10 said “ *yes I show interest to make them feel comfortable and to relax*”

Reponses to question 11: “*Do you have any other suggestions or recommendations towards the role of communication of mammographers before, during or after the imaging procedure?*”

- M1 said “ *we need communication skills modules in our syllabus*”
- M 8 said “ *we need to learn multiple languages and do demonstrations when explain the examination proceedings for the patient to understand better*”

4.4 Presentation of results

The researcher did the translation and transcription process using the guidelines from European Association of Science Editors (EASE)³⁴ and recorded the data on a Microsoft Excel spreadsheet using codes. The interview guide for mammographers was in English and all 11 mammographers answered in English, therefore translation was not required for mammographers’ answers but only for patients whereby 30 patients answered the questions in their home language. ATLAS.ti was used to transcribe and analyse the recorded data as it were in codes for the most frequently used words that were similar or had the same meaning. The ATLAS.ti report showed regarding patients’ data collected, that most patients were satisfied with the treatment they received from mammographers. The way mammographers communicate with them at every visit to the department seemed to be consistent and they were always welcoming, friendly, kind and not harsh, as mentioned by the patients. It seems that the mammographers were also generous with information that the patients needed when asking questions regarding their condition, and due to the privilege of spending more time with them from the beginning of their illness. The mammographers seemed to have gained the trust of the patients and made them feel open to talk about their condition and insecurities that may exist because of the mastectomy performed on them.

Most of the interviewed patients indicated that they prefer verbal communication instead of written communication as most of them are illiterate elders who cannot see properly, therefore reading might be a strain, but mostly, they are avoiding to misunderstand what is written. Unlike with verbal communication, they have a room to ask questions if they are confused and it was said that hearing the proceedings of the examination verbally was more comfortable than reading, especially if one is not familiar with the language or terms used. Patient P27 indicated that *“Ndzi nga tsakela ku tsaleriwa hi Xitsonga hikuva ndzi twisisa Xitsonga tani hi ririmi ra mina”* which means *“she would appreciate written language provided it is in her home language and not English as she understands Xitsonga better”*. Therefore, regarding the overall role of communication between patients and mammographers during the imaging procedures the patients seemed to be satisfied with how mammographers communicated with them. Most of them were familiar with the mammographer as they did it annually, they were also familiar with the instructions and proceedings of the examinations. According to the treatment they receive, most of them have no complaints or recommendations to make. One of the patients said: *“The treatment I get every time I come here is satisfying, even when the mammographers differ, the treatment is the same so continue how you are working. We appreciate it.”*

According to the ATLAS.ti (see annexure S) on the data collected from mammographers, most of them tried to be accommodative and sympathetic during the imaging of patients. They believe patients, especially post-mastectomy patients, are not knowledgeable about their breast cancer condition, to a certain extent, and are mostly concerned with the recurrence of the breast cancer as their most frequently asked question is: *“Will the cancer come back or has it moved to the other breast?”* Mammographers prefer verbally explaining the proceedings of the examination and doing demonstrations for the patients to ensure that they understand, with some even using the patient’s language to ensure that the patients understand them better and that they are more comfortable. Mammographers also observed that for them to gain patients’ trust, one has to speak to them in their language, ask questions that are personal or family-related questions to make them relax and hopefully open up and be comfortable enough to ask any questions they have about breast cancer, as well as giving them the assurance that they are in a safe space. One of the mammographers said: *“The mammographers observed that most patients know very little about their condition according to the kinds of questions they ask, most of them are concerned about recurrence of the cancer and metastasis, pain duration of the scar”*.

4.5 Conclusion

The results presented in this chapter sheds light on the views of the patients and mammographers regarding the communicative role of mammographers before, during and after the imaging procedure. From the interview extracts as presented in this chapter, it can be said that mammographers are accommodative, sympathetic towards patients and mostly try to support these women, making every effort to maintain a good communication path and comprehension between them and their patients. The patients, on the other hand, have high admiration for the work and support of mammographers and perceive mammographers as health care providers who can be trusted and held in high regard. The discussion of these results, following the data analysis process is presented in the next chapter.

CHAPTER FIVE**DISCUSSION****5.1 Introduction**

A discussion is the final section of a research paper in which an author describes, analyses and interprets the findings of the study. It involves the evaluation of results, relating the results to the reviewed literature, justifying the approach and making an argument that is in support of the overall conclusion that will be made.^{31,32} In this chapter, the codes and themes used for data analysis are explained, as well as the possible relationship between the themes and an in-depth discussion of the results and their alignment with the objectives, as well as a comparison of the known literature to the results.

The study was aimed at exploring and describing the communicative role of mammographers before, during and after the imaging of post-mastectomy patients in the Limpopo province. The previously outlined objectives and the results of the study gave a clear description of what the researcher was trying to achieve and what understanding of the communicative role of mammographers, was gained.

5.2 Discussion of the objectives and results

The first objective was to explore and describe the views of post-mastectomy patients on the communicative role of mammographers before, during and after the imaging procedure. According to the data collected, the patients are satisfied with the communicative role that mammographers play and the support they receive from them. According to the patients, mammographers are kind, informative, treat them with warmth and mostly professional in the work they do. The patients feel safe to talk openly to mammographers, ask questions where they need clarity and mostly with the level of interest the mammographers show them. Furthermore, patients value the efforts mammographers make during their imaging examinations in how they communicate with them to ensure that they understand each other and that they are comfortable all the time.

The second objective was to explore the views and experiences of mammographers regarding their communicative role before, during and after the imaging of patients who had had a mastectomy in the Limpopo province. According to the mammographers, they are open to communicating to patients all information they need. They are very supportive, understanding and sympathetic of their situation, and know that these women need more support and understanding. Therefore, there is a need for mammographers to extend their capabilities to

make patients feel welcomed, treated well, cared for and mostly accommodated under any circumstance.

The last objective was to develop strategies to enhance the communication between the mammographers and post-mastectomy patients. Based on the above perceptions, strategies can be implemented to enhance the communication role between mammographers and patients. Recommendations made about the role of communication can be extended because, according to the scope of practice for mammographers, the information that they can communicate with patients is limited. From the perception of both parties, it is clear that patients and mammographers are willing to communicate all information without boundaries. It will also be beneficial for patients as they can have more information about breast cancer in situations more desirable to them.

Having briefly discussed the results and related these to the research objectives, the next section looks at the outcome of the data analysis process, description of codes, categories and themes.

5.3 Description of codes and themes of the data collected

The collected data was analyzed according to the summative content analysis, whereby codes were generated to categorize most frequently used words and identify themes accordingly, as well as establishing the existing relationship between them.

5.3.1 Codes

The codes that were generated for patients were the following: modes of communication, namely self-perceptions, procedure mammography, experience in communication, African languages, impression of the mammographer, questions related to breast cancer, suggestions, trust and comfort to mammographers. Therefore, the codes suggest that patients perceive the communication they have with mammographers to be smooth and well carried out every time. The impression they had about the communication they had with mammographers was welcoming, satisfactory and that mammographers are open and friendly. They perceive themselves as knowledgeable about their condition; hence, the reluctance to ask or a lack of interest in asking questions about breast cancer during a mammogram procedure. The mode of communication they prefer is verbal for better understanding and convenience, with most of the women saying that they cannot read, therefore, written communication will be a challenge. The focus of the visit mostly becomes getting the mammogram done than to ask questions and converse about their condition hence the less questions directed to the mammographers. Few women said that they do not ask

questions as they did not know if they can ask so they only focused on getting through their examination. The patients were satisfied with the communicative role of mammographers, with most of them not having any suggestions on which areas should be improved or revised on how mammographers should communicate with them. One of them suggested that if written communication is to be standardised, then mammographers should consider speaking in African languages instead of English only to improve their understanding. One participant mentioned that reminders about their appointments a few days before the date of the mammogram would be appreciated as patients travel far and that, at times, they forget their dates and having to rebook tends to be a lengthy process. This is seen in Table 5.1

Table 5.1: Categories and code generated for patients

CATEGORIES	CODES
Impression	Good, excellent, friendly and warm, softness
Experience in communication	Good, satisfactory, excellent, safe, fear, anxiety, great
Knowledge and transparency	Adequate, confusion, questions, permission, generous, open, informative
Instructions and comprehension	Clear, good, balanced, demonstrations
Mode of communication	Verbal, nonverbal, illiterate, read, see, African languages, understanding
Trust and confidence	Fear, trust, anxiety, openness, confidentiality, appreciation
Role of communication	Satisfactory, pleased, happy, supported, professional
Suggestions/Recommendations	African languages, openness, satisfied

Codes for mammographers are communication style, mammographers' patient perception, sentiments whether positive or negative and the questions they ask.

Mammographers feel the need to sympathize and communicate better with patients to eliminate any fear, use lay medical terms for them to understand better, do demonstrations, use the language they are comfortable with, have posters (written communication in addition to the verbal communication and use lay terms instead of medical terms for better understanding), show interest in their lives, make them relax, show kindness, have a good attitude, make them feel comfortable as much as possible and open a room for trust and a safe place for them.

Mammographers believe most of the patients are not knowledgeable about their condition and that is evident in the questions they ask and lack of interest in the proceedings of the examination by merely focusing on getting the mammogram done. One of the mammographers indicated that only the middle-aged women that were educated did research and asked questions related to breast cancer and the proceedings of the examination compared to the elderly patients. Most of the elderly patients are not bothered or worried about their body image; only the middle-aged women are self-conscious about how they look (See Table 5.2) They feel patients are anxious, show fear and discomfort in the beginning of the examination; hence, they take it upon themselves to assure the patients, sympathize, support them and make them feel relaxed and at ease.

Table 5.2: Categories and code generated for mammographers

Categories	Codes
Impression and experience in communication	Fear, anxiety, scared, uncomfortable, shy, private, language
Knowledge	Confusion, clueless, adequate, research, learned, curios, inquisitive
Mode of communication	Verbal, non-verbal, African languages, illiterate, comprehension, read, blind
Transparency	Open, generous, informative, supportive, genuineness
Instructions and comprehension	Language barrier, demonstrations, questions, body language, fluency, accommodative, comfort
Trust and confidence knowledge and comfort	Openness, transparency, selflessness, informative, interest, assurance
Self-image perception	Shame, insecure, prosthesis, experience, age, relationships
Attitude	good, satisfactory, supportive, welcoming accommodative, selfless, understanding
Treatment and role of communication	Limited, good, satisfactory, effective, efficient, overwhelming
Interest	Open, free, comfort, relaxing
Suggestions/Recommendations	Workshops, education, training, responsibilities, mammographers' role, support, information, language barrier

The way mammographers and patients communicate with each other indicate that there is a level of appreciation from both sides. Furthermore, there is an understanding that more can be done to communicate better and share more information with patients. They also share the same sentiments about the mode of communication, that verbal communication is better and more convenient.

5.3.2 Themes

Thematic analysis is the process of analyzing data or features of participants characterizing particular perceptions or experiences that might be relevant to the research question.⁴⁰ According to Braun and Clarke⁴³, themes are ideas or concepts that capture and summarize the core point of coherent and meaningful patterns in the data, as well as a common recurring pattern across a data set which is clustered around a central organizing concept.⁴³ By developing themes from these recurring phrases, a critical analysis of common words or phrases is provided, which guides a researcher in a specific context by scrutinizing the themes and determining the relation between them.

Three themes emerged from the identified categories and codes generated, namely individual perception, structural service and socio-cultural background. The individual perception was identified from the impression and the experience in communication both the mammographers and patients had and how they perceive themselves. Structural services theme was identified from the mode of communication was used or preferred, the transparency of mammographers, the instruction and the treatment patients receive from mammographers. Lastly, the socio-cultural theme emerged from the attitude, interest and the confidence as well as the knowledge displayed.

These themes are discussed in relation to literature as follows:

Theme one: Individual perception

Mammographers view patients as scared and anxious and just want to get the mammography done without concerning themselves with the information of the condition. Patients do not feel shame about their body image post mastectomy, whereas they view mammographers as supportive, informative and appreciative of their efforts and kindness. Mammographers view themselves as unsupportive of the patients; hence, the need to treat them with kindness and patience, as well as sympathy, to help the patient and reduce the anxiety they may feel during

a mammogram. On the other hand, patients view themselves as knowledgeable about their condition and are comfortable with their body image post mastectomy.

Theme two: Structured service

Patients prefer verbal communication than written communication as it is easy and convenient for them to understand the proceedings and instructions from the mammographer. Some are illiterate and the elderly patients said they cannot read. Regarding procedural information on the mammography examination and breast cancer, patients and mammographers prefer to use verbal communication than written communication to make room for any clarity needed or questions to be asked to avoid any confusion, the use of a language a patient is more comfortable with. Most mammographers do demonstrations for a better understanding of the examinations and instructions given to the patient so that they know what is expected of them.

Theme three: Socio-cultural background

Patients are more comfortable with their home language during mammogram examinations and that, in turn, makes them relax and reduces the chances of confusion during the examination as there is an understanding between them when communicating. Moreover, mammographers are trained in English, therefore, it becomes a personal responsibility of the mammographer to eliminate any language barrier that might compromise the service received by the patient. It will, therefore, be more desirable for mammographers to know a few South African languages to be able to accommodate all patients and to ensure that there is good communication between themselves and the patients. A mastectomy has the potential of challenging the concept of femininity to most women; hence, it may seem that post-mastectomy patients are self-conscious about their body image, according to the mammographers, and the urge of mammographers to see the need to always assure patients that they are normal and that a mastectomy should not make them feel less of a woman. Therefore, the different cultures that we have as rainbow nations, tend to make certain practices uncomfortable for patients, such as undressing in front of a stranger being a challenge and being open about their personal lives tend to be foreign to them.

The interrelation between the three themes is illustrated in the diagram in Figure 5.2 below.

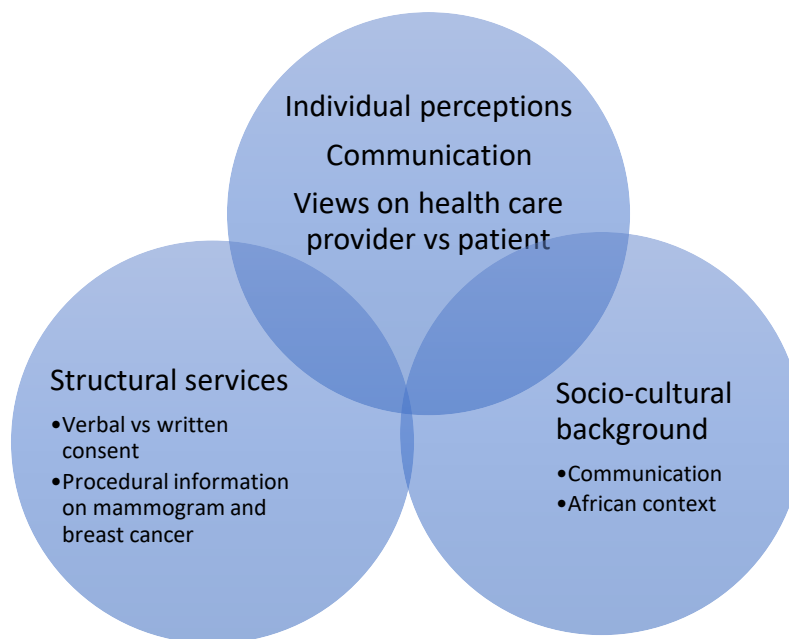


Figure 5.2: Themes that emerged from this study

5.4 Comparisons between mammographers and patients

During the interviews, the patients gave short answers and mammographers were more detailed with their answers. It is probably due to the knowledge acquired in their tertiary education and the extensive observation of mammographers daily as they deal with a variety of patients. It is, therefore, important to be observant and conscience of the body language of each patient and know how to cater for their need accordingly. Therefore, that puts them in a position where they have to elaborate more compared to patients who are mainly there to get their mammograms done and information that may be important for their treatment.

Patients had a perception that was good about the communicative role of mammographers, whereas mammographers were criticizing their role of communication with patients. The patients provided good feedback about the level of service they received from mammographers, whereas mammographers criticized themselves on how little they communicate with patients. Mammographers believe they can do more; hence, the constant need to ensure that communication between themselves and the patients is smooth. The for doing demonstrations to ensure they understand. Adopting different languages to avoid language barriers and asking personal questions to get rid of anxiety and fear patients may feel and ultimately ensure a great experience for each patient when they visit the mammography department.

Patients are expected to ask more questions to mammographers and be inquisitive and interested in breast cancer as mammographers believe they are not knowledgeable enough, while patients are satisfied with the level of generosity of information they receive from mammographers. The patients mentioned that they often do not ask questions, with some saying that they did not know that they were allowed to ask questions and bearing in mind that mammographers have time constraints so they are time conscious on what happens in the mammography room. They feel that they do not want to inconvenience anyone as they believe that time is of the essence in these visits, which is not the case according to the mammographers. Mammographers want to explain where they can and make sure that patients leave the examination room knowledgeable and satisfied with the communication and service they received.

5.5 Relation to previous literature

Reeves and Kaufman²⁰ conducted a study on the effective communication and clinical history taken during mammographic examinations. They further outline the communicative role of mammographers as being to verify patient identity and clinical history, explain the procedure, strive to obtain all required information, explain the discomfort with compression and the possibility of taking additional projections and maybe follow-up visit²⁰. Therefore, in comparison to the current study, all the communicative roles of mammographers outlined in the above-mentioned study were taken into consideration and the researcher wanted to explore the perceptions of mammographers and patients regarding the role of communication and gain a better understanding of the impact of sound communication and how it can affect post-mastectomy patients. Barlow and Schapira²³ evaluated the association of communication practices of mammography in facilities and timely follow-ups of a screening mammogram with a Bi-RADS 0 assessment in a population. They found that the lack of effective communication between facilities, providers and patients tend to delay diagnosis and follow-ups, and may cause anxiety in some patients.²³

Closely related to the current study, Patel and Parick¹ focused their study on the impact that diversity has on creating communication gaps.¹ The focus on diversity relates well to the current study as it was conducted in public and private hospitals in the Limpopo province. Diversity in the breast imaging departments, as reported by these authors, include ethnicity, age, race, socio-economic class and geographical location. Relating back to how diversity can impact communication, the authors list the following communication gaps, namely language barriers, gaps in understanding, as well as effective communication. The researcher has

described that communication gaps or language barriers were identified during the study (data collection) and it was recommended by some of the patients that the consideration of including written communication in their home languages would be highly appreciated and convenient for them. Another study conducted by Saeed, et al.³⁹ explored the fears and barriers of problems in breast cancer diagnosis and treatment in Pakistan, whereby women in Pakistan lack appropriate awareness about diagnosis and treatment for breast cancer due to a range of multifaceted barriers. There is a dearth of literature examining the socio-cultural factors that inhibit women from breast cancer screening, diagnosis and treatment. Therefore, it was recommended that barriers can be addressed by raising awareness and through community mobilisation about breast- self-examination and treatment. It was also proposed that the health care system should also pay attention to socio-psychological and cultural factors impeding women's access to available health care facilities.³⁹

The study conducted by Schapira and Barlow⁵ classified communication with the patient as being either verbal or written. The focus of their study was on radiologist communicating with patients. This can, however, be related to mammographers. The only difference will be that mammographers do not communicate diagnostic information. However, they may be expected to clarify why additional projections of the breast must be taken, why the patient might have to undergo a specialised procedure or even honour a follow-up examination. Therefore, with relation to the current study, most participants, if not all of them, preferred verbal communication over written communication during because of its convenience and it affording the patients an opportunity to ask for clarity or questions where they do not understand. Another study about the body image of women with breast cancer after a mastectomy was conducted in Turkey by Kocan and Gursoy²⁶ where the objective of the study was to gain a holistic and deep understanding about how women with breast cancer feel about their body image after having had a mastectomy.²⁶ In relation to this study and the communicative role of mammographers, the researcher wanted to explore the role that mammographers play in communication. According to the results, the communicative role of mammographers is paramount to patients, especially post-mastectomy patients, and fortunately, it is highly appreciated how it is carried out and mammographers still feel the need to do more for these women to eliminate any feeling of shame, anxiety and fear during imaging procedures.

5.6 Conclusion

Communication is important in ensuring smooth information relay between mammographers, doctors and patients. According to the codes and themes from the results presented in this

chapter, perceptions of patients and mammographers had about the role of communication during breast imaging were described. The codes and themes that were generated assisted the researcher in gaining an understanding of the role of communication, answered the research question and aligned the results with the objectives of the study. The following chapter describes the limitations, recommendations and conclusion to the study.

CHAPTER SIX

CONCLUSION, LIMITATIONS AND RECOMMENDATIONS

6.1 Introduction

The conclusion of the study and future recommendations to be made for the communication role of mammographers before, during and after the imaging procedure of breast cancer patients are provided in this chapter. Communication in health care service delivery is key in ensuring that there is cooperation among health care professionals, as well as between the professionals and their patients. Similarly, the role of communication in breast cancer imaging is essential for the best outcomes in terms of the treatment and management of this clinical condition. Therefore, the communication skills of a health care professional, in this case mammographers, play an important role in the patient's experience of the breast imaging procedures in the mammography department. From the perceptions of patients and mammographers, it is clear that the communication role that mammographers play is important in establishing understanding, offering great support to patients, as well as giving more and the necessary information to patients. A multidisciplinary team comprising mammographers, oncologists, radiologists, physicians, nurses, surgeons and counsellors need to facilitate diagnosis and care for breast cancer patients employing strategies for timely access to treatment.⁴

In conducting this study, the researcher wanted to gain an understanding of how post-mastectomy patients perceived mammographers and their communicative role when they have a mammogram examination and mammographers' perception on their role of communication. This was brought about by the observation of the constant disclosure of post-mastectomy patients before an examination that they had a mastectomy done and it might be difficult for the mammographer to examine them. It seemed that most patients did not ask a lot of questions during their mammogram examinations, which was not because the mammographers gave them an impression that they were not supposed to ask, but the majority of the patients focused or rather prioritising getting the examination done without delaying the process by asking a lot of questions. Basically, they merely followed the instructions given and were mostly concerned about the recurrence of the cancer, which is mostly communicated between them and their oncology doctors, according to these patients.

Following personal communication with the oncologists of the Pietersburg region, it became clear to the researcher that a high number of mastectomies are done in comparison to breast-conserving treatment in the Pietersburg and Mankweng hospitals. According to an oncologist,

there seems to be a lack of information and community education regarding breast cancer. Patients seem to have less knowledge about breast cancer, the different treatment options available and how to continue enjoying quality life post mastectomy. The oncologist further stated that most patients report late for consultation with doctors with the subsequent delayed diagnosis and management of breast cancer. Hence; the researcher conducted this study to determine how these women feel about their body image post mastectomy, how they perceive the manner in which mammographers communicate, what kind of communicative role mammographers play according to them, and how mammographers perceive these women and how they communicate with them.

Therefore, the entire study from the methodology, the review of the literature about communication in the health care facilities, the collection of data, the analysis of the data, gaining a holistic understanding of how communication affects patients and how it can be improved in the health care system were presented. The scope of practice of a mammographer was outlined and from the results, the mandate of a mammographer is understandable and yet a recommendation is made, which is desired to be aligned with the scope of practice which is prescribed by the HPCSA.

6.2 Limitations to the study

Pietersburg Hospital has its own research committee which reviews each research proposal and they declined the study to be conducted in their institution following several communication, recommendations and suggestions taken into consideration to gain their approval (see Annexure N). The interview guide for patients was in two languages, namely Sepedi and English. Therefore, for other languages, especially Tshivenda and Xitsonga, the researcher had to use her minimal knowledge of the language to conduct the interviews, which took longer than the rest, but comprehension was established regardless of the difficulties in translation during the interviews.

6.3 Recommendations

According to the results, the information gathered and analysed from the participants allowed the researcher to establish the role of communication between mammographers and patients in order to be in a better position to understand the communication dynamics between health care providers and patients. Therefore, with the codes and the themes developed to understand the results and the discussion that took place to reach a conclusion on this case was that mode of communication, language barriers and role extension, among others, are to be revised and considered. The following recommendations are made:

The mode of communication should be taken into consideration regarding patients receiving information in languages they are comfortable in, in order for them to be able to understand the proceedings of the examination for which they have been booked. Therefore, having more written communication in South African languages as we are a diverse nation is important. Training related to communication for mammographers and possibly the addition of more South African languages as an extra course/module to allow communication with patients to be well carried out. From the results of the study, it is recommended that the role for mammographers be extended by the HPCSA with regard to the information they can communicate with patients to allow a more flexible environment without any boundaries about the information that can be shared. Patients and mammographers have established an understanding within their means and with further or the above-mentioned suggestions and recommendations, the communicative role of mammographers can be improved and patients, especially post-mastectomy patients, will have the information they need, high quality service and a safe and comfortable environment in the mammography department or health care facilities as a whole. As mentioned in the significance of the study, this study will help mammographers in their communicative role with patients and ensure that patients receive the desired assistance, information and service they need from mammographers. Moreover, the consideration of the role of mammographers being extended will also help in the information that can be communicated with patients to be broadened. The study is also envisioned to be shared with mammography departments, schools and publication journals.

6.4 Conclusion

Owing to the nature of their work, mammographers tend to have a more prominent patient-practitioner relationship as they are in close proximity to their patients before, during and after being diagnosed with breast cancer.⁸ McKenzie, et al.⁹ indicate that based on the proximity to the patient, mammographers and ultrasonographers are better positioned to educate patients about breast imaging and associated activities. This is further support that the communicative role of mammographers must be acknowledged and where the need arises, enhanced. Through this communicative role and the education of the patients, mammographers can contribute to the early detection of breast cancer⁹. Therefore, it can be concluded that the role of communication between mammographers and post-mastectomy patients is well established with the consideration of a few factors that can improve it immensely, namely using other South African languages in verbal and written communication, holding demonstrations during the procedure and extending the role of mammographers in terms of what information they can communicate with patients, as well as improving patient care by health care professionals.

7. REFERENCES

1. Patel M, Parikh J. Patient diversity in breast imaging: Barriers and potential solutions. *JBI*. February 2021; 3(1). <https://doi.org/10.1093/jbi/wbaa092>
2. Edge J, Woods D. Breast care: A health professional's guide to diagnosis and management of common breast conditions. *S Afr Med J*; 2014; 104.
3. Maluleke R, Van der Westhuizen J, Molebatsi T, Nevhutalu K. Ethics in health research – principles, processes and structures. 2nd ed. NDoH; 2015.
4. Lince-Deroch N, Van Rensburg C, Masuku S, Rayne S, Benn C, Holele P. Breast cancer in South Africa: Developing an affordable and achievable plan to improve detection and survival. 20th ed. SAHR. 2017:181-188.
5. Schapira M, Barlow W. Communication practices of mammography facilities and timely follow-up of a screening mammogram with Bi-Rads 0 Assessment. *Acad Radiol*. September 2018; 25(9):1 118-1 127.
6. Slusser M, Garcia L, Reed C, McGinnis PQ. Foundations of interprofessional collaborative practice in health care. 1st ed. Elsevier; 2018.
7. Bickenbach J, Rauch A. International classification functioning disability and health core sets. WHO; 2006.
8. Strømme B, Pires Jorgeb J, Kukkes T, Hafslunda B. Interprofessional work in early detection of breast cancer. May 2019; 25(2):170-177. <https://doi.org/10.1016/j/radi.2018.11.005>
9. McKenzie G, Lasater K, Delander G, Neal M, Mogove M, Eckstrom E. Falls prevention education: Interprofessional training to enhance collaborative practice. February 2016; 38(2):232-243. doi: 10.1080/0201960.2015.1127809
10. Kindratt T, Pagels P, Arnold D, Woodfin G, Gimpel N, Brandt J. Training family medicine residents in effective communication skills while utilizing promotors as standardized patients in OSCEs: A health literacy curriculum. 2015. ID 129187. <https://doi.org/10.1155.2015/129187>
11. Rosenberg K. Mastectomy rates rising in women who don't require mastectomy. *AJN*. 2015; 115(2) doi:10.1097/01.Naj.0000460695.32758.92
12. Professional Board for Radiography and Clinical Technology. Scope of Practice: Diagnostic Radiography. Health Professional Council of South Africa (HPCSA). [cited 2020 May 21] Available from: <https://hpcsa.co.za>
13. DeBenedictis C. Teaching communication skills in breast imaging. *JBI*. June 2019; 1(2):139-142. <https://doi.org/10.1093/jbi/wbz008>

14. Rider EA. Interpersonal and communication skills. In: Rider EA, Nawotniak RH. A practical guide to teaching and assessing the ACGNE core competence. 2nd ed. Kalamazoo Essential Elements Communication Checklist. Marblehead, MA: HCPro Inc; 2010.
15. Priyanath A, Dolan N, Feing J, Haviley C, Sorensen A, Venta L. Measuring satisfaction with mammography results reporting. March 2001. doi:10.1111/j.1525-1497.2001.00509.x.
16. Haber J. Nursing research: Methods, critical appraisal, and utilization. 4th ed. Lobiondo-Wood G, Haber J, editors: St Louis: Mosby; 1998.
17. Louw A, Lawrence H, Motto J. Mammographer personality traits: Elements of the optimal mammogram experience. Health SA Gesondheid. November 2014; 19(1). DOI: <https://doi.org/10.4102/hsag.v19i1.803>
18. Jones C. The breast text book: A woman's guide to mammography and beyond. Oxford: Oxford University Press; 2017.
19. Mendat C, Mislán D, Hession-Kunz L. Patients comfort from the technologist perspective: Factors to consider in mammographic imaging. International Journal of Women's Health. May 2017;9:359-364. doi:10.2147/ijwh.s129817
20. Reeves R, Kaufman T. Mammography: Continuing education activity. Public Health Information. July 2021.
21. Neckhlyudov L, Braddock C. An approach to enhance communication about screening mammography in primary care. Journal of Women's Health. September 2009; 18(9):1 403-12 doi:10.1089/jwh.2008.1184
22. Jorgensen TS, Parker M, Skougaard M, Taylor PC. The Parker Model: Applying a qualitative three-step approach to optimally utilize input from stakeholders when introducing new device technologies in the management of chronic rheumatic disease. Patient. 2018;11:515-526. <https://doi.org/10.1007/s40271-018-0306-8>
23. Barlow W, Schapira M. Communication practices of mammography facilities and timely follow-up of a screening mammogram with Bi-Rads 0 Assessment. Acad Radiol. September 2018; 25(9):1 118-1 127.
24. Madula P, Kalembo F, Yu H, Kaminga A. Health provider-patient communication: A qualitative study of women's perceptions during childbirth. Doi:10.1186/s12978-018-0580-x
25. O'Daniel M, Rosenstein A, Hughes RG. An Evidence Handbook for Nurses, Agency for Healthcare Research: Professional Communication and Team Collaboration. Rockville. April 2008. Chapter 33. PMID: 21328739
26. Kocan S, Gursoy A. Body image of women with breast cancer after mastectomy: A qualitative research. J Breast Health. 2016; 12(4):145-50. doi:10.5152/tjbh.2016.2913

27. Barbosa PA, Cesca RG, Pacifico TED, Leite ICG. Quality of life in women with breast cancer, after surgical intervention, in a city in the Zona da Mata region in Minas Gerais, Brazil. *Revista Brasileira de Saúde Materno Infantil*. 2017; 17(2):385-99. doi:10.1590/1806-93042017000200010
28. Brink H, Van der Walt C, Van Rensburg GH. *Fundamentals of research methodology for healthcare professionals*. 4th ed. Cape Town: South Africa; July 2018.
29. De Carvalho F, Bergmann A, Koifman R. Functionality in women with breast cancer: The use of International Classification of Functioning, Disability and Health (ICF) in Clinical Practice. *National School of Public Health Sergio Arouca, Brazil*, 26:721-730, 214.
30. Mingers J. A classification of the philosophical assumptions of management science methods. *Journal of the Operational Research Society*. 2017; 54(6):559-70. doi:10.1057/palgrave.jors.2601436
31. Polit DF, Beck CT. *Essentials of nursing research: Appraising evidence for nursing practice*. 8th ed. Philadelphia: Lippincott Williams & Wilkins; 2014.
32. Botma Y, Greeff M, Mulaudzi F, Wright S. *Research health science*. Cape Town, South Africa; 2016.
33. DePoy E, Gitlin LN. *Introduction to research: Understanding and applying multiple strategies*. 2nd ed. St. Louis: Mosby; 1998.
34. Ufnalska S. EASE Guidelines for authors and translators of science articles to be published in English. *ACTA Inform Med*. 2014 June; 22(3):210-217. doi: 10.5455/aim.2014.22.210-217
35. Buys M. Protecting personal information: Implications of the Protection of Personal Information (POPI) Act for health care profession. *S Afr Med J*. November 2017; 107(11).
36. Hsieh HF, Shannon SE. Three approaches to qualitative content analysis. *Qualitative Health Research*. 2005; 15(9) :1277-88. doi:10.1177/1049732305276687
37. Noble H, Smith J. Issues of validity and reliability in qualitative research. *Evidence-Based Nursing*. 2015; 18:34-35.
38. Damons A. Breast cancer amongst South African women increasing. University of Free State. [cited 2021 October 21]. Available from: <https://www.ufs.ac.za/templates/news-archive-item/campus-news/2021/october/breast-cancer-among-south-african-women-increasing>
39. Saeed S, Asim M, Mahummad M. Fears and barriers: Problems in breast cancer diagnosis and treatment in Pakistan. *BMC Women's Health*. 2021; 21:151 <https://doi.org/10.1186/s12905-021-01293-6>
40. Alyona M. *Natural language processing and machine learning [thesis]* Culver City, California. 2017

<https://getthematic.com/insight/coding-qualitative-data/>

41. Gibbs G. Analyzing qualitative data for thematic coding and categorizing. London: Sage; 2007. Available from: <https://methods.sagepub.com/book/analyzing-qualitative-data>
42. Strauss A. Saldanah: Qualitative analysis for social scientists: An introduction to codes and coding. Saldanah 3784. Chapter 1.1987
43. Braun V, Clarke V. Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health*. 2019; 11(2):589-597.
44. Burns N, Grove SK. *The practice of nursing research, conduct, critique and utilization*. 5th ed. Missouri: Elsevier Saunders; 2005.
45. Porter S, Carter DE. Common terms and concepts in research. In: Cormack D, editor. *The research process in nursing*. 4th ed. Oxford: Blackwell Science; 2000.
46. Department of Health, South Africa; National Health Act 61 of 2003; <https://www.gov.za>
47. Guidelines For Good Practice in the Health Care Professions. General Ethics Guidelines for the Health Care Professions: Health Professional Council of South Africa (HPCSA): Booklet 1, 2016. [cited 2022 October 16] Available from: <https://hpcsa.co.za>
48. Department of Health. DoH 2015 Ethics in Health Research: Principles, process and structures. 2nd Edition. 2015
49. Jones C. *The breast Text Book: A Woman's Guide to Mammography and Beyond*
50. Othman D. Immediate versus delayed breast reconstruction: A literature review and analysis of psychosocial outcomes. *Annals of Plastic and Reconstructive Surgery*. 2018; 2:1009
51. Schmauss D, Machens.H & Harder.Y. Breast Reconstruction after mastectomy. January 2016. Vol2. Article 71. Germany.doi:10.3389/fsurg.2016.00071. *frontier in Surgery*,
52. Gray, J.R, Grove, S.K and Sutherland, S.Burns & Grove's *the Practice of Nursing Research; Appraisal, Synthesis, and Generation of Evidence*.8th Edition. Elsevier, St Louis. 2017
53. Louw. A.: *A Training Program to Support an Extended Scope of Practice for South African Mammographers*. Faculty of Health Science. University of Johannesburg. January 2017

8. List of annexures

1. Annexure A
 - A1: Invitation for patients and mammographers
 - A2: Information leaflet, consent form for patients (English version)
 - A3: Information leaflet, consent form for patients (Sepedi version)
 - A4: Information leaflet, consent form for mammographers
 - A5: Interview guide for patients (English version)
 - A6: Interview guide for patients (Sepedi version)
 - A7: Interview guide for mammographers
2. Annexure B: Declaration of Helsinki
3. Annexure C: Declaration by Principal Investigator
4. Annexure D: Storage of research data and/or documents
5. Annexure E: TNM 800 attendance certificate
6. Annexure F: Confirmation from HOD for funding
7. Annexure G: Request for permission to conduct research at hospitals
8. Annexure H: Plagiarism form
9. Annexure I: Turnitin form
10. Annexure J: Approval from Postgraduate Committee of the School of Health Care Science
11. Annexure K: Memorandum of agreement for academic supervision of postgraduate students
12. Annexure M: Approvals from the hospitals
13. Annexure N: Rejection letter from the Pietersburg Hospital
14. Annexure O: Approval from Ethics Committee
15. Annexure P: Excel spread sheet for patients
16. Annexure R: Excel spread sheet for Mammographers
17. Annexure S: Atlas TI report for patients and Mammographers
18. Annexure T: Gap Kamazoo Communication Assessment form (GKCSAF)
19. Annexure U; ICF Core Sets for Breast Cancer
20. Annexure W: Language Editor's certificate

Annexure A



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Health Sciences
School of Health Care Sciences
Department of Radiography

**Exploring the role of communication between Mammographers and patients during
imaging in selected hospitals in Limpopo province**

Research proposal submitted in partial fulfilment
of the
Masters of Radiography: Diagnostics

Author: MK CHEGO

Student number: 10185349

Contact details

Principal researcher:

Cell: 082 398 5403

E-mail: katlego5306@gmail.com

Supervisor:

Phone: 082 544 4165/012 356 3114

E-mail address: Mable.kekana@up.ac.za

Co supervisor:

Phone: 0716732188

Email address: kathryn.malherbe@up.ac.za

Dear potential participant

You are kindly invited to volunteer for a research study. I am doing this research for Master of Radiography (Diagnostics) degree purposes at the University of Pretoria.

Study titled: Exploring the role of communication between Mammographers and patients during imaging in selected hospitals in Limpopo province

Aim of the study; the study aims to explore and describe the communication role of the mammographers before, during and after imaging of the post mastectomy patients in the Limpopo Province. One of the objectives is to explore the views of post mastectomy patients on the communication role of the mammographers before, during and after the imaging procedure.

Significance of the study: It is envisaged that the outcome of this study will provide better understanding of the communication role of the mammographers before, during and after the imaging of post mastectomy patients. Recommendation might be made to the role extension for the mammographers in terms of what information they can communicate with the patients.

You are invited to participate in an in-depth interview. If you are interested, please fill in your details and the researcher will be in contact with you to conduct the interviews which will take about 20-30 minutes.

The nature of questions to be asked

1. Do mammographers present a caring attitude during mammogram examinations?
2. Do mammographers explain the nature of the examination and its importance?
3. Can you trust a mammographer about your feelings regarding your condition?

Name :.....

Contact number :.....

ANNEXURE A2

PROTOCOL NO:592/2021

**PARTICIPANT'S INFORMATION & INFORMED CONSENT DOCUMENT FOR AN
INDIVIDUAL IN-DEPTH INTERVIEW RESEARCH STUDY**

Study title: Exploring the role of communication between Mammographers and patients during imaging in the selected hospitals in Limpopo province

Principal Investigator: Ms MK Chego

Cell: 082 398 5403

E-mail: katlego5306@gmail.com

Student number 10185349

Supervisor:

Dr Kekana RM

Phone: 082 544 4165/012 356 3114

E-mail address: Mable.kekana@up.ac.za

Co supervisor:

K Malherbe

Phone: 0716732188

Email address: kathryn.malherbe@up.ac.za

DATE.....

Dear Prospective Participant

1) INTRODUCTION

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

2) THE PURPOSE OF THIS STUDY

The aim of this study is to explore the views of patients and mammographers regarding the role of communication before, during and after imaging breast cancer patients who have undergone mastectomy and how breast cancer patient perceive the communication between mammographers. By doing so we wish to learn more about how mammographers can have their roles extended in support and advancing the communication between women that had mastectomy and mammographers Therefore, recommendations might be made to the role extension for the mammographers in terms of what information they can communicate with the patients as well as how they can communicate this information.

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

If you agree to participate, you will be asked to participate in an individual interview which will take about 45-60 minutes. The individual interview will be conducted telephonically or face to face. I will ask you several questions about the research topic.

With your permission, the interview will be recorded on a device to ensure that no information is missed.

4) RISKS AND DISCOMFORTS INVOLVED?

Volunteering to take part in the study will not cause any physical or emotional discomfort or risk. The only possible risk and discomfort involved is answering of certain personal questions. If questions feel too personal or make you uncomfortable, you do not have to answer them. If the questions asked cause a certain degree of discomfort and you need more support to be provided, the researcher recommends that the following professionals be contacted:

Pietersburg Hospital: Clinical Psychologist: Dr Ndlovu 015 287 5733/ 083 714 7619

Social worker: Makheda DD 0152875360

Mankweng hospital: Clinical Psychologist Dr Sathekge 015 286 1213/ 082 809 6858

Social workers: Mogale RN 015 286 1628

Netcare Pholoso and Mediclinic; Clinical Psychologist; Dr Lebese 083249 3603

5) POSSIBLE BENEFITS OF THE STUDY

This study may help both patients and mammographers to understand the role communication before, during and after imaging women with breast cancer and those that had mastectomy. This will potentially lead to further professional role development of mammographers. Recommendations might be made to the role extension for the mammographers in terms of what information they can communicate with the patients as well as how they can communicate this information.

6) COMPENSATION

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

7) VOLUNTARY PARTICIPATION

The decision to take part in the study is yours and yours alone. You do not have to take part if you do not want to. You can also stop at any time during the interview without giving a reason. If you refuse to take part in the study, this will not affect you in any way. You will still receive standard care and treatment for your illness.

8) ETHICAL APPROVAL

This study was submitted to the Research Ethics Committee of the Faculty of Health Sciences at the University of Pretoria, Prinshof Campus, Tswelopele Building, Level 4-59, telephone

numbers 012 356 3084 / 012 356 3085 and written approval has been given by that committee. The study will follow the Declaration of Helsinki (last update: October 2013), which guides researchers on how to do research on people. The researcher can give you a copy of the Declaration if you wish to read it.

9) INFORMATION ON WHO TO CONTACT

If you have any questions about this study, you should contact the study leader:

Dr M Kekana : 082 544 4165 or Mrs K Malherbe: 071 6732 188

mable.kekana@up.ac.za

Kathryn.malherbe@up.ac.za

10) CONFIDENTIALITY

We will not record your name anywhere and no one will be able to connect you to the answers you give. Your answers will be linked to a fictitious code number or a pseudonym (another name) and we will refer to you in this way in the data, any publication, report or other research output. All records from this study will be regarded as confidential. Results will be published in professional journals or presented at conferences in such a way that it will not possible for people to know that you were part of the study.

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

All hard copy information will be kept in a locked facility at Radiography department, HW Snyman Buliding, level 4 Room 4.48. at the University of Pretoria, for a minimum of 15 years and only the research team will have access to this information.

11) CONSENT TO PARTICIPATE IN THIS STUDY

- I confirm that the person requesting my consent to take part in this study has told me about the nature and process, any risks or discomforts, and the benefits of the study.
- I have also received, read and understood the above written information about the study.

- I have had adequate time to ask questions and I have no objections to participate in this study.
- I am aware that the information obtained in the study, including personal details, will be anonymously processed and presented in the reporting of results.
- I understand that I will not be penalized in any way should I wish to stop taking part in the study and my withdrawal will not affect my treatment and care.
- I am participating willingly.
- I have received a signed copy of this informed consent agreement.

Participant's name (Please print)

Date

Researcher's name (Please print)

Date

AFFIRMATION OF INFORMED CONSENT BY AN ILLITERATE PARTICIPANT (if suitable)

I, the undersigned.....have read and have explained fully to the person named , the participant informed consent document, which describes the nature and purpose of the study in which I have asked the person to participate. The explanation I have given has mentioned both the possible risks and benefits of the study and the alternative treatments available for his/her illness. The person indicated that they understand that they will be free to withdraw from the study at any time for any reason and without jeopardizing their standard care.

I hereby certify that the person has agreed to participate in this study.

Participant's name (Please print)

Date

Participant's signature or thumbprint

Date

Investigator's name (Please print)

Date

Investigator's signature

Date

Annexure A5

Interview guide for patients

Section A

Open ended questions

1. Briefly describe your impression of the way the mammographers communicate with you as upon your arrival in the imaging department.
2. Describe your experience with the communication you had with the mammographer before, during and after a mammogram examination.
3. What kind of questions do you have about your breast and are mammographers open to communicate this information?
4. What kind of instructions do mammographers give you?
5. Which mode of communication would you prefer between verbal or written and give reasons why?
6. The way the mammographers communicate with you, briefly explain if you can you trust a mammographer about your feelings regarding your condition.
7. Describe the communication upon completion of the imaging procedure and state if this addresses all your questions or needs about the examination?
8. Do you have any other suggestions or recommendations towards the role of communication of mammographers before, during or after the imaging procedure?

ANNEXURE A3

PROTOCOL NO: 592/2021

TUMELELO LE TSHEDIMOŠO YA MO TŠEAKAROLO MO POTŠIŠOTHERIŠANONG YA NYAKIŠIŠO

HLOGO YA NYAKIŠIŠO: Exploring the role of communication between Mammographers and patients during imaging in selected hospitals in Limpopo province

MONYAKIŠIŠI: MK Chego

Cell: 082 398 5403

E-mail: katlego5306@gmail.com

Student number 10185349

Mookamedi :

Dr Kekana RM

Phone: 082 544 4165/012 356 3114

E-mail address: Mable.kekana@up.ac.za

Mookamedi wa bobedi:

K Malherbe

Phone: 0716732188

Email address : kathryn.malherbe@up.ac.za

Letšatši.....

Motšeakarolo o rategang

1 Matseno

O laletšwa go tšea karolo mo nyakišišong. Ke moithuta kua Yunibesithi ya Pretoria, ke dira grata ya 'Masters' ya Radiography (Diag). Tokomane ye e le tsebiša dilo ka moka tšeo di amanego lenyakišišo ye. Go tšea karolo monyakišišong ye ke ka boithapi bja lena. Pele ge re ka thoma ka nyakišišo, leswanetše go kwišiša dilo ka moka tšeo di amanego ga mmogo le tšeo di nyakegago. Mo lesa kwišišeng le botšiše.

2. Morero bja nyakišišo

Maikemišetšo a nyakišišo ye, ke go hwetša gore naa poledisano magare ga basadi bao ba ilego ba ba lebolwetši bja kankere ya matswele le dimammographer ge ba tlile bookelong gore ba hwetsa thekgo le gore ba kgotsofala na.

Ka morago ga gohwetša mohuta wa poledisha ya baletsi le dimammographer gore e bjang, dipelo tše di tlo thuša go hloma mananego a go kwalagatša le go tsibiša gammogo le go ruta dimammographer gore di thekge bomme ba jwang ka bojwetši bjo ba kankere ya matswele le go tshwala kwishishano magareng ga bona.

3. Thlalošo ya ditsela le seo se letetšwego go ba kgatlatema

Ge o ithaopa go tšea karolo monyikašišong, o kgopela go kgatha tema go potišotherišano yeo e ka tšeago metsotso e masomepedi go iša go masometharo (45-60 mins). Potišotherišano ye e tlo swarwa ka mogala. Le tlo kgopelwa go araba dipotšišo tše mmalwa ka hlogotaba ya nyakišišo. Ka tumelo ya gago, potišotherišano e tlo rekhotwa sellathekeng go netefatša gore dintlha tše bohlokwa di e lelwa hlogo le go netefatšwa ka morago.

4. Dikotse tšeo di amanego le nyakišišo

Go tšea karolo mo nyakišišong ye a gona bosinyi goba go bea bophelo bja lena kotsing. Go kaba le dipotšišo tšeo motšeakarolo a kase di amogeleng botse gomme a kwa a gatelelega mo mogopolong goba go tliša maikutlo a sego a lethabo. O nale tokelo ya gose arabe tše

dingwe tša dipotšišo moo o bonang gore o tlabe ontšha diphiri tša bophelo bja gago goba go se dulešege ka potšišo e wo.

Ge o kwa o gatelegile goba o hloka thekgo ka lebaka la diputiso tseo re go botsishitsego tsona. o amogetswe go ikgomaganya le dikhanselara tse di latelago.

Pietersburg Hospital: Clinical Psychologist: Dr Ndlovu 015 287 5733/ 083 714 7619

Social worker: Makheda DD 0152875360

Mankweng hospital: Clinical Psychologist Dr Sathekge 015 286 1213/ 082 809 6858

Social workers: Mogale RN 015 286 1628

Netcare Pholoshu and Mediclinic; Clinical Psychologist; Dr Lebese 083249 3603

5. Mepotso ya nyakišhišo

Batšekarolo ba nyakišhišo ye ba tlo thuša go hwetša lesedi le tshedimošo ka mo dimammographer di ka hwetsa thuso le go lokisha poledishano ya bona le balwetsi gore ba hwetse khekgo ya maleba.

6. Go lefwa

Batšekarolo mo nyakišhišong ye ba kase hwetše tefo goba go kgopelwa go lefa tšhelete.

7. Boithapi bja batšea karolo

Moithaopi wa nyakišhišo ye onale tokelo ya go kgetha gose tšwele pele ka go tšea karolo mo a bonang a gatelegile ntle le gofa lebaka. Thlokomelo le di swanelo ka moka tšeo le swanetše go dihwetša ga di amane felo le nyakišhišo ye, gomme le tla hwetša thušo le kalafo ya maleba ka mogwa wa swanelo.

8. Tumelelo ya boitšwaro

Nyakišhišo ye e amogetšwe ke komiti ya melao ya maitswaro a dinyakišhišo ba tša ma phelo kua Yunibesithi ya Pretoria, Medical Campus, moagong wo o bitšwago tšwelopele , maemong a bone(4-49). Dinomoro tša mogala ke 012 356 3084/3085. Komiti ya tša melao ya maitswaro e file tumelelo ya go tšwela pele ka nyakišhišo ye gomme nyakišhišo ye e tla latela melao le ditaello tša ‘Helsinki’ ka mokgwa o batho ba swanetšego go tswarwa ka gona mo dinyakišhišong.

9. Tshedimošo ya nyakišhišo.

Go hwetša tshedimošo ka nyakišhišo ye, le ka ikgomaganya le Dr Kekana :082 544 4165, marble.kekana@up.ac.za

10. Lekunutu

Motšeakarolo o tshepišwa gore leina la gage le tla hlokomelwa la tswarwa ka sephiring, gomme a gona moo go kgatla tema moo nyakišišong go ka amanang le leina la gage. Dipolelo tšohle tša nyakišišo ye di tla swarwa ka sephiri gomme di powelo ditla phatlalat šwa dijenaleng goba di kgokaganong ka mokgwa o batho ba ke senyalentše nyakišišo ye le batšeakarolo.

Ditokomane le dipotšišotherišano tša nyakišišo ye di tla bolokelwa Yunibesithi ya Pretoria, Radiography department, maemo 5 kamoreng 51139 mengwaga e eka bago e lesomehlano (15 years).

11. Tumelelo ya go tšeakarolo mo nyakišišong

1. Ke dumela gore moetapele wa nyakišišo ye o nhlaloseditše tšohle tšeo di amanago le nyakišišo le ditaelo gammo le maikemišetšo a nyakišišo ye. Gomme kefa tumelo ya go ethaopa go tšea karolo mo go yona.
2. Ke filwe nako e lekanetšego go butšiša dipotšišo gomme a kena lebaka leo le nthibelago go tšea karolo monyakošišong ye.
3. Ke nale tshedimošo ka nyakišišo ye gammogo le dintlha tša bophelo bjaka tšeo di nyakilwego, gomme ke tšhepišitšwe gore di ka sebe pepeneneng ebile dibolokegile.
4. Ke e thaopile go tšea karolo.
5. Ke kwišiša gore nkase hwetšwe molato goba gose hwetše thušo ye entswanetšego ge nka lesa go tšea karolo.

.....
Leina la motšeakarolo

.....
Letšatši

Leina la monyakišiši

Letšatši

ANNEXURE A6

POTŠIŠOTHERIŠANO YABA TŠEAKAROLO

Karolo ya mathomo

1. Hlaloša ka botlalo ka boiphehlelo bja gago ge o dira hlahlobo ya matswele.
2. A na ofela o ba le dipotsiso ka boemole bja matswele a lena gammogo le tsa bophelo, dimamografa di lefa lesedi le tsebo e tletseng?
3. A na di mammographer difa taelo le tshepidisho ya hlahlobo ya lena ka mokwa o le kwishishang?
4. Hlalosha boitshepo bjo o naleng bjona go dimamografa ka maikutlo le maemo a tsa bophela bjagago.
5. A na dimammografa di fela di ba le poledishano katsa bophelo ge balehlahloba gore le lokologe?
6. Hlaloša ka mogwa o bonago ka mogwa o dimammografa dibolelalng ka gona le lena, le ka thabela mogwa wa mohuta mang wa poledisha. E kaba go gwalelwa goba poledishano ya molomo, efa lebaka?
7. Onale dipotsiso tse mmalwa tseo o ka ratang gore dimamografa di ka di araba ge o nyaka tsebo ka boimo ba bophelo le kankere ya matswele.
8. Keng tse dingwe tse o ka ratago go boledishana ka tsona le dimammografa ge a go hlahloba goba gofa mmono gore di ka dira gore poledisha ya lena e be kaone?

Annexure A4

PROTOCOL NO:592/2021

**PARTICIPANT'S INFORMATION & INFORMED CONSENT DOCUMENT FOR AN
INDIVIDUAL IN-DEPTH INTERVIEW RESEARCH STUDY**

Study title: Exploring the role of communication between Mammographers and patients during imaging in selected hospitals in Limpopo province

Principal Investigator: Ms MK Chego

Cell: 082 398 5403

E-mail: katlego5306@gmail.com

Student number 10185349

Supervisor:

Dr Kekana RM

Phone: 082 544 4165/012 356 3114

E-mail address: Mable.kekana@up.ac.za

Co supervisor:

K Malherbe

Phone: 0716732188

Email address: kathryn.malherbe@up.ac.za

DATE AND TIME OF FIRST INFORMED CONSENT DISCUSSION

Date	Month	Year	time

Dear Prospective Participant

1) INTRODUCTION

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

2) THE PURPOSE OF THIS STUDY

The aim of this study is to explore and describe the role of communication between mammographers and patients before, during and after mammographic imaging of mastectomy patients in the Limpopo Province. Therefore, recommendations might be made to the role extension for the mammographers in terms of what information they can communicate with the patients as well as how they can communicate this information.

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

This study involves answering some questions regarding your experience as mammographers during your mammography examinations. You are invited to participate in an in-depth interview. If you are interested, the researcher will be in contact with you to conduct the interviews which will take about 45-60 minutes. We request your permission to record the interview. Recording the interview will ensure that no information is missed.

4) RISKS AND DISCOMFORTS INVOLVED?

There is no foreseeable physical discomfort or risk involved. If there are questions that are too sensitive for you to answer, you do not need to answer them.

If the questions asked cause a certain degree of discomfort and you need more support to be provided, the researcher recommends that the following professionals be contacted:

Pietersburg Hospital: Clinical Psychologist: Dr Ndlovu 015 287 5733/ 083 714 7619

Social worker: Makheda DD 0152875360

Mankweng hospital: Clinical Psychologist Dr Sathekge 015 286 1213/ 082 809 6858

Social workers: Mogale RN 015 286 1628

Netcare Pholoshlo and Mediclinic; Clinical Psychologist; Dr Lebeso 083249 3603

5) POSSIBLE BENEFITS OF THE STUDY

This study may help mammographers to understand their role and have effective communication skill when imaging women with breast cancer and those that had mastectomy. This will potentially lead to further professional role development of mammographers. Recommendations might be made to the role extension for the mammographers in terms of what information they can communicate with the patients as well as how they can communicate this information.

6) COMPENSATION

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

7) VOLUNTARY PARTICIPATION

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

8) ETHICAL APPROVAL

This study was submitted to the Research Ethics Committee of the Faculty of Health Sciences at the University of Pretoria, Medical Campus, Tswelopele Building, Level 4-59, telephone

numbers 012 356 3084 / 012 356 3085 and written approval has been given by that committee. The study will follow the Declaration of Helsinki (last update: October 2013), which guides doctors on how to do research in people. The researcher can give you a copy of the Declaration if you wish to read it.

9) INFORMATION ON WHO TO CONTACT

If you have any questions about this study, you should contact the following study leaders:

Dr M Kekana : 082 544 4165 or Mrs K Malherbe: 071 6732 188

mable.kekana@up.ac.za

Kathryn.malherbe@up.ac.za

10) CONFIDENTIALITY

We will not record your name anywhere and no one will be able to connect you to the answers you give. Your answers will be linked to a fictitious code number or a pseudonym (another name) and we will refer to you in this way in the data, any publication, report or other research output. All records from this study will be regarded as confidential. Results will be published in medical journals or presented at conferences in such a way that it will not possible for people to know that you were part of the study.

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

All hard copy information will be kept in a locked facility at Radiography department level 4, HW Snyman Building, Room 4.48 at the University of Pretoria, for a minimum of 15 years and only the research team will have access to this information.

11) CONSENT TO PARTICIPATE IN THIS STUDY

- I confirm that the person requesting my consent to take part in this study has told me about the nature and process, any risks or discomforts, and the benefits of the study.
- I have also received, read and understood the above written information about the study.

- I have had adequate time to ask questions and I have no objections to participate in this study.
- I am aware that the information obtained in the study, including personal details, will be anonymously processed and presented in the reporting of results.
- I understand that I will not be penalised in any way should I wish to stop taking part in the study and my withdrawal will not affect my treatment and care.
- I am participating willingly.
- I have received a signed copy of this informed consent agreement.

Participant's name (Please print)

Date

Researcher's name (Please print)

Date

ANNEXURE A7

Interview guide for mammographers

Section A

Demographics

Years of experience as a mammographer

1-3 years	4-10 years	11-20 years
-----------	------------	-------------

Section B

Open ended questions

1. Describe your experience with the communication you had with the patients before, during and after a mammogram examination.
2. Briefly describe the kind of questions patients have about breast cancer and are you open to communicate this information with them?
3. Describe the mode of communication you prefer between verbal or written when communicating with patients and give reasons for your answer.
4. Describe how you explain the nature of the examination and its importance to patients?
5. Describe how you ensure that patients understand the instructions and proceedings of the examination?
6. Describe how you determine if the patients are knowledgeable and open about their condition?
7. Elaborate on how patients view their body image following mastectomy.
8. In your own words, describe if the way the mammographers communicate with patients, can affect if the patient will come for their follow-up appointments during and after their mammogram examination?
9. Do you think mammographers affect how these women view their bodies? Please explain.

ANNEXURE B

World Medical Association Declaration of Helsinki

Ethical Principles for Medical Research Involving Human Subjects

World Medical Association

Adopted by the 18th WMA General Assembly, Helsinki, Finland, June 1964, and amended by the: 29th WMA General Assembly, Tokyo, Japan, October 1975

35th WMA General Assembly, Venice, Italy, October 1983 41st WMA General Assembly, Hong Kong, September 1989 48th WMA General Assembly, Somerset West, Republic of South Africa, October 1996 52nd WMA General Assembly, Edinburgh, Scotland, October 2000 53rd WMA General Assembly, Washington, DC, USA, October 2002 (Note of Clarification added) 55th WMA General Assembly, Tokyo, Japan, October 2004 (Note of Clarification added) 59th WMA General Assembly, Seoul, Republic of Korea, October 2008 64th WMA General Assembly, Fortaleza, Brazil, October 2013

Preamble

- The World Medical Association (WMA) has developed the Declaration of Helsinki as a statement of ethical principles for medical research involving human subjects, including research on identifiable human material and data. The Declaration is intended to be read as a whole and each of its constituent paragraphs should be applied with consideration of all other relevant paragraphs.
- Consistent with the mandate of the WMA, the Declaration is addressed primarily to physicians. The WMA encourages others who are involved in medical research involving human subjects to adopt these principles.

General Principles

3. The Declaration of Geneva of the WMA binds the physician with the words, "The health of my patient will be my first consideration," and the International Code of Medical Ethics declares that, "A physician shall act in the patient's best interest when providing medical care."
4. It is the duty of the physician to promote and safeguard the health, well-being and rights of patients, including those who are involved in medical research. The physician's knowledge and conscience are dedicated to the fulfilment of this duty.
5. Medical progress is based on research that ultimately must include studies involving human subjects.
6. The primary purpose of medical research involving human subjects is to understand the causes, development and effects of diseases and improve preventive, diagnostic and therapeutic interventions (methods, procedures and treatments). Even the

jama.com

best proven interventions must be evaluated continually through research for their safety, effectiveness,

efficiency, accessibility and quality.

7. Medical research is subject to ethical standards that promote and ensure respect for all human subjects and protect their health and rights.

8. While the primary purpose of medical research is to generate new knowledge, this goal can never take precedence over the rights and interests of individual research subjects.

9. It is the duty of physicians who are involved in medical research to protect the life, health, dignity, integrity, right to self-determination, privacy, and confidentiality of personal information of research subjects. The responsibility for the protection of research subjects must always rest with the physician or other health care professionals and never with the research subjects, even though they have given consent.

10. Physicians must consider the ethical, legal and regulatory norms and standards for research involving human subjects in their own countries as well as applicable international norms and standards. No national or international ethical, legal or regulatory requirement should reduce or eliminate any of the protections for research subjects set forth in this Declaration.

11. Medical research should be conducted in a manner that minimises possible harm to the environment.

12. Medical research involving human subjects must be conducted only by individuals with the appropriate ethics and scientific education, training and qualifications. Research on patients or healthy volunteers requires the supervision of a competent and appropriately qualified physician or other health care professional.

Clinical Review & Education

JAMA Published online October 19, 2013 E1

Downloaded From: <http://jama.jamanetwork.com/> on 10/22/2013

Clinical Review & Education **Special Communication**

World Medical Association Declaration of Helsinki

13. Groups that are underrepresented in medical research should be provided appropriate access to participation in research.

14. Physicians who combine medical research with medical care should involve their patients in research only to the extent that this is justified by its potential preventive, diagnostic or therapeutic value and if the physician has good reason to believe that participation in the research study will not adversely affect the health of the patients who serve as research subjects.

15. Appropriate compensation and treatment for subjects who are harmed as a result of participating in research must be ensured.

Risks, Burdens and Benefits

16. In medical practice and in medical research, most interventions involve risks and burdens. Medical research involving human subjects may only be conducted if the importance of the objective outweighs the risks and burdens to the research subjects.

17. All medical research involving human subjects must be preceded by careful assessment of predictable risks and burdens to the individuals and groups involved in the research in com-

parison with foreseeable benefits to them and to other individuals or groups affected by the condition under investigation. Measures to minimise the risks must be implemented. The risks must be continuously monitored, assessed and documented by the researcher.

18. Physicians may not be involved in a research study involving human subjects unless they are confident that the risks have been adequately assessed and can be satisfactorily managed. When the risks are found to outweigh the potential benefits or when there is conclusive proof of definitive outcomes, physicians must assess whether to continue, modify or immediately stop the study.

Vulnerable Groups and Individuals

19. Some groups and individuals are particularly vulnerable and may have an increased likelihood of being wronged or of incurring additional harm. All vulnerable groups and individuals should receive specifically considered protection.
20. Medical research with a vulnerable group is only justified if the research is responsive to the health needs or priorities of this group and the research cannot be carried out in a non-vulnerable group. In addition, this group should stand to benefit from the knowledge, practices or interventions that result from the research.

E2 JAMA Published online October 19, 2013

Scientific Requirements and Research Protocols

21. Medical research involving human subjects must conform to generally accepted scientific principles, be based on a thorough knowledge of the scientific literature, other relevant sources of information, and adequate laboratory and, as appropriate, animal experimentation. The welfare of animals used for research must be respected.
22. The design and performance of each research study involving human subjects must be clearly described and justified in a research protocol. The protocol should contain a statement of the ethical considerations involved and should indicate how the principles in this Declaration have been addressed. The protocol should include information regarding funding, sponsors, institutional affiliations, potential conflicts of interest, incentives for subjects and information regarding provisions for treating and/or compensating subjects who are harmed as a consequence of participation in the research study. In clinical trials, the protocol must also describe appropriate arrangements for post-trial provisions.

Research Ethics Committees

23. The research protocol must be submitted for consideration, comment, guidance and approval to the concerned research ethics committee before the study begins. This committee must be transparent in its functioning, must be independent of the researcher, the sponsor and any other undue influence and must be duly qualified. It must take into consideration the laws and regulations of the country or countries in which the research is to be performed as well as applicable international norms and standards but these must not be allowed to reduce or eliminate any of the protections for research subjects set forth in this Declaration.

The committee must have the right to monitor ongoing studies. The researcher must provide monitoring information to the committee, especially information about any serious adverse events. No amendment to the protocol may be made without consideration and approval by the committee. After the end of the study, the researchers must submit a final report to the committee containing a summary of the study's findings and conclusions.

Privacy and Confidentiality

24. Every precaution must be taken to protect the privacy of research subjects and the confidentiality of their personal information.

Informed Consent

25. Participation by individuals capable of giving informed consent as subjects in medical research must be voluntary. Although it

jama.com

Downloaded From: <http://jama.jamanetwork.com/> on 10/22/2013

World Medical Association Declaration of Helsinki

Special Communication Clinical Review & Education

may be appropriate to consult family members or community leaders, no individual capable of giving informed consent may be enrolled in a research study unless he or she freely agrees.

26. In medical research involving human subjects capable of giving informed consent, each potential subject must be adequately informed of the aims, methods, sources of funding, any possible conflicts of interest, institutional affiliations of the researcher, the anticipated benefits and potential risks of the study and the discomfort it may entail, post-study provisions and any other relevant aspects of the study. The potential subject must be informed of the right to refuse to participate in the study or to withdraw consent to participate at any time without reprisal. Special attention should be given to the specific information needs of individual potential subjects as well as to the methods used to deliver the information. After ensuring that the potential subject has understood the information, the physician or another appropriately qualified individual must then seek the potential subject's freely-given informed consent, preferably in writing. If the consent cannot be expressed in writing, the non-written consent must be formally documented and witnessed. All medical research subjects should be given the option of being informed about the general outcome and results of the study.
27. When seeking informed consent for participation in a research study the physician must be particularly cautious if the potential subject is in a dependent relationship with the physician or may consent under duress. In such situations the informed consent must be sought by an appropriately qualified individual who is completely independent of this relationship.
28. For a potential research subject who is incapable of giving informed consent, the physician must seek informed consent from the legally authorised representative. These individuals must not be included in a research study that has no likelihood of benefit for them unless it is intended to promote the health of the group represented by the potential subject, the research cannot instead be performed with persons capable of providing informed consent, and the research entails only minimal risk and minimal burden.
29. When a potential research subject who is deemed incapable of giving informed consent is able to give assent to decisions about participation in research, the physician must seek that assent in addition to the consent of the legally authorised representative. The potential subject's dissent should be respected.
30. Research involving subjects who are physically or mentally incapable of giving consent, for

example, unconscious patients, may be done only if the physical or mental condition that prevents giving informed consent is a necessary characteristic of the research group. In such circumstances the physician must seek informed consent from the legally authorised representative. If no such representative is available and if the research cannot be delayed, the study may proceed without informed consent pro-

jama.com

vided that the specific reasons for involving subjects with a condition that renders them unable to give informed consent have been stated in the research protocol and the study has been approved by a research ethics committee. Consent to remain in the research must be obtained as soon as possible from the subject or a legally authorised representative.

31. The physician must fully inform the patient which aspects of their care are related to the research. The refusal of a patient to participate in a study or the patient's decision to withdraw from the study must never adversely affect the patient-physician relationship.

32. For medical research using identifiable human material or data, such as research on material or data contained in biobanks or similar repositories, physicians must seek informed consent for its collection, storage and/or reuse. There may be exceptional situations where consent would be impossible or impracticable to obtain for such research. In such situations the research may be done only after consideration and approval of a research ethics committee.

Use of Placebo

33. The benefits, risks, burdens and effectiveness of a new intervention must be tested against those of the best proven intervention(s), except in the following circumstances:

Where no proven intervention exists, the use of placebo, or no intervention, is acceptable; or

Where for compelling and scientifically sound methodological reasons the use of any intervention less effective than the best proven one, the use of placebo, or no intervention is necessary to determine the efficacy or safety of an intervention

and the patients who receive any intervention less effective than the best proven one, placebo, or no intervention will not be subject to additional risks of serious or irreversible harm as a result of not receiving the best proven intervention.

Extreme care must be taken to avoid abuse of this option.

Post-Trial Provisions

34. In advance of a clinical trial, sponsors, researchers and host country governments should make provisions for post-trial access for all participants who still need an intervention identified as beneficial in the trial. This information must also be disclosed to participants during the informed consent process.

Research Registration and Publication and Dissemination of Results

35. Every research study involving human subjects must be registered in a publicly accessible database before recruitment of the first subject.

JAMA Published online October 19, 2013 E3

Downloaded From: <http://jama.jamanetwork.com/> on 10/22/2013

Clinical Review & Education **Special Communication**

World Medical Association Declaration of Helsinki

36. Researchers, authors, sponsors, editors and publishers all have ethical obligations with regard to the publication and dissemination of the results of research. Researchers have a duty to make publicly available the results of their research on human subjects and are accountable for the completeness and accuracy of their reports. All parties should adhere to accepted guidelines for ethical reporting. Negative and inconclusive as well as positive results must be published or otherwise made publicly available. Sources of funding, institutional affiliations and conflicts of interest must be declared in the publication. Reports of research not in accordance with the principles of this Declaration should not be accepted for publication.

Unproven Interventions in Clinical Practice

37. In the treatment of an individual patient, where proven interventions do not exist or other known interventions have been ineffective, the physician, after seeking expert advice, with informed consent from the patient or a legally authorised representative, may use an unproven intervention if in the physician's judgement it offers hope of saving life, re-establishing health or alleviating suffering. This intervention should subsequently be made the object of research, designed to evaluate its safety and efficacy. In all cases, new information must be recorded and, where appropriate, made publicly available.

ARTICLE INFORMATION

Corresponding Author: World Medical Association, 13, ch. du Levant, CIB - Bâtiment A, 01210 Ferney-Voltaire, France; wma@wma.net.

Published Online: October 19, 2013. doi:10.1001/jama.2013.281053.

Disclaimer: ©2013 World Medical Association, Inc. All Rights Reserved. All intellectual property rights in the Declaration of Helsinki are vested in the World Medical Association. The WMA has granted *JAMA* exclusive rights to publish the

English-language version of the Declaration through December 31, 2013.

Online-Only Content: Audio podcast is available at www.jama.com.

E4 JAMA Published online October 19, 2013

jama.com

Downloaded From: <http://jama.jamanetwork.com/> on 10/22/2013

ANNEXURE C

COMMITMENTS AND RESPONSIBILITIES OF **PRINCIPAL/CO-INVESTIGATORS**
REQUIRED FOR RESEARCH THROUGH THE FACULTY OF HEALTH SCIENCES
RESEARCH ETHICS COMMITTEE, UNIVERSITY OF PRETORIA

DECLARATION BY INVESTIGATOR:

I agree to **personally** conduct or supervise the described investigation.

I understand as principal investigator that I am **totally responsible** for the study and am legally bound by the contract signed with the sponsor and **will not inappropriately delegate my responsibilities** to the rest of my study team.

I have **read and understand the information in the investigator's brochure**, including the potential risks and side effects of the drug.

I agree **to ensure** that all associates, colleagues, and employees assisting in the conduct of the study are informed about their obligations in meeting the above commitments, without relinquishing my total responsibility for the study.

I confirm that I am **suitably qualified and experienced** to perform and/or supervise the study proposed.

I agree to conduct the study in accordance with the relevant, current protocol and will only make changes in the protocol after approval by the sponsor and the Ethics Committee, except when urgently necessary to protect the safety, rights, or welfare of subjects.

I agree to inform any patients, or any persons used as controls, that the drugs are being used for investigational purposes and **I will ensure that the ICH GCP Guidelines and Ethics Committee requirements relating to obtaining informed consent are met.**

I agree to timeously reporting to the sponsor and Ethics Committee adverse experiences that occur in the course of the investigation according to the time requirements adopted by the Faculty of Health Sciences Research Ethics Committee, University of Pretoria.

I agree to maintain **adequate and accurate** records and to make those records available for inspection by the appropriate authorized agents, be it EC, FDA or sponsor agents.

I agree to comply with all other requirements regarding the obligations of clinical investigators and all other pertinent requirements in the Declaration of Helsinki and South African and ICH GCP Guidelines and am conversant with these guidelines.

I agree to inform the Ethics Committee in advance should I go on leave together with an agreed plan of action regarding an alternate principal investigator or sub-investigator to take responsibility in my absence.

I understand that the study may be audited at any time and that deviation from the principles in this declaration will be put before the Ethics Committee for action, which may include disqualification as an investigator and rehabilitation before being accepted as an investigator in other studies.

I confirm that there is no conflict of interest whatsoever in my participation in this study. I have no shares in the sponsoring company and my participation and interests are as defined in the financial agreement.

MK CHEGO
December 2022 _____
NAME (Printed)

SIGNATURE OF PRINCIPAL
INVESTIGATOR

____ 6
DATE

ANNEXURE D

**Principal Investigator's Declaration for the storage of research
data and/or documents
Protocol no:592/2021**

I, the Principal Investigator(s), MK Chego of the following trial/study titled: **Exploring the role of communication between Mammographers and patients during imaging in selected hospitals in Limpopo province**

I'll be storing all the research data and/or documents referring to the above-mentioned trial/study at the following non-residential address: Radiography department, HW Snyman Building, Room 4.48.

I understand that the storage for the abovementioned data and/or documents must be maintained for a minimum of 15 years from the end of this trial/study.

START DATE OF TRIAL/STUDY: Oct 2021 END DATE OF TRIAL/STUDY: December 2022

SPECIFIC PERIOD OF DATA STORAGE AMOUNTING TO NO LESS THAN 15 YEARS:

December 2022 until December 2036

Name **CHEGO MK**

Date: **6 NOVEMBER 2022**

ANNEXURE E

Protocol no 592/2021



Universiteit van Pretoria
University of Pretoria

Department of Paediatrics and Child Health

This is to certify that:

Student number: u10185349

Has participated in/ attended the following TNM 800 Course 15-19 JULY
2019 Course code: TNM 800/802



Ms MK CHEGO

A handwritten signature in black ink, appearing to read 'MK CHEGO', written over a light blue circular stamp.

Signature: Date: 19 JULY 2019

Annexure F

Protocol no 592/2021

To: Prof J Mothabeng
Chair of the Research and Proposal Review Committee
School of Healthcare Sciences

08 February 2021

From: Dr RM Kekana
Acting HoD, Radiography

**Confirmation of funding for M Rad studies:
Ms MK Chego**

Dear Prof Mothabeng

This is to confirm that the researcher Ms MK Chego (student number 10185349)'s has made a commitment to fund own research.

Regards
Mable Kekana
Acting Head of Department
Radiography
School of Healthcare Sciences
Tel: +27 12 356 3114

ANNEXURE G1

MK CHEGO
PO BOX 4534
MPUDULLE
1057
22/01/2022

THE CHIEF EXECUTIVE OFFICER
MANKWENG HOSPITAL
PRIVATE BAG X1117
0727

DEAR SIR/MADAM

REQUEST FOR A PERMISSION TO CONDUCT A RESEARCH

I hereby request permission to perform a research study at Mankweng hospital, whereby mammography patients who have done mastectomy as part of their breast cancer treatment are requested to participate in the study as well as mammographers

This is Miss MK Chego, a radiographer at Pietersburg Hospital and Masters student in Diagnostic Radiography at University of Pretoria. I am conducting a study to fulfil part of Master of Radiography in Diagnostics.

The title: Exploring the role of communication between Mammographers and patients during imaging in selected hospitals in Limpopo province

Therefore, I am humbly requesting mammography patients and mammographers from the institution to participate in my research by participating in a telephonic or face to face interview. The period of collecting the data will range from one to two months depending on the response from participants and it will not disrupt any work activities/service delivery in the institution.

Hope my request will be approved

Yours faithfully

MK CHEGO

ANNEXURE G2

MK CHEGO
PO BOX 4534
MPUDULLE
1057
22/01/2022

THE CHIEF EXECUTIVE OFFICER
PIETERSBURG PROVINCIAL HOSPITAL
PRIVATE BAG X9316
0700

DEAR SIR

REQUEST FOR A PERMISSION TO CONDUCT A RESEARCH

I hereby request permission to perform a research study at Pietersburg hospital, whereby mammography patients who have done mastectomy as part of their breast cancer treatment are requested to participate in the study as well as mammographers.

This is Miss MK Chego, a radiographer at Pietersburg Hospital and Masters student in Diagnostic Radiography at University of Pretoria. I am conducting a study to fulfil part of Master of Radiography in Diagnostics.

The title: Exploring the role of communication between Mammographers and patients during imaging in selected hospitals in Limpopo province

Therefore, I am humbly requesting mammography patients and mammographers from the institution to participate in my research by participating in a telephonic or face to face interview. The period of collecting the data will range from one to two months depending on the response from participants and it will not disrupt any work activities/service delivery in the institution.

Hope my request will be approved

Yours faithfully

MK CHEGO

ANNEXURE G3

MK CHEGO
PO BOX 4534
MPUDULLE
1057
22/01/2021

THE HEAD OF RADIOLOGY DEPARTMENT
MEDICLINIC POLOKWANE
PO BOX 6078
POLOKWANE
0750

DEAR SIR/MADAM

REQUEST FOR A PERMISSION TO CONDUCT A RESEARCH

I hereby request permission to perform a research study at Mediclinic hospital, whereby mammography patients who have done mastectomy as part of their breast cancer treatment are requested to participate in the study as well as mammographers.

This is Miss MK Chego, a radiographer at Pietersburg Hospital and Masters student in Diagnostic Radiography at University of Pretoria. I am conducting a study to fulfil part of Master of Radiography in Diagnostics.

The title: Exploring the role of communication between Mammographers and patients during imaging in selected hospitals in Limpopo province

Therefore, I am humbly requesting mammography patients and mammographers from the institution to participate in my research by participating in a telephonic or face to face interview. The period of collecting the data will range from one to two months depending on the response from participants and it will not disrupt any work activities/service delivery in the institution.

Hope my request will be approved

Yours faithfully

MK CHEGO

ANNEXURE G4

MK CHEGO
PO BOX 4534
MPUDULLE
1057
22/01/2021

THE HEAD OF RADIOLOGY DEPARTMENT
NETCARE PHOLOSO HOSPITAL
PO BOX 1181
FAUNA PARK
0787

DEAR SIR

REQUEST FOR A PERMISSION TO CONDUCT A RESEARCH

I hereby request permission to perform a research study at NetCare Pholoso hospital, whereby mammography patients who have done mastectomy as part of their breast cancer treatment are requested to participate in the study as well as mammographers.

This is Miss MK Chego, a radiographer at Pietersburg Hospital and Masters student in Diagnostic Radiography at University of Pretoria. I am conducting a study to fulfil part of Master of Radiography in Diagnostics.

The title: Exploring the role of communication between Mammographers and patients during imaging in selected hospitals in Limpopo province

Therefore, I am humbly requesting mammography patients and mammographers from the institution to participate in my research by participating in a telephonic or face to face interview. The period of collecting the data will range from one to two months depending on the response from participants and it will not disrupt any work activities/service delivery in the institution.

Hope my request will be approved

Yours faithfully

MK CHEGO

ANNEXURE H

Protocol 592/2021

UNIVERSITY OF PRETORIA
FACULTY OF HEALTH SCIENCES
DEPARTMENT OF RADIOGRAPHY

The Department of Radiography places specific emphasis on integrity and ethical behaviour with regard to the preparation of all written work to be submitted for academic evaluation.

Although academic personnel will provide you with information regarding reference techniques as well as ways to avoid plagiarism, you also have a responsibility to fulfil in this regard. Should you at any time feel unsure about the requirements, you must consult the lecturer concerned before you submit any written work.

You are guilty of plagiarism when you extract information from a book, article or web page without acknowledging the source and pretend that it is your own work. In truth, you are stealing someone else's property. This doesn't only apply to cases where you quote verbatim, but also when you present someone else's work in a somewhat amended format (paraphrase), or even when you use someone else's deliberation without the necessary acknowledgement. You are not allowed to use another student's previous work. You are furthermore not allowed to let anyone copy or use your work with the intention of presenting it as his/her own.

Students who are guilty of plagiarism will forfeit all credit for the work concerned. In addition, the matter can also be referred to the Committee for Discipline (Students) for a ruling to be made. Plagiarism is considered a serious violation of the University's regulations and may lead to suspension from the University.

For the period that you are a student at the Department of Radiography, the under-mentioned declaration must accompany all written work to be submitted. No written work will be accepted unless the declaration has been completed and attached.

I (full names) Mmalehu Katlego Chego Student number: 10185349. Subject of the work:

Exploring the role of communication between Mammographers and patients during imaging in selected hospitals in Limpopo province

Declaration

1. I understand what plagiarism entails and am aware of the University's policy in this regard.
2. I declare that this research project (e.g. essay, report, project, assignment, dissertation, thesis etc) is my own, original work. Where someone else's work was used (whether from a printed source, the internet or any other source) due acknowledgement was given and reference was made according to departmental requirements.
3. I did not make use of another student's previous work and submitted it as my own.
4. I did not allow and will not allow anyone to copy my work with the intention of presenting it as his or her own work.

Signature

Chego MK

Annexure I

TURNITIN REPORT

Turnitin Originality Report

Processed on: 10-Jan-2022 10:50 SAST
ID: 1739481881
Word Count: 6596
Submitted: 1

MRad

Similarity Index	Similarity by Source
29%	Internet Sources: 4%
	Publications: 2%
	Student Papers: 25%

25% match (student papers from 24-Feb-2021)
Class: CDR 200 RAW 285 Y1 2021_144806_1
Assignment: Masters
Paper ID: 1517017091

1% match (Internet from 17-Nov-2021)
https://www.hpcsa.co.za/Uploads/RCT/Policy/RCT_Scope_of_Practice_Diagnostic_Rad_22_May_2020_for%20Current_Scope.pdf

1% match (publications)
[Flávia Nascimento de Carvalho, Anke Bergmann, Rosalina Jorge Koffman, "Functionality in Women with Breast Cancer: The Use of International Classification of Functioning, Disability and Health \(ICF\) in Clinical Practice", Journal of Physical Therapy Science, 2014](#)

< 1% match (student papers from 19-Oct-2018)
[Submitted to University of Pretoria on 2018-10-19](#)

< 1% match (publications)
[Marilyn M. Schapira, William E. Barlow, Emily F. Conant, Brian L. Sprague et al. "Communication Practices of Mammography Facilities and Timely Follow-up of a Screening Mammogram with a BI-RADS B Assessment", Academic Radiology, 2018](#)

< 1% match (Internet from 09-Apr-2018)
<https://utsouthwestern.influent.utsystem.edu/en/publications/communication-practices-of-mammography-facilities-and-timely-follow-up>

< 1% match (Internet from 22-Dec-2021)
<http://vital.seals.ac.za:8080/vital/access/services/Download/vital:28375/SOURCE1>

< 1% match (Internet from 20-Dec-2021)
<http://vital.seals.ac.za:8080/vital/access/services/Download/vital:11927/SOURCEPDF>

< 1% match (student papers from 24-Jun-2015)
[Submitted to Oxford Brookes University on 2015-06-24](#)

< 1% match (student papers from 16-Nov-2021)
[Submitted to Sefako Makgatho Health Science University on 2021-11-16](#)

< 1% match (Internet from 25-Apr-2016)
http://uir.unisa.ac.za/bitstream/handle/10500/13104/dissertation_bafyini_tc.pdf?fileDownloaded=y&sequence=1

< 1% match ()
[Mogichang He, Wu Zhang, Hira Shahid, Yuhua Liu, Xiaojing Liang, Yan Duan, Hua Wang, Kianvov He, "The Impact of Motor Imagery on Aesthetic Judgment of Chinese Calligraphy: An fMRI Study", Frontiers in Human Neuroscience](#)

Communication in healthcare service delivery is key to ensuring that there is cooperation among the healthcare professionals as well as between the professionals and their patients. In the same light, the role of communication in breast cancer imaging is essential for the best outcomes in terms of treatment and management of this clinical condition. Patel et al state that mammographers and ultrasonographers spend more time with breast cancer patients than any other professional categories.1 It is for this reason that they recommend that mammographers should be trained to educate the patients about breast imaging and associated activities. **Breast cancer is the most common and leading cause of death in women between the ages of 40 - 90 years.2 (For menopausal women age there starts by developing breast cancer than premenopausal women.2 The global fight against this disease has led to high standard treatment, management and awareness.** Following a personal communication with the oncologists from the Pietersburg region, it became clear to the researcher that a high number of mastectomies are done, in comparison to breast-conserving treatment in Pietersburg and Mankweng hospitals. According to the oncologist, there seems to be a lack of information and community education regarding breast cancer. Patients seem to have less knowledge about breast cancer, the different treatment options available and how to continue enjoying quality life post mastectomy. The oncologist further stated that most patients report late for consultation with doctors with the subsequent delayed diagnosis and management of breast cancer. The question one would ask is, what kind of communication takes place between mammographers and breast cancer patients before, during and after the imaging process? **According to the 2015 Global Burden of Disease Report, there have been at least 17.5 million general cancer cases globally. According to Breast Cancer Prevention and Control Policy South Africa, the increasing incidence of breast cancer is a major health concern.3 Multi-disciplinary team (mammographers, oncologists, radiologists, physiotherapists, nurses, surgeons and counsellors) need to facilitate diagnosis and care for breast cancer patients employing strategies for timely access to treatment.4 According to Schapira et al, lack of effective communication between the healthcare providers, patients and imaging facilities might result in delayed diagnosis and possible widening of disparities.5 It is for this reason that these authors, following their study where they evaluated the different modes of**

Annexure J



www.up.ac.za

21 December 2021 Faculty Ethics Committee Faculty of Health Sciences
University of Pretoria

To whom it may concern,

Evaluation of a protocol for the following student:

Student Chego MK- Department of Radiography (MRad); student number: 10185349

Title: Exploring the role of communication of Mammographers during imaging of mastectomy patients in Limpopo province

This letter serves to confirm that the above-mentioned protocol was discussed by the Postgraduate Committee of the School of Health Care Sciences during the On- line meeting of 20 October 2021. The proposal was accepted with minor changes, and the corrections were effected. It is hereby referred to your committee for ethical clearance.

Sincerely yours,

Professor DJ Mothabeng

Chairperson: Research and postgraduate committee

School of Health Care Sciences

ANNEXURE K

UNIVERSITY OF PRETORIA

Memorandum of Agreement

for Academic Supervision of Postgraduate Students

This document should be read in conjunction with the following University of Pretoria policy documents:

*the **University of Pretoria General Regulations** applicable to postgraduate study*

*the **University Code of Ethics for Research**,*

*the **University Plagiarism Policy**,*

*the **Policy for the Preservation and Retention of Research Data**,*

*the **Intellectual Property Policy**,*

*the **Guidelines for Postgraduate Supervision** and*

*the **Declaration of Originality form**.*

These documents are all available on the university of Pretoria web site (<http://www.up.ac.za>) and on request from the Registrar's Division.

Clear mediation mechanisms are available to deal with any grievances, personal problems or disagreements that may arise between a postgraduate candidate and the supervisor.

*(Refer to the General Regulations and Information of the University of Pretoria pertaining to the **Student Communication Channel**, Section B.15).*

Name of student: Chego Mmalehu

Student number: 10185349

Degree: Masters in Radiography

Department: RADIOGRAPHY

School: HEALTHCARE SCIENCES

Faculty: HEALTH SCIENCES

1

<i>Initial – Student</i>	MK
<i>Initial – Supervisor</i>	RMK
<i>Initial – Co-Supervisor</i>	KM

Memorandum of Agreement between Postgraduate Student and Supervisor

THE STUDENT: CHEGO MMALEHU KATLEGO

accepts and undertakes the following roles and responsibilities:

1. Abiding by the relevant rules and regulations of the University.
2. Working independently under the guidance of the supervisor, and ensuring that she or he stays abreast of the latest developments in the field of study.
3. Agreeing with the supervisor, and abiding by, a time schedule which outlines the expected completion dates of various stages of the research work (See Supervisor section, #4 below).
4. Attending pre-scheduled meetings with the supervisor, and being adequately prepared for these consultation sessions (See Supervisor section, #5 below).
5. Submitting written work at times agreed upon by the student and the supervisor.
6. Taking account of the feedback provided by the supervisor before subsequent submission of written work.
7. Undertaking to submit the dissertation or thesis within the prescribed time for the completion of the degree unless exceptional circumstances arise, and to plan accordingly.
8. Accepting responsibility for the overall coherent structure of the final dissertation or thesis and, as far as possible, submitting written work that is free of spelling mistakes, grammatical errors and incorrect punctuation.
9. Undertaking to submit draft papers for publication, taking into account advice provided by the supervisor.
10. Informing the supervisor of any absence or circumstances that may affect the research progress and time line.

THE SUPERVISOR ... Dr RM Kekana

THE CO-SUPERVISOR ...Ms K Malherbe

accepts and undertakes the following roles and responsibilities:

1. Abiding by the relevant rules and regulations of the University.
2. Assisting the student in building knowledge and research skills in the specific area of postgraduate study and relevant to the level of the degree.

<i>Initial – Student</i>	MK
<i>Initial – Supervisor</i>	RMK
<i>Initial – Co-Supervisor</i>	KM

3. Ensuring that the proposed research project is feasible, of an appropriate level for the degree under consideration, and that the necessary resources and facilities will be available to enable the student to complete the research timeously.
4. Providing information on the conditions to be met in order to achieve satisfactory progress/performance and assisting with the construction of a written time schedule which outlines the expected completion dates of various stages of the research work.
5. Being accessible to the student by attending meetings in line with a schedule agreed upon in advance by the supervisor and the student, and being prepared for the meetings.
6. Implementing an arrangement for student supervision in cases where the supervisor is away from the University e.g. sick leave, sabbatical leave, or leaves the employ of the University, and communicating these arrangements to the student timeously.
7. Accepting submission of written work at intervals agreed on by the student and supervisor, providing constructive comment and criticism within a time frame jointly agreed on at the start of the research, and informing the student, in writing, of any inadequacy relating to progress or work, in relation to the expectations previously agreed on by the student and supervisor.
8. Assisting the student with the production of the dissertation or thesis, providing guidance on technical aspects of writing including discipline-specific requirements.
9. Assisting with the publication of research articles as appropriate and agreeing the ownership of research results in accordance with the University's policy on intellectual property.
10. Contributing to the student's academic development by introducing her or him to relevant academic and professional networks through conferences, seminars and other events where possible.

THE STUDENT and THE SUPERVISOR and CO-SUPERVISOR:

1. confirm that we have read and understood this Memorandum of Agreement and
2. agree to accept its content for the duration of the period of study in respect of the degree as specified below.

<i>Initial – Student</i>	MK
<i>Initial – Supervisor</i>	RMK
<i>Initial – Co-Supervisor</i>	KM

**RECORD OF AGREEMENT ON PLACES AND DATES OF
MEETINGS, MILESTONES AND DEADLINES**

(to be completed at the time when the Agreement is signed)

2019 activities

- March- Research idea development
- July- Attending TNM 800
- August – December – Proposal refinement

2020 activities

- Jan –April – proposal refinement
- May- Presentation to the department of Radiography
- Departmental internal review
- Aug- December - Proposal refinement

2021 activities

February and March

- Final revision of the proposal following departmental evaluation.
- Submission by the School of healthcare Science

July 2021

- Submission to Ethics

August 2021

- Ethics declines the proposal. New proposal development
- Refinement of proposal

September 2021

- Refinement of proposal

October and November 2021

- Final revision of the proposal following departmental re-evaluation.
- Resubmission by the School of healthcare Science

JANUARY 2022

- Submission to Ethics

FEBRUARY 2022

- Correction of proposal according to ethics recommendations

March 2022

- Approval granted by ethics
- Recruitment of selected hospitals
- Development of dissertation

April 2022

- **Approval from selected hospitals was granted**
- **Recruitment of patients**
- **Refinement of dissertation**

June and July 2022

- **Data collection**

August 2022

- **Data analysis**
- **Dissertation refinement**

September and October 2022

- **Final draft of dissertation refinement**
- **Submission to language editor**

November 2022

- **Final dissertation refinement**

December 2022

- **Submission to exam**

<i>Initial – Student</i>	MK
<i>Initial – Supervisor</i>	RMK
<i>Initial – Co-Supervisor</i>	KM

Dr J. van der Merwe Diagnostic Radiology Inc.

DR WG DAVEL

E-mail: Accounts1@drdavel.co.za
Tel. No.: (015) 295-6557
Practice No.: 0672718



Postal Address: PO Box 494,
Polokwane 0700
Facsimile: (015) 295-5533
VAT Number: 4670279258

2 February 2022

TO WHOM IT MAY CONCERN

Hereby permission is granted to Ms MK Chego to conduct research at above practice as detailed in proposal

Kind Regards

Michelle Oelofse
p/p Dr WG DAVEL



Dr. WG Davel - MB ChB (UFS) Dip Av Med (IAM-Pret) M Med (Rad D) (UFS)

Restricted



LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA


**DEPARTMENT OF HEALTH
MANKWENG HOSPITAL**

Ref: S5/3/1/2
Enq: Modula MC
From: HR Training and Capacity Development
Date: 25/01/2022
TO : CHEGO MK

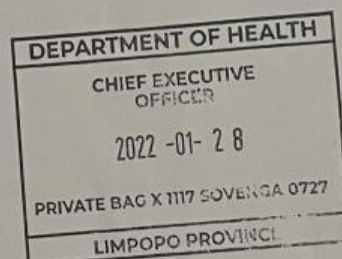
**REQUEST FOR PERMISSION TO CONDUCT RESEARCH AT MANKWENG HOSPITAL:
"EXPLORING THE ROLE OF COMMUNICATION OF MAMMOGRAPHERS DURING
IMAGING OF MASTECTOMY PATIENTS IN MANKWENG HOSPITAL, CAPRICORN
DISTRICT, LIMPOPO PROVINCE".**

1. The above matter has reference.
2. This is to confirm that the CEO has granted permission to conduct research on **"EXPLORING THE ROLE OF COMMUNICATION OF MAMMOGRAPHERS DURING IMAGING OF MASTECTOMY PATIENTS IN MANKWENG HOSPITAL, CAPRICORN DISTRICT, LIMPOPO PROVINCE"**.
3. Attached please find their application letter, approval from Provincial Office, Research Proposal, and Ethic Committee Clearance Certificate.

Yours in service delivery


Acting Chief Executive Officer
Dr. Muila SL

28/01/2022
Date



Private Bag X1117, SOVENGA, 0727 Tel: 015 286 1000 Fax: 015 267 0206
Houtbos Road, Sovenga

Restricted

The heartland of Southern Africa – development is about people!

NORTHERN RADIOLOGISTS

T/A



Tsatsi LDR & Modish MH Radiologists

Pr No. 0603937

PROF LDR TSATSI: MBCHB, FCRAD (D) SA

DR MH MODISHI: MBCHB, MMED RAD (DIAG) FCRAD (D) SA

DR MATHAVHANE MD: MBCHB, MMED RAD (DIAG)

DR DD SHIVAMBA: MBCHB, FCRAD (D) SA

Netcare Pholoso
Fax: 0865932493
PO Box 11678
Bendorpark
0700

Tel No: 015-296 6552 / 296 6553
email:admin@northernradiologists.co.za

Northern Radiologist
Cnr Grobler & Eland Avenue
Savannah
Polokwane
0699

Dear Ms MK Chego

RE: PERMISSION TO CONDUCT RESEARCH

Northern Radiologists hereby grant you permission to conduct research about **Exploring the role of communication of mammographers during imaging of mastectomy patients in Limpopo province.**

You are permitted to interview mammographers and patients in your research in a telephonic or face to face interview.

Good luck with your research.

Regards

Theliza Sakong

Manager

TSATSI LDR & MODISHI MH RADIOLOGISTS
T/A NORTHERN RADIOLOGISTS
PR NO.: 0603937
CELL: 072 098 9729
TEL: 015 296 6500



LIMPOPO

PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF HEALTH

PIETERSBURG/MANKWENG RESEARCH ETHICS COMMITTEE (PMREC)

ENQUIRIES: DR MA POOPEDI

DATE: 26 May 2022

MANAGER: CLINICAL RESEARCH

ananiaspopedi@gmail.com

REFERENCE : PMREC 31 March UL 2022/A

DATE : 26 May 2022

RESEARCHER : Miss MK Chego
(PRINCIPAL INVESTIGATOR)

RESEARCH : INDEPENDENT RESEARCH

DEPARTMENT : Diagnostic Radiology

Protocol Title : Exploring the role of communication between mammographers and patients during imaging in the selected hospitals in Limpopo province

Candidate: Miss MK Chego

Approval status: Not Approved

The following are comments from the committee

➤ **Third objective - development of strategies**

The third objective must be reflected in the (1) title of the study, and the (2) aim of the study. In the methods section of the protocol ensures that there is description of methodology that will be followed in obtaining this objective.

➤ **The bigger picture (section 10)**

The opinion of the researcher remains an assumption and should have been stated as such. Rephrasing alone does not solve the issue as the study population remains unclear.

➤ **Purpose of research design**

The researcher states that the research design provides a comprehensive understanding of the proposed research problem. As pointed out before, that is NOT the purpose of a research design. The design should be stated clearly.

➤ **Subsections 10.3 – 10.5 on sample**

Not clear, who the target population is? The sample frame (list from which units are drawn for the sample)? Who are the participants? Who will be included in the sample and who will be excluded from the sample?

➤ **Sampling technique allows for more knowledgeable participants**

Nothing has been changed or explained.

➤ **Stratification of the sample.**

How will over-representation/under-representation be prevented from one sector over another (**SEE** also subsection 1.7 above).

➤ **Appendages. (includes subsection 1.17)**

Organisation of appendages remains incomplete and needs to be reworked.

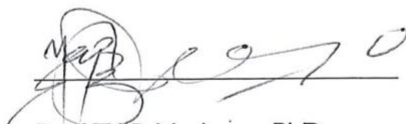
➤ **The question of POPI**

Cannot locate POPI in web documents of UP ethics committee. POPI is a legal document with a goal to protect data subjects from security breaches, theft, and discrimination by outlining eight principles in law. What about documents which focus on *ethics*? Like the enclosed Helsinki document for example? The UP ethics committee cites many *ethical* documents they adhere to.

The view of the committee is that the proposed research methodology is unable to measure what it intended to measure in order to solve the problem that led to the study (p9): '*. . . mammographers and patient seem to be less cognisant (having less knowledge or is less aware) of the role of communication of mammographers before, during and after the imaging patients post mastectomy*'. The following two studies are to be considered for the master's student to peruse:

- Nghipukuula, *et al* (2021) Effectiveness of communication between student radiographers and patients before, during and after radiographic procedures. (quantitative study)
- Pollard, *et al* (2019) Patient perception of communication with diagnostic radiographers (qualitative study)

SIGNED:



Prof TAB Mashego, PhD

Chairperson: Pietersburg/Mankweng Complex Research Ethics Committee

School of Medicine

University of Limpopo

REC 300408-006



Faculty of Health Sciences

Institution: The Research Ethics Committee, Faculty Health Sciences, University of Pretoria complies with ICH-GCP guidelines and has US Federal wide Assurance.

- FWA 00002567, Approved dd 22 May 2002 and Expires 03/20/2022.
- IORG #: IORG0001762 OMB No. 0990-0279 Approved for use through February 28, 2022 and Expires: 03/04/2023.

Ethics Reference No.: 592/2021 Title:

Dear Miss MK Chego

Approval Certificate New Application

Exploring the role of communication between Mammographers and patients during imaging in selected hospitals in Limpopo

province.

The **New Application** as supported by documents received between 2022-01-25 and 2022-02-23 for your research, was approved by the Faculty of Health Sciences Research Ethics Committee on its quorate meeting of 2022-02-23. Please note the following about your ethics approval:

- Ethics Approval is valid for 1 year and needs to be renewed annually by 2023-03-15.
- Please remember to use your protocol number (592/2021) on any documents or correspondence with the Research Ethics Committee regarding your research.
- Please note that the Research Ethics Committee may ask further questions, seek additional information, require further modification, monitor the conduct of your research, or suspend or withdraw ethics approval. **Ethics approval is subject to the following:**
 - The ethics approval is conditional on the research being conducted as stipulated by the details of all documents submitted to the Committee. In the event that a further need arises to change who the investigators are, the methods or any other aspect, such changes must be submitted as an Amendment for approval by the Committee.

We wish you the best with your research.

Yours sincerely

Dr R Sommers MBChB

MMed (Int) MPharmMed PhD **Deputy Chairperson** of the Faculty of Health Sciences Research Ethics Committee, University of Pretoria

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

15 March 2022



Research Ethics Committee
Room 4-80, Level 4, Tswelopele Building
University of Pretoria, Private Bag x323
Gezina 0031, South Africa
Tel +27 (0)12 356 3084
Email: deepika.behari@up.ac.za
www.up.ac.za

Fakulteit Gesondheidswetenskappe
Lefapha la Disaense e Maphelo

Annexure S

ATLAS.ti Report

Masters Katlego V2.0

Codes

Report created by Kathryn Malherbe on 13 Sep 2022

o Communication style

Used In Documents:

1 effect of mammo comms stuyle.docx

Quotations:

1:1 ¶ 1 – 11, yes not being sympathetic yes, must communicate better with them and elininate fear yes, must have u... in effect of mammo comms stuyle.docx

o How to improve comms

Used In Documents:

1 effect of mammo comms stuyle.docx 2 method of comms instead of medical terms.docx 3 method of comms.docx 8 need communication skills module in our syllabus.docx

Quotations:

1:1 ¶ 1 – 11, yes not being sympathetic yes, must communicate better with them and elininate fear yes, must have u... in effect of mammo comms stuyle.docx
 2:1 ¶ 1 – 11, use their language and lame terms instead of medical terms use language they can understand do demo... in method of comms instead of medical terms.docx
 3:1 ¶ 1 – 11, verbal, elderly patients and some are illiterate verbal, easy communication and patients can ask que... in method of comms.docx
 8:1 ¶ 1 – 11, need communication skills module in our syllabus we are doing our best, communication is okay satis... in need communication skills module in our syllabus.docx

Comment:

2022/09/13, 14:22, merged with
 use their language and lame terms instead of medical terms use language they can understand do demonstrations check listen again for the answer rec23 by explaining the process of tye examination ask assurance if they understand do demonstrations speak the same language and know their clinical history constantly ask if they are understand by doing demonstrations explain throughly and do demonstrations

2022/09/13, 14:22, merged with
 verbal, elderly patients and some are illiterate verbal, easy communication and patients can ask questions verbal, easy to see reaction if they understand verbal, explaining makes it easy to understand verbal, have posters as additions verbal, reading n comprehension differs from each individual verbal can expain and demonstrate for better understabding verbal, better understanding because of different languages verbal, convenient ans saves times verbal, have elderly patients who are illierate verbal because written communication might be confusing

2022/09/13, 14:23, merged with
 yes not being sympathetic yes, must communicate better with them and elininate fear yes, must have understanding yes, show kindness and explain the importance of regular check-ups yes, make them relax yes must have good attitude and communicate better yes if the experience was

not nice,they might not come back it does, if treated different or made uncomfortable yes must have clear communication yes the exam must not be uncomfortable yes, if theres understanding and are comfortable

○ Mammographers patient perceptions

Used In Documents:

4 embarrassed and uncomfortable at the beginning but they open up eventually.docx 5 yes.docx 6 some are knowledgable but a lot of the do not.docx 7 what patients ask.docx

Quotations:

4:1 ¶ 1 – 11, embarrassed and uncomfortable at the beginning but they open up eventually they have fear it good, l... in embarrassed and uncomfortable at the beginning but they open up eventually.docx

5:1 ¶ 1 – 12, yes,some want prostetics yes,especially the young ladies no enough experience with post mastectomies... in yes.docx

6:1 ¶ 1 – 11, some are knowledgable but a lot of the do not some of them do, but most elderly patients don not yes... in some are knowledgable but a lot of the do not.docx

7:1 ¶ 1 – 11, cancer is gone, do you see anything. Assure them will the cancer come back patients cme with a lot o... in what patients ask.docx

Comment:

2022/09/13, 14:22, merged with patient perceptions

2022/09/13, 14:22, merged with

some are knowledgable but a lot of the do not some of them do, but most elderly patients don not yes,they do their research prior to the exam no, most of them relay on mammographers for information some of them are knowledgable yes, some clinics give health talk no, they are mostly clueless why they come for a mammogram not really,most of them don't understand the stages and treatment plans not knowledgeable but open about their condition no, they are afraid to ask yes

2022/09/13, 14:23, merged with

yes,some want prostetics yes,especially the young ladies no enough experience with post mastectomies to elaborate further yes and shy to take off their clothes yes, some prefer lumpectomy yes and it depends on age, middle age are insecure and elderly patients are not self-conscience yes, loss of ferminity yes, most are uncomfortable yes, loss of womanhood yes,their ferminity and image is threaterned yes

○ Sentiment

Quotations:

1:2 ¶ 11, yes, if theres understanding and are comfortable in effect of mammo comms stuyale.docx 2:2 ¶ 1, use their language and lame terms instead of medical terms in method of comms instead of medical terms.docx

Linked Codes:

1:2 ¶ 11, yes, if theres understanding and are comfortable in effect of mammo comms stuyale.docx 2:2 ¶ 1, use their language and lame terms instead of medical terms in method of comms instead of medical terms.docx

○ Sentiment: Negative

Used In Documents:

2 method of comms instead of medical terms.docx

Quotations:

2:2 ¶ 1, use their language and lame terms instead of medical terms in method of comms instead of medical terms.docx

○ **Sentiment: Positive**

Used In Documents:

1 effect of mammo comms stuyale.docx

Quotations:

1:2 ¶ 11, yes, if theres understanding and are comfortable in effect of mammo comms stuyale.docx

A spread sheet for ptiens for question five.

number	code	document	number of code	answer
5.1		case 1	question 5	Indicate the mode of communication verbal, feel comfortable with it than reading
5.2		case 2	question 5	Indicate the mode of communication verbal communication
5.3		case 3	question 5	Indicate the mode of communication verbal, able to ask for clarity when confused and might not understand the written communication
5.4		case 4	question 5	Indicate the mode of communication verbal, can read the written but might not understand it
5.5		case 5	question 5	Indicate the mode of communication verbal because you might be able to read but miss or misunderstand certain things
5.6		case 6	question 5	Indicate the mode of communication verbal because I cant see properly and im old
5.7		case 7	question 5	Indicate the mode of communication verbal, I can not read
5.8		case 8	question 5	Indicate the mode of communication verbal, I can not read so I will understand better verbally
5.9		case 9	question 5	Indicate the mode of communication verbal, because we don't understand written communication the same way
5.10		case 10	question 5	Indicate the mode of communication verbal so that I can understand better
5.11		case 11	question 5	Indicate the mode of communication verbal, might misunderstand the written communication
5.12		case 12	question 5	Indicate the mode of communication verbal, I can not read
5.13		case 13	question 5	Indicate the mode of communication verbal because when you are scared and have fear written might be misunderstood
5.14		case 14	question 5	Indicate the mode of communication verbal, less confusing and more understandable
5.15		case 15	question 5	Indicate the mode of communication verbal because you might be able to read but misunderstand certain things
5.16		case 16	question 5	Indicate the mode of communication verbal, able to ask for clarity or questions when I don't understand
5.17		case 17	question 5	Indicate the mode of communication verbal, might not understand the language in the written communication
5.18		case 18	question 5	Indicate the mode of communication verbal, more understandable
5.19		case 19	question 5	Indicate the mode of communication verbal, can ask where you don't understand
5.20		case 20	question 5	Indicate the mode of communication verbal, can read but might forget what is written
5.21		case 21	question 5	Indicate the mode of communication verbal, might not understand the written communication
5.22		case 22	question 5	Indicate the mode of communication verbal, can read but might forget what is written
5.23		case 23	question 5	Indicate the mode of communication verbal, for those who cant read but written should be in an african language
5.24		case 24	question 5	Indicate the mode of communication verbal I can not read
5.25		case 25	question 5	Indicate the mode of communication verbal I can not read, verbal
5.26		case 26	question 5	Indicate the mode of communication verbal, did not go to school
5.27		case 27	question 5	Indicate the mode of communication verbal, might not understand some of the written words
5.28		case 28	question 5	Indicate the mode of communication verbal I can not read
5.29		case 29	question 5	Indicate the mode of communication verbal, I want someone to explain the procedure
5.30		case 30	question 5	Indicate the mode of communication verbal, can not read nor write
5.31		case 31	question 5	Indicate the mode of communication verbal
5.32		case 32	question 5	Indicate the mode of communication verbal written communication but in my language
5.33		case 33	question 5	
5.34		case 34	question 5	
5.35		case 35	question 5	

ANNEXURE R

Codes

Report created by Kathryn Malherbe on 14 Sep 2022

o african languages

Created: 2022/09/14 by Kathryn Malherbe, **Modified:** 2022/09/14 by Kathryn Malherbe

Quotations:

- ⊖ 19:4 ¶ 8, verbal , might not understand the language in the written communication in Case 19
- ⊖ 26:4 ¶ 8, both, for those who cant read but written should be in an african language in Case 26
- ⊖ 26:7 ¶ 14, have a translator in our home languages for us to understand better in Case 26
- ⊖ 27:7 ¶ 14, should know different languages in Case 27
- ⊖ 35:4 ¶ 8, written communication but in my language in Case 35

o comms after mammo

Created: 2022/09/14 by Kathryn Malherbe, **Modified:** 2022/09/14 by Kathryn Malherbe

Quotations:

- ⊖ 1:6 ¶ 12, I was satisfied in Case 1
- ⊖ 2:6 ¶ 12, I got the proper help in Case 2
- ⊖ 4:5 ¶ 10, it was good, no complains in Case 4
- ⊖ 5:6 ¶ 12, everything went well and helped properly in Case 5
- ⊖ 6:6 ¶ 12, was welcomed,treated well and was no harshness in Case 6
- ⊖ 7:6 ¶ 12, no fault, all went well in Case 7
- ⊖ 8:6 ¶ 12, satisfied in Case 8
- ⊖ 9:6 ¶ 12, was fine and spoke well in Case 9
- ⊖ 10:6 ¶ 12, satisfied and spoke well to me in Case 10
- ⊖ 11:6 ¶ 12, satisfied with everything in Case 11
- ⊖ 12:6 ¶ 12, no problem, all went well and im satisfied with the service in Case 12
- ⊖ 13:6 ¶ 12, satisfied and treated well in Case 13
- ⊖ 14:6 ¶ 12, all was well in Case 14
- ⊖ 15:6 ¶ 12, not harsh, im satisfied in Case 15
- ⊖ 16:6 ¶ 12, satisfied in Case 16
- ⊖ 17:6 ¶ 12, yes, no problem in Case 17
- ⊖ 18:6 ¶ 12, it was great in Case 18
- ⊖ 19:6 ¶ 12, yes I was treated well in Case 19
- ⊖ 20:6 ¶ 12, yes it did in Case 20
- ⊖ 21:6 ¶ 12, yes i was helped in Case 21
- ⊖ 22:6 ¶ 12, yes in Case 22
- ⊖ 23:6 ¶ 12, yes im satiesfied because she was gentle and nice in Case 23
- ⊖ 24:6 ¶ 12, well treated in Case 24
- ⊖ 25:6 ¶ 12, satisfied in Case 25
- ⊖ 26:6 ¶ 12, yes im satisfied in Case 26
- ⊖ 27:6 ¶ 12, yes it was okay in Case 27
- ⊖ 28:6 ¶ 12, have no complains or problem in Case 28
- ⊖ 29:6 ¶ 12, it was good, no complains in Case 29
- ⊖ 30:6 ¶ 12, yes in Case 30
- ⊖ 31:6 ¶ 12, yes im satisfied in Case 31
- ⊖ 32:6 ¶ 12, yes in Case 32
- ⊖ 33:6 ¶ 12, satisfied in Case 33
- ⊖ 34:6 ¶ 12, I was treated well in Case 34
- ⊖ 35:6 ¶ 12, welcomed, treated well and had no problems in Case 35

Groups:

- ◆ Codes from survey import

○ experience comms

Created: 2022/09/14 by Kathryn Malherbe, **Modified:** 2022/09/14 by Kathryn Malherbe

Quotations:

- ④ 1:2 ¶ 4, was friendly, helped nicely and im satisfied in Case 1
- ④ 2:2 ¶ 4, it was good in Case 2
- ④ 3:2 ¶ 4, there was no problem in Case 3
- ④ 5:2 ¶ 4, it was good in Case 5
- ④ 6:2 ¶ 4, im satisfied, everything was properly explained in Case 6
- ④ 7:2 ¶ 4, I had no problems in Case 7
- ④ 8:2 ¶ 4, I was welcomed well in Case 8
- ④ 9:2 ¶ 4, they spoke and treated me well in Case 9
- ④ 10:2 ¶ 4, everyone treated me well in Case 10
- ④ 11:2 ¶ 4, satisfied, it was fine in Case 11
- ④ 12:2 ¶ 4, everything was well, had no problems in Case 12
- ④ 13:2 ¶ 4, was treated well in Case 13
- ④ 14:2 ¶ 4, treated well, and gave me hope that I will be cured in Case 14
- ④ 15:2 ¶ 4, all was well in Case 15
- ④ 16:2 ¶ 4, communication was good in Case 16
- ④ 17:2 ¶ 4, she was gentle in Case 17
- ④ 18:2 ¶ 4, everything was well explained in Case 18
- ④ 19:2 ¶ 4, it was good and had an understanding in Case 19
- ④ 20:2 ¶ 4, everything went well in Case 20
- ④ 21:2 ¶ 4, not harsh, communication was fine in Case 21
- ④ 22:2 ¶ 4, same as other days, just fine in Case 22
- ④ 23:2 ¶ 4, it was okay, im satisfied in Case 23
- ④ 24:2 ¶ 4, treted well, spoke to me well in Case 24
- ④ 25:2 ¶ 4, spoke to me well and was gentle throughout in Case 25
- ④ 26:2 ¶ 4, it was good in Case 26
- ④ 27:2 ¶ 4, it was well, spoke to me properly in Case 27
- ④ 28:2 ¶ 4, did well in Case 28
- ④ 29:2 ¶ 4, it was a good experience in Case 29
- ④ 30:2 ¶ 4, it was okay in Case 30
- ④ 31:2 ¶ 4, it was good in Case 31
- ④ 32:2 ¶ 4, treated well, no problems in Case 32
- ④ 33:2 ¶ 4, great in Case 33
- ④ 34:2 ¶ 4, was not bad in Case 34
- ④ 35:2 ¶ 4, treated well tillthe end in Case 35

Groups:

- ◆ Codes from survey import

○ impression of mammographer

Created: 2022/09/14 by Kathryn Malherbe, **Modified:** 2022/09/14 by Kathryn Malherbe

Quotations:

- ④ 1:1 ¶ 2, treated well, no complains in Case 1
- ④ 2:1 ¶ 2, treated well, had no problems in Case 2
- ④ 3:1 ¶ 2, was treated well and did not have any problems in Case 3
- ④ 4:1 ¶ 2, was treated nicely and doctors were good, no complains in Case 4
- ④ 5:1 ¶ 2, it was a good welcome in Case 5
- ④ 6:1 ¶ 2, it was good and im pleased in Case 6
- ④ 7:1 ¶ 2, I had no problems in Case 7
- ④ 8:1 ¶ 2, had no problems, was welcomed and treated well in Case 8
- ④ 9:1 ¶ 2, communication was fine and there was understanding between us in Case 9
- ④ 10:1 ¶ 2, not rude, communication was good in Case 10
- ④ 11:1 ¶ 2, spoke to me well, felt at home in Case 11
- ④ 12:1 ¶ 2, was treated well, no complains in Case 12

- ⊕ 13:1 ¶ 2, it was okay in Case 13
- ⊕ 14:1 ¶ 2, the communication was well n was treated well in Case 14
- ⊕ 15:1 ¶ 2, I was scared but it was fine in Case 15
- ⊕ 16:1 ¶ 2, the treatment was fine in Case 16
- ⊕ 17:1 ¶ 2, it was alright but painful in Case 17
- ⊕ 18:1 ¶ 2, spoke well to me, no problems in Case 18
- ⊕ 19:1 ¶ 2, treated well and properly in Case 19
- ⊕ 20:1 ¶ 2, it was good in Case 20
- ⊕ 21:1 ¶ 2, they are alright in Case 21
- ⊕ 22:1 ¶ 2, the treatment was good in Case 22
- ⊕ 23:1 ¶ 2, they were okay, helped properly in Case 23
- ⊕ 24:1 ¶ 2, they spoke well with me in Case 24
- ⊕ 25:1 ¶ 2, I understood everything I was told in Case 25
- ⊕ 26:1 ¶ 2, they spoke well with me in Case 26
- ⊕ 27:1 ¶ 2, spoke to me properly in Case 27
- ⊕ 28:1 ¶ 2, spoke well to me, no problems in Case 28
- ⊕ 29:1 ¶ 2, treated well in Case 29
- ⊕ 30:1 ¶ 2, communication was good in Case 30
- ⊕ 31:1 ¶ 2, it was fine in Case 31
- ⊕ 32:1 ¶ 2, it was good, was treated well in Case 32
- ⊕ 33:1 ¶ 2, it was great in Case 33
- ⊕ 34:1 ¶ 2, it was well in Case 34
- ⊕ 35:1 ¶ 2, it was nice in Case 35

Groups:

- ◆ Codes from survey import

o mode of comms

Created: 2022/09/14 by Kathryn Malherbe, **Modified:** 2022/09/14 by Kathryn Malherbe

Quotations:

- ⊕ 1:4 ¶ 8, verbal, feel comfortable with it than reading in Case 1
- ⊕ 2:4 ¶ 8, verbal communication in Case 2
- ⊕ 3:4 ¶ 8, verbal, able to ask for clarity when confused and might not understand the written communication in Case 3
- ⊕ 4:3 ¶ 6, prefer verbal, I want someone to fully explain the procedure in Case 4
- ⊕ 5:4 ¶ 8, verbal, can read the written but might not understand it in Case 5
- ⊕ 6:4 ¶ 8, verbal because you might be able to read but miss or misunderstand certain things in Case 6
- ⊕ 7:4 ¶ 8, verbal because I can't see properly and I'm old in Case 7
- ⊕ 8:4 ¶ 8, verbal, I can not read in Case 8
- ⊕ 9:4 ¶ 8, verbal, I can not read so I will understand better verbally in Case 9
- ⊕ 10:4 ¶ 8, not educated/ learned so I will prefer verbal in Case 10
- ⊕ 11:4 ¶ 8, verbal, because we don't understand written communication the same way in Case 11
- ⊕ 12:4 ¶ 8, verbal so that I can understand better in Case 12
- ⊕ 13:4 ¶ 8, verbal, might misunderstand the written communication in Case 13
- ⊕ 14:4 ¶ 8, verbal, I can not read in Case 14
- ⊕ 15:4 ¶ 8, verbal because when you are scared and have fear written might be misunderstood in Case 15
- ⊕ 16:4 ¶ 8, verbal, less confusing and more understandable in Case 16
- ⊕ 17:4 ¶ 8, verbal because you might be able to read but misunderstand certain things in Case 17
- ⊕ 18:4 ¶ 8, verbal, able to ask for clarity or questions when I don't understand in Case 18
- ⊕ 19:4 ¶ 8, verbal, might not understand the language in the written communication in Case 19
- ⊕ 20:4 ¶ 8, verbal, more understandable in Case 20
- ⊕ 21:4 ¶ 8, both is okay in Case 21
- ⊕ 22:4 ¶ 8, verbal, can ask where you don't understand in Case 22
- ⊕ 23:4 ¶ 8, verbal, can read but might forget what is written in Case 23

- ⊗ 24:4 ¶ 8, verbal, might not understand the written communication in Case 24
- ⊗ 25:4 ¶ 8, verbal, can read but might forget what is written in Case 25
- ⊗ 26:4 ¶ 8, both, for those who cant read but written should be in an african language in Case 26
- ⊗ 27:4 ¶ 8, verbal I can not read in Case 27
- ⊗ 28:4 ¶ 8, I can not read, verbal in Case 28
- ⊗ 29:4 ¶ 8, verbal,I did not go to school in Case 29
- ⊗ 30:4 ¶ 8, verbal , might not understand some of the written words in Case 30
- ⊗ 31:4 ¶ 8, verbal I can not read in Case 31
- ⊗ 32:4 ¶ 8, prefer verbal, I want someone to explain the procedure in Case 32
- ⊗ 33:4 ¶ 8, verbal, can not read nor write in Case 33
- ⊗ 34:4 ¶ 8, verbal in Case 34
- ⊗ 35:4 ¶ 8, written communication but in my language in Case 35

Groups:

- ◆ Codes from survey import

○ questions related to BRCA

Created: 2022/09/14 by Kathryn Malherbe, **Modified:** 2022/09/14 by Kathryn Malherbe

Quotations:

- ⊗ 1:3 ¶ 6, yes, I asked if they can see anything in Case 1
- ⊗ 2:3 ¶ 6, I do ask questions ans they do answer in Case 2
- ⊗ 3:3 ¶ 6, no questions to ask in Case 3
- ⊗ 4:2 ¶ 4, when I ask questions they do answer in Case 4
- ⊗ 5:3 ¶ 6, yes, im comfortable to ask questions in Case 5
- ⊗ 6:3 ¶ 6, I was comfortable to ask questions. I asked if they can examine the tissue with breast in Case 6
- ⊗ 7:3 ¶ 6, all questionswere asnswered in Case 7
- ⊗ 8:3 ¶ 6, did not ask any question, thought they will automatically tell what was wrong in Case 8
- ⊗ 9:3 ¶ 6, I asked about the itchyess and peeling of the skin and my questions werewelcomed in Case 9
- ⊗ 10:3 ¶ 6, did not ask questions in Case 10
- ⊗ 11:3 ¶ 6, I did not have questions in Case 11
- ⊗ 12:3 ¶ 6, everything was explained at the beginning so I had no questions in Case 12
- ⊗ 13:3 ¶ 6, I had no questions in Case 13
- ⊗ 14:3 ¶ 6, no questions but I believe they will be comfortable to answer if I had any in Case 14
- ⊗ 15:3 ¶ 6, what causes the cancer and they answered in Case 15
- ⊗ 16:3 ¶ 6, did not have questions to ask in Case 16
- ⊗ 17:3 ¶ 6, no questions, maybe after I get the results in Case 17
- ⊗ 18:3 ¶ 6, no questions in Case 18
- ⊗ 19:3 ¶ 6, no questions, did not know I was allowed to ask in Case 19
- ⊗ 20:3 ¶ 6, no questions to ask, did know I was suppose to ask any in Case 20
- ⊗ 21:3 ¶ 6, I was scared to ask in Case 21
- ⊗ 22:3 ¶ 6, asked about the pain I feel around the scar in Case 22
- ⊗ 23:3 ¶ 6, asked if they will do a mammogram if I was pregnant and they welcomed my question in Case 23
- ⊗ 24:3 ¶ 6, whats causes cancer and I understood the answer in Case 24
- ⊗ 25:3 ¶ 6, no questions, I cme here annually in Case 25
- ⊗ 26:3 ¶ 6, asked if I was okay or not in Case 26
- ⊗ 27:3 ¶ 6, no questios for the mammographer in Case 27
- ⊗ 28:3 ¶ 6, did not have questions to ask in Case 28
- ⊗ 29:3 ¶ 6, no questions to ask in Case 29
- ⊗ 30:3 ¶ 6, no questions to ask in Case 30
- ⊗ 31:3 ¶ 6, was there anything wrong and were comfortable to answer in Case 31
- ⊗ 32:3 ¶ 6, no questions to ask in Case 32
- ⊗ 33:3 ¶ 6, did not ask questions, I was scared to ask in Case 33
- ⊗ 34:3 ¶ 6, no questions in Case 34
- ⊗ 35:3 ¶ 6, asked about how painful ist going to be in Case 35

Groups:

- ◆ Codes from survey import

○ **suggestions**

Created: 2022/09/14 by Kathryn Malherbe, **Modified:** 2022/09/14 by Kathryn Malherbe

Quotations:

- ⊕ 1:7 ¶ 14, no recommendations, everything was fine in Case 1
- ⊕ 2:7 ¶ 14, no recommendations in Case 2
- ⊕ 3:7 ¶ 14, compression is a bit painful, is there a way to make it less painful in Case 3
- ⊕ 4:6 ¶ 12, no recommendations, everything was fine in Case 4
- ⊕ 5:7 ¶ 14, explain further for first time comers and explain the importance of amammogram in Case 5
- ⊕ 6:7 ¶ 14, comfortable with everything, in Case 6
- ⊕ 7:7 ¶ 14, no recommendations in Case 7
- ⊕ 8:7 ¶ 14, pleased with everything in Case 8
- ⊕ 9:7 ¶ 14, no recommendations in Case 9
- ⊕ 10:7 ¶ 14, no recommendations in Case 10
- ⊕ 11:7 ¶ 14, good how they communicate, no recommendation in Case 11
- ⊕ 12:7 ¶ 14, no recommendations in Case 12
- ⊕ 13:7 ¶ 14, mammographers should be more welcoming and open to patient so that patients can feel comfortable aro... in Case 13
- ⊕ 14:7 ¶ 14, the communication is okay in Case 14
- ⊕ 15:7 ¶ 14, you know your job better, no recommendation in Case 15
- ⊕ 16:7 ¶ 14, no recommendations in Case 16
- ⊕ 17:7 ¶ 14, no recommendations in Case 17
- ⊕ 18:7 ¶ 14, give more information about lumps that not all of them are cancerous and more support for comfort in Case 18
- ⊕ 19:7 ¶ 14, no recommendations in Case 19
- ⊕ 20:7 ¶ 14, nothing for now in Case 20
- ⊕ 21:7 ¶ 14, remind us of our appointment date a day before because we forget in Case 21
- ⊕ 22:7 ¶ 14, everything was okay therefore no recommendations in Case 22
- ⊕ 23:7 ¶ 14, continue being nice and the good communication helps us to feel comfortable and removes the anxiety... in Case 23
- ⊕ 24:7 ¶ 14, no recommendations in Case 24
- ⊕ 25:7 ¶ 14, treatment is good, continue as you've been working in Case 25
- ⊕ 26:7 ¶ 14, have a translator in our home languages for us to understand better in Case 26
- ⊕ 27:7 ¶ 14, should know different languages in Case 27
- ⊕ 28:7 ¶ 14, no recommendations in Case 28
- ⊕ 29:7 ¶ 14, no recommendations in Case 29
- ⊕ 30:7 ¶ 14, when explaining the procedure used simple and basic terms for patients to understand in Case 30
- ⊕ 31:7 ¶ 14, no recommendations in Case 31
- ⊕ 32:7 ¶ 14, everything was fine, no complains therefore no recommendations in Case 32
- ⊕ 33:7 ¶ 14, no recommendations, continue how you are working in Case 33
- ⊕ 34:7 ¶ 14, no recommendations, everything was fine in Case 34
- ⊕ 35:7 ¶ 14, no recommendations in Case 35

Groups:

- ◆ Codes from survey import

○ **trust and comfort to mammographers**

Created: 2022/09/14 by Kathryn Malherbe, **Modified:** 2022/09/14 by Kathryn Malherbe

Quotations:

- ⊕ 2:3 ¶ 6, I do ask questions ans they do answer in Case 2
- ⊕ 4:2 ¶ 4, when I ask questions they do answer in Case 4

- ⊕ 5:3 ¶ 6, yes, im comfortable to ask questions in Case 5
- ⊕ 6:3 ¶ 6, I was comfortable to ask questions. I asked if they can examine the tissue with breast in Case 6
- ⊕ 8:3 ¶ 6, did not ask any question, thought they will automatically tell what was wrong in Case 8
- ⊕ 9:3 ¶ 6, I asked about the itchy and peeling of the skin and my questions werewelcomed in Case 9
- ⊕ 12:3 ¶ 6, everything was explained at the beginning so I had no questions in Case 12
- ⊕ 14:3 ¶ 6, no questions but I believe they will be comfortable to answer if I had any in Case 14
- ⊕ 16:3 ¶ 6, did not have questions to ask in Case 16
- ⊕ 18:4 ¶ 8, verbal, able to ask for clarity or questions when I don't understand in Case 18
- ⊕ 19:3 ¶ 6, no questions, did not know I was allowed to ask in Case 19
- ⊕ 20:3 ¶ 6, no questions to ask, did know I was suppose to ask any in Case 20
- ⊕ 23:3 ¶ 6, asked if they will do a mammogram if I was pregnant and they welcomed my question in Case 23
- ⊕ 24:5 ¶ 10, I trust you and i feel free to ask any question in Case 24
- ⊕ 28:3 ¶ 6, did not have questions to ask in Case 28
- ⊕ 33:3 ¶ 6, did not ask questions, I was scared to ask in Case 33

○ trust factor mammographer

Created: 2022/09/14 by Kathryn Malherbe, **Modified:** 2022/09/14 by Kathryn Malherbe

Quotations:

- ⊕ 1:5 ¶ 10, yes, mammographers allow you to be open in Case 1
- ⊕ 2:5 ¶ 10, yes,im free and do not have a problem talking to them in Case 2
- ⊕ 3:5 ¶ 10, yes I trust mammographers. They give relevent information in Case 3
- ⊕ 4:4 ¶ 8, yes im free to talk about my feelings in Case 4
- ⊕ 5:5 ¶ 10, if I have something to share or a problem I can talk to mammographers in Case 5
- ⊕ 6:5 ¶ 10, I like talking to mammographers, they are helping us in Case 6
- ⊕ 7:5 ¶ 10, yes I feel comfortable to open up in Case 7
- ⊕ 8:5 ¶ 10, I did not know I can talk to mammographers about my feelings in Case 8
- ⊕ 9:5 ¶ 10, yes I can explain my problems in Case 9
- ⊕ 10:5 ¶ 10, you are profesonals so I can trust and be comfortable around you in Case 10
- ⊕ 11:5 ¶ 10, I feel free to talk in Case 11
- ⊕ 12:5 ¶ 10, because they are gentle, I trust then and free to talk to them in Case 12
- ⊕ 13:5 ¶ 10, I'd feel free to talk if they ask how I was feeling in Case 13
- ⊕ 14:5 ¶ 10, I will feel free to talk to them in Case 14
- ⊕ 15:5 ¶ 10, yesi feel comfortable in Case 15
- ⊕ 16:5 ¶ 10, yes I feel comfortable to open up in Case 16
- ⊕ 17:5 ¶ 10, yes in Case 17
- ⊕ 18:5 ¶ 10, yes because you are well trained and professional I can trust you in Case 18
- ⊕ 19:5 ¶ 10, yes in Case 19
- ⊕ 20:5 ¶ 10, yes, because I did not receive any bad attitude in Case 20
- ⊕ 21:5 ¶ 10, yes the communication is good so I can trust them in Case 21
- ⊕ 22:5 ¶ 10, yes because the mammographer was friendly and gentle in Case 22
- ⊕ 23:5 ¶ 10, yes I feel comfortable talking in Case 23
- ⊕ 24:5 ¶ 10, I trust you and i feel free to ask any question in Case 24
- ⊕ 25:5 ¶ 10, I have no problem or doubt, I can trust them in Case 25
- ⊕ 26:5 ¶ 10, yes I trust them in Case 26
- ⊕ 27:5 ¶ 10, yes I do not have a problem in Case 27
- ⊕ 28:5 ¶ 10, yes because they treat us well in Case 28
- ⊕ 29:5 ¶ 10, yes I can trust them in Case 29
- ⊕ 30:5 ¶ 10, yes I can be comfortable in Case 30
- ⊕ 31:5 ¶ 10, yes I can trust them in Case 31
- ⊕ 32:5 ¶ 10, yes I trust them in Case 32
- ⊕ 33:5 ¶ 10, yes depending on how I was treated in Case 33
- ⊕ 34:5 ¶ 10, yes in Case 34
- ⊕ 35:5 ¶ 10, yes I trust them in Case 35

Groups:

◆ Codes from survey import

o verbal vs written comms

Created: 2022/09/14 by Kathryn Malherbe, **Modified:** 2022/09/14 by Kathryn Malherbe

Quotations:

- ⊖ 3:4 ¶ 8, verbal, able to ask for clarity when confused and might not understand the written communication in Case 3
- ⊖ 9:1 ¶ 2, communication was fine and there was understanding between us in Case 9
- ⊖ 10:1 ¶ 2, not rude, communication was good in Case 10
- ⊖ 11:4 ¶ 8, verbal, because we don't understand written communication the same way in Case 11
- ⊖ 13:4 ¶ 8, verbal, might misunderstand the written communication in Case 13
- ⊖ 14:1 ¶ 2, the communication was well n was treated well in Case 14
- ⊖ 14:7 ¶ 14, the communication is okay in Case 14
- ⊖ 16:2 ¶ 4, communication was good in Case 16
- ⊖ 19:4 ¶ 8, verbal, might not understand the language in the written communication in Case 19
- ⊖ 21:2 ¶ 4, not harsh, communication was fine in Case 21
- ⊖ 21:5 ¶ 10, yes the communication is good so I can trust them in Case 21
- ⊖ 23:7 ¶ 14, continue being nice and the good communication helps us to feel comfortable and removes the anxiety... in Case 23
- ⊖ 30:1 ¶ 2, communication was good in Case 30
- ⊖ 35:4 ¶ 8, written communication but in my language in Case 35

[ANNEXURE T](#)

OPEN ACCESS May 5, 2015

Critical Synthesis Package: The Kalamazoo Consensus Statement Assessment Tools

[Michelle Yoon, PhD](#)

[Veronica Michaelsen, MD, PhD](#)

https://doi.org/10.15766/mep_2374-8265.10098

- Sections

•

Tools

[Share](#)

Abstract

This Critical Synthesis Package contains: (1) a Critical Analysis of the psychometric properties and the application to health science education of the Kalamazoo Consensus Statement (KCS) Assessment Tools, and (2) a copy of each of the three instruments comprising the KCS Assessment Tools developed by Elizabeth A. Rider, MSW, MD.

The KCS Assessment Tools are three content-valid, paper-based instruments that assess physician-patient communication skills. The Kalamazoo Essential Elements Communication Checklist (KEECC) is the original instrument. The Kalamazoo Essential Elements Communication Checklist-Adapted (KEECC-A) is an updated, construct-valid version. This version was then further adapted into another multi-rater version, the Gap-Kalamazoo Communication Skills Assessment Form (GKCSAF). All three instruments use Likert scales, while the GKCSAF employs additional two forced-choice and two free-text items. The KEECC and KEECC-A are completed by medical educators who rate learners on seven communication skill competencies: Build A Relationship, Open The Discussion, Gather Information, Understand The Patient's Perspective, Share Information, Reach Agreement, Provide Closure. The GKCSAF is completed by the learner (or team, if applicable), and one or more additional raters, such as standardized patients, or faculty instructors. Learners are rated on the same seven competencies as the KEECC and KEECC-A, and two additional communication dimensions: Demonstrates Empathy and Communicates Accurate Information. These instruments were designed for use at all levels of medical education and can be used as formative and summative assessment tools or as a clerkship teaching tool to evaluate actual and simulated physician-patient communication encounters. The GKCSAF has high reliability and internal consistency, but modest interrater reliability. Content and construct validity were good, criterion-related validity was modest, and convergent validity is presently unable to be established. Continuing evaluation and research are necessary for establishing validity and reliability, and to advance research in teaching and assessing physician-patient communication skills.

Educational Objectives

1. To describe the purpose and basic properties of the Kalamazoo Consensus Statement (KCS) Assessment Tools, including number of items and scales, and psychometric properties;
2. To describe the application of the KCS Assessment Tools to the field of health sciences education;
3. To evaluate the relative strengths and weaknesses of the KCS Assessment Tools; and

4. To provide the KCS Assessment Tools and supplemental materials to aid in its administration.

ANNEXURE U

ICF CORE SETS FOR BRAST CANCER

BRIEF ICF CORE SET for BREAST CANCER

BODY FUNCTIONS = physiological functions of body systems (including psychological functions)	
b130	Energy and drive functions General mental functions of physiological and psychological mechanisms that cause the individual to move towards satisfying specific needs and general goals in a persistent manner. <i>Inclusions:</i> functions of energy level, motivation, appetite, craving (including craving for substances that can be abused) and impulse control <i>Exclusions:</i> consciousness functions (b110); temperament and personality functions (b126); sleep functions (b134); psychomotor functions (b147); emotional functions (b152)
b134	Sleep functions General mental functions of periodic, reversible and selective physical and mental disengagement from one's immediate environment accompanied by characteristic physiological changes. <i>Inclusions:</i> functions of amount of sleeping, and onset, maintenance and quality of sleep; functions involving the sleep cycle, such as in insomnia, hypersomnia and narcolepsy <i>Exclusions:</i> consciousness functions (b110); energy and drive functions (b130); attention functions (b140); psychomotor functions (b147)
b152	Emotional functions Specific mental functions related to the feeling and affective components of the processes of the mind. <i>Inclusions:</i> functions of appropriateness of emotion, regulation and range of emotion; affect; sadness, happiness, love, fear, anger, hate, tension, anxiety, joy, sorrow; lability of emotion; flattening of affect <i>Exclusions:</i> temperament and personality functions (b126); energy and drive functions (b130)
b180	Experience of self and time functions Specific mental functions related to the awareness of one's identity, one's body, one's position in the reality of one's environment and of time. <i>Inclusions:</i> functions of experience of self, body image and time
b280	Sensation of pain Sensation of unpleasant feeling indicating potential or actual damage to some body structure. <i>Inclusions:</i> sensations of generalized or localized pain in one or more body part, pain in a dermatome, stabbing pain, burning pain, dull pain, aching pain; impairments such as myalgia, analgesia and hyperalgesia
b435	Immunological system functions Functions of the body related to protection against foreign substances, including infections, by specific and non-specific immune responses. <i>Inclusions:</i> immune response (specific and non-specific); hypersensitivity reactions; functions of lymphatic vessels and nodes; functions of cell-mediated immunity, antibody-mediated immunity; response to immunization; impairments such as in autoimmunity, allergic reactions, lymphadenitis and lymphoedema <i>Exclusion:</i> haematological system functions (b430)
b640	Sexual functions Mental and physical functions related to the sexual act, including the arousal, preparatory, orgasmic and resolution stages. <i>Inclusions:</i> functions of the sexual arousal, preparatory, orgasmic and resolution phase; functions related to sexual interest, performance, penile erection, clitoral erection, vaginal lubrication, ejaculation, orgasm; impairments such as in impotence, frigidity, vaginismus, premature ejaculation, priapism and delayed ejaculation <i>Exclusions:</i> procreation functions (b660); sensations associated with genital and reproductive functions (b670)
b710	Mobility of joint functions Functions of the range and ease of movement of a joint. <i>Inclusions:</i> functions of mobility of single or several joints, vertebral, shoulder, elbow, wrist, hip, knee, ankle, small joints of hands and feet; mobility of joints generalized; impairments such as in hypermobility of joints, frozen joints, frozen muscles, arthritis <i>Exclusions:</i> stability of joint functions (b715); control of voluntary movement functions (b760)

BODY STRUCTURES

= anatomical parts of the body such as organs, limbs and their components

s420	Structure of immune system
s630	Structure of reproductive system
s720	Structure of shoulder region

ACTIVITIES AND PARTICIPATION	
= execution of a task or action by an individual and involvement in a life situation	
d230	Carrying out daily routine Carrying out simple or complex and coordinated actions in order to plan, manage and complete the requirements of day-to-day procedures or duties, such as budgeting time and making plans for separate activities throughout the day. <i>Inclusions: managing and completing the daily routine; managing one's own activity level</i> <i>Exclusion: undertaking multiple tasks (d220)</i>
d240	Handling stress and other psychological demands Carrying out simple or complex and coordinated actions to manage and control the psychological demands required to carry out tasks demanding significant responsibilities and involving stress, distraction or crises, such as driving a vehicle during heavy traffic or taking care of many children. <i>Inclusions: handling responsibilities; handling stress and crisis</i>
d430	Lifting and carrying objects Raising up an object or taking something from one place to another, such as when lifting a cup or carrying a child from one room to another. <i>Inclusions: lifting, carrying in the hands or arms, or on shoulders, hip, back or head; putting down</i>
d445	Hand and arm use Performing the coordinated actions required to move objects or to manipulate them by using hands and arms, such as when turning door handles or throwing or catching an object <i>Inclusions: pulling or pushing objects; reaching; turning or twisting the hands or arms; throwing; catching</i> <i>Exclusion: fine hand use (d440)</i>
d640	Doing housework Managing a household by cleaning the house, washing clothes, using household appliances, storing food and disposing of garbage, such as by sweeping, mopping, washing counters, walls and other surfaces; collecting and disposing of household garbage; tidying rooms, closets and drawers; collecting, washing, drying, folding and ironing clothes; cleaning footwear; using brooms, brushes and vacuum cleaners; using washing machines, driers and irons. <i>Inclusions: washing and drying clothes and garments; cleaning cooking area and utensils; cleaning living area; using household appliances; storing daily necessities and disposing of garbage</i> <i>Exclusions: acquiring a place to live (d610); acquisition of goods and services (d620); preparing meals (d630); caring for household objects (d650); caring for others (d660)</i>
d760	Family relationships Creating and maintaining kinship relationships, such as with members of the nuclear family, extended family, foster and adopted family and step-relationships, more distant relationships such as second cousins or legal guardians. <i>Inclusions: parent-child and child-parent relationships; sibling and extended family relationships</i>
d770	Intimate relationships Creating and maintaining close or romantic relationships between individuals, such as husband and wife, lovers or sexual partners. <i>Inclusions: romantic, spousal and sexual relationships</i>
d850	Remunerative employment Engaging in all aspects of work, as an occupation, trade, profession or other form of employment, for payment, as an employee, full or part time, or self-employed, such as seeking employment and getting a job, doing the required tasks of the job, attending work on time as required, supervising other workers or being supervised, and performing required tasks alone or in groups. <i>Inclusions: self-employment, part-time and full-time employment</i>

ENVIRONMENTAL FACTORS	
= make up the physical, social and attitudinal environment in which people live and conduct their lives	
e115	Products and technology for personal use in daily living Equipment, products and technologies used by people in daily activities, including those adapted or specially designed, located in, on or near the person using them. <i>Inclusions: general and assistive products and technology for personal use</i>
e310	Immediate family Individuals related by birth, marriage or other relationship recognized by the culture as immediate family, such as spouses, partners, parents, siblings, children, foster parents, adoptive parents and grandparents. <i>Exclusions: extended family (e315); personal care providers and personal assistants (e340)</i>
e320	Friends Individuals who are close and ongoing participants in relationships characterized by trust and mutual support.
e355	Health professionals All service providers working within the context of the health system, such as doctors, nurses, physiotherapists, occupational therapists, speech therapists, audiologists, orthotist-prosthetists, medical social workers. <i>Exclusion: other professionals (e360)</i>
e410	Individual attitudes of immediate family members General or specific opinions and beliefs of immediate family members about the person or about other matters (e.g. social, political and economic issues) that influence individual behaviour and actions.
e420	Individual attitudes of friends General or specific opinions and beliefs of friends about the person or about other matters (e.g. social, political and economic issues) that influence individual behaviour and actions.
e450	Individual attitudes of health professionals General or specific opinions and beliefs of health professionals about the person or about other matters (e.g. social, political and economic issues) that influence individual behaviour and actions.
e570	Social security services, systems and policies Services, systems and policies aimed at providing income support to people who because of age, poverty, unemployment, health condition or disability require public assistance that is funded either by general tax revenues or contributory schemes. <i>Exclusion: economic services, systems and policies (e565)</i>
e580	Health services, systems and policies Services, systems and policies for preventing and treating health problems, providing medical rehabilitation and promoting a healthy lifestyle. <i>Exclusion: general social support services, systems and policies (e575)</i>
e590	Labour and employment services, systems and policies Services, systems and policies related to finding suitable work for persons who are unemployed or looking for different work, or to support individuals already employed who are seeking promotion. <i>Exclusion: economic services, systems and policies (e565)</i>

ANNEXURE W

LANGUAGE EDITERS CERTIFICATE

12/9/22, 1:00 PM

Ann W Editing Certificate - .jpg

LET'S EDIT

EDITING CERTIFICATE

09 November 2022

TO WHOM IT MAY CONCERN

DECLARATION: Editing of Research Report

I, Christelle van der Colff, professional, qualified and practising editor, hereby confirm that I proofread, formatted and edited the style, layout (numbering, pagination and heading format), references (reconciliation of citations and the accompanying reference list) and language (spelling, grammar, punctuation, consistency) of a research report titled **EXPLORING THE ROLE OF COMMUNICATION BETWEEN MAMMOGRAPHERS AND PATIENTS DURING IMAGING IN SELECTED HOSPITALS IN LIMPOPO PROVINCE** to be submitted to the University of Pretoria. I did no structural rewriting of the content. Changes were suggested in track changes and **MK Chego** has the prerogative to accept, delete or change amendments made by the editor before submission. I am, therefore, not accountable for any changes made to this document by MK Chego or any other part subsequent to my edit. The edited work described here may, therefore, not be identical to the final copy submitted for examination purposes.

As the editor, I am not responsible for detecting or removing passages in the document that closely resemble other texts and could, therefore, be viewed as plagiarism.

Name of Editor: Christelle van der Colff

Qualification: Master's Degree in Applied Linguistics and Literary Theory (Research Development) (*cum laude*); BA Honours Degree: Applied Linguistics: Translation, Interpreting and Editing; BA Language Practitioners

Signature: ✍

Let's Edit is a Level 1 EME B-BBEE Contributor (Procurement Recognition Level = 135%)

Address: **570 Fehrsen Street, Brooklyn Bridge Office Park, Brooklyn, Pretoria, 0181**
Tel No.: **012 433 6584**, Fax No.: **086 267 2164** and Email Address: **editor@letsedit.co.za**

<https://mail.google.com/mail/u/0/#sent/FMfcgzGrbRWgDvpmzKLCrMqIKsXKRDfr?projector=1&messagePartId=0.1.53>

1/1