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**Sonographers' experiences of being a caring professional within
private practice in the province of Gauteng**

By

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A research dissertation submitted in the fulfilment of the requirements of the degree:

MAGISTER TECHNOLOGIAE DEGREE IN RADIOGRAPHY

In the

**Department of Medical Imaging and Radiation Sciences Faculty of
Health Sciences, University of Johannesburg**

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DECLARATION

I declare that this dissertation is my own, unaided work. It is being submitted for the degree of Master of Technology at the University of Johannesburg, South Africa. It has not been submitted before for any degree or examination in any other learning institution.

Signature: _____ Date: 27/05/2019



DEDICATION

This dissertation is dedicated to my Heavenly Father, Jesus Christ, the

One who blesses me beyond measure:

I love You Lord

Oh Your mercy never fails me All
my days

I've been held in Your hands
From the moment that I wake up Until
I lay my head

I will sing of the goodness of God

All my life You have been faithful
All my life You have been so, so good
With every breath that I am able
I will sing of the goodness of God

I love Your voice

You have led me through the fire
In darkest nights

You are close like no other
I've known You as a father

I've known You as a friend

I have lived in the goodness of God

Your goodness is running after, it's running after me

Your goodness is running after, it's running after me

With my life laid down, I'm surrendered now, I give You everything

Your goodness is running after, it's running after me.

Bethel music, Jen Johnson

ACKNOWLEDGEMENTS

I would like to express my sincere gratitude to so many special people who contributed to this study and to those who made it possible for me to complete this dissertation:

- ❖ To my warrior woman supervisor, Mrs Naidoo, thank you for working me to the bone! You are an absolutely exceptional person with such passion for everything you do. Thank you for all your effort, patience and support.

You have inspired me so much and it was an honour to work with you.

- ❖ To my supervisor, Ms Yasmin Casmod, thank you for believing in me and for all your patience. I would not have embarked on this journey if it weren't for you. I owe you one!
- ❖ To my supervisor, Mr Sibusiso Mdletshe, thank you for keeping me calm and for the emotional and financial support. You are a respected man.
- ❖ To my very special Emma, I would not have been able to complete this study if it weren't for your endless support and motivation. Thank you for believing in me. You are an angel and I am truly blessed with you, I love you!
- ❖ To my mother, Leah, thank you for being there from the very first day. Thank you for your effort and for always going out of your way to support me in my career. I love you!
- ❖ Thank you to my friends and family for your patience, support and understanding.

ABSTRACT

Caring is a significant element in the healthcare profession, including sonography, and is associated with vital patient outcomes in medicine, such as adherence to treatment and symptom relief (Zamanzadeh, Azimzadeh, Rahmani & Valizadeh, 2010:10; Quirk, Mazor, Haley, Philbin, Fischer, Sullivan & Hatem, 2008:359). Paulson (2004:359) describes patient care and caring as two different concepts. Patient care is associated with physiological and medical care. Conversely, caring for patients is described as a humanistic manner of sincerely caring for and interacting with patients (Quirk *et al.*, 2008:359). Several studies have been done on caring in nursing and therapy radiography, but there was no evidence during the literature review that explored caring in sonography.

Ethical approval for the study (REC-01-34-2018) was obtained from the Research Ethics Committee at the University of Johannesburg. The purpose of this phenomenological study was to explore and describe the sonographers' experiences of being a caring professional within private practices in Gauteng. The research population included qualified sonographers registered with the Health Professions Council of South Africa (HPCSA). Data collection took place in the form of focus group interviews, in a neutral environment outside the radiology department. Four focus groups were conducted until data saturation was obtained. A total of 14 sonographers participated. The interviews were audiorecorded and extensive field notes were taken.

Thematic data analysis was used by transcribing interviews and sorting field notes, organising, ordering and sorting the data and repeatedly listening to and reading or viewing the material collected. Four themes emerged: the effects of a caring relationship between sonographer and patient; circumstances limiting a sonographer from being a caring professional; sonographers' approach to caring; educational readiness of sonographers to be caring professionals.

The participants in this study portrayed a sense of professional pride and shared numerous stories regarding trusting relationships with patients. However, they encountered many challenges as a caring professional, both physically and emotionally. It is crucial to recognise these challenges and the importance of improving the well-being of the sonographer. This will ensure a healthy sonographer that will ultimately exhibit sufficient caring towards patients and thus enhance patient satisfaction. Guidelines and recommendations were developed for concerns that were identified in some themes. The purpose was to alleviate challenges and enhance caring in sonography.



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ABBREVIATIONS

BRAD	Bachelor of Diagnostic Ultrasound
BTECH	Baccalaureus Technologiae (Radiography-Ultrasound)
HPCSA	Health Professions Council of South Africa
MIRS	Medical Imaging and Radiation Sciences
PPI	Positive psychology intervention
TCM	The Caring Model
UJ	University of Johannesburg

CHAPTER 1 AN OVERVIEW OF THE STUDY

Therefore, as God's chosen people, holy and dearly loved, clothe yourselves with compassion, kindness, humility, gentleness and patience.

Colossians 3:12 (NIV)

1.1 INTRODUCTION

The use of ultrasound in medicine began during World War II in several institutions around the world (Gibbs, 2013:164). Sonography is a multifaceted area of practice which consists of a wide range of applications (Gibbs, 2013:164). Diagnostic medical sonography is a non-invasive procedure that is considered to be patient-safe. This imaging modality uses high frequency sound waves to produce echoes within the human body (Ehrlich & Daly, 2009:373; Gibbs, 2013:164). As the echoes return to the transducer, their timing and strength are interpreted by a computer, after which an image is produced that represents the echo distribution (Ehrlich & Daly, 2009:373). Sonography is a subdivision of special imaging modalities and is operated by sonographers with a high level of training who have advanced level certification (Ehrlich & Daly, 2009:357).

Medical technology is more advanced in comparison to previous years and sonography has improved over the past 40 years as technological advancements have extended the diagnostic capabilities of ultrasound (Gibbs, 2013:164; Moller, 2016:309). These advances, together with the improvements in scientific knowledge and new techniques, have brought tremendous improvements to healthcare services (Da Costa, Santos, Junior, Vitor, Salvador & Alves, 2017:71). Sanders and Winter (2007:35) define a sonographer as a healthcare professional who operates ultrasound equipment and who has learned the skill of high-quality sonography. A sonographer's responsibility is to integrate patient history and accurately operate ultrasound equipment to produce high-

quality images for the interpretation of abnormalities (Dupree, 2017; University of Johannesburg, 2018).

Furthermore, the common responsibilities of a sonographer include the following (University of Johannesburg, 2018):

- Detecting fetal abnormalities and monitoring their development.
- Identifying abnormalities in the abdomen, pelvis and superficial parts such as the thyroid, breasts and testes.
- Using Doppler ultrasound to interpret and investigate blood vessels.
- Evaluating the heart through echocardiography.
- Detecting sport injuries through a sonographer's musculo-skeletal scanning techniques.

The above practices require the sonographer to have constant, individual and prolonged interaction with patients. During this time of interaction, the sonographer is expected to be a caring professional.

Caring is the moral ideal of a healthcare professional (Baldursdottir & Jonsdottir, 2002:68). Caring has no fixed definition and varies among cultures, but it is often described as the moral ideal which ultimately results in genuineness, commitment and kindness towards others (Baldursdottir & Jonsdottir, 2002:68). This results in the protection and enrichment of human dignity (Nadelson, Zigmond, Nadelson, Scadden & Collins, 2016; Brousseau, Cara & Blais, 2017:2; Baldursdottir & Jonsdottir, 2002:68).

Zamanzadeh, Azimzadeh, Rahmani and Valizadeh (2010:10) identify two aspects of caring: instrumental activities and expressive aspects. The instrumental activities consist of giving bed baths and providing medical information, and the expressive aspect is providing emotional support to the patient through offers of confidence, hope and emotional warmth (Zamanzadeh *et al.*, 2010:10; Karlou, Papathanassoglou &

Patiraki, 2015:245; Widmark-Petersson, Von Esson & Sjoden, 1998:238; Pomona College, 2017; Verhovsek, Byington & Deshkulkarni, 2009:5). In addition, Paulson (2004:359) articulates that patient care and caring are two different concepts. Patient care is associated with physiological and medical care. Conversely, caring for patients is described as a humanistic manner of sincerely caring for and interacting with patients. Similarly, Svantesson, Carlsson, Prenkert and Anderzen-Carlsson (2016:2) state that caring is to treat, nurse and respond to patients' needs.

The human caring philosophy grew out of several current philosophies of human sciences (Brousseau *et al.*, 2017:3). Watson's theory of human caring consists of 10 carative factors that aim to protect and improve human dignity (Brousseau *et al.*, 2017:3). According to Pajnikihar, Stiglic and Vrbnjak (2017:2), a way to ensure that caring is central to the patients' experience is to apply Watson's theory of human caring as a guide for practice. When caring is not present, dissatisfaction with care can occur and the person feels like an object (Pajnikihar *et al.*, 2017:2; Reeves & Decker, 2012:82).

Care theorist and educational philosopher, Nel Nodding (Balmer, Hirsh, Monie, Weil & Richards, 2016:1618; Barrow, 2015:45) argues that caring is the most natural way of being in the world and that it is the core of being human. Nodding views caring as more than an attitude of a single moral agent and not only the behaviour of a "good person" (Balmer *et al.*, 2016:1618; Barrow, 2015:45). Caring is mutual and a special bond between the initiator of care and the recipient of the care. It is characterised by the receptivity and responsiveness of each individual (Balmer *et al.*, 2016:1618). Nodding's ethic of caring also suggests that the initiator and recipient of care should interact frequently to know one another and that caring should be accepted to complete the caring relation (Balmer *et al.*, 2016:1618; Barrow, 2015:47).

The Caring Model (TCM) was introduced in 1998 by Sharon Dingman (The Caring Model, 2015). She described TCM as a partnership in which organisations meaningfully and skilfully serve patients and their families. Dr Dingman defines caring by the nurse as a deliberate presence and respect for humanity. It is a partnership and heartfelt integrity that is given and received between people (The Caring Model, 2015). TCM has five distinctive caring behaviours: introducing oneself to the patient and their family and explaining one's role in the patient's care; calling the patient by his/her preferred name; being seated at the bedside to discuss the patient's care plan; the use of touch, a handshake and a thank you; utilising the mission and values of the organisation to guide the delivery of care (The Caring Model, 2015).

Within a South African context, healthcare has two distinctive principles that focus on the patient. Batho Pele is a Sesotho phrase that translates as "people first" (Pietersen, 2014:254). It consists of 8 principles: consultation; setting of service standards; increasing access; ensuring courtesy; providing information; openness and transparency; redress and value for money (Pietersen, 2014:254; Department of Public Service and Administration, Republic of South Africa, 2014). The aim of the Batho Pele principles is to strive for excellence in service delivery, commitment, continuous service delivery improvement, allow citizens to hold healthcare professionals accountable for the types of services delivered and to adopt a citizen-orientated approach to service delivery (Pietersen, 2014:254; Department of Public Service and Administration, Republic of South Africa, 2014). These principles are in keeping with the rationale for healthcare professionals to be caring.

De la Porte (2016:15) describes the African worldview as a holistic one characterised by a strong community bond, a sharp sense of the sacred and anthropocentric. *Ubuntu* is therefore central to the African way of life (De la Porte, 2016:13). *Ubuntu* is defined as an inescapable spirit of

hospitality, harmony and caring shown to one another (De la Porte, 2016:14; Poovan, Du Toit & Engelbrecht, 2006:18). It is an old African term for “humanness” and it demonstrates the act of sharing, caring and associated values (De la Porte, 2016:14; Nzimakwe, 2014:30). It promotes cooperation between individuals, cultures and nations. In addition, Poovan *et al.* (2006:18) identify five key values of ubuntu: survival, solidarity, spirit, compassion and respect and dignity, all of which play a vital role in care (Nwagbara, 2012:71; De la Porte, 2016:14). This once again speaks to the need for caring healthcare professionals.

Being a healthcare professional is considered to be a “calling”; it is a particular profession unlike any other type of work (Mathieu, 2007:1). The continuous interaction with patients can be an immensely rewarding experience and it is what keeps many in this field (Mathieu, 2007:1). Nadelson *et al.* (2016:8) describe a caring professional as someone who connects with people in a dynamic and empathetic manner. It is being aware of the patient, reflecting on the responses of the patient and understanding the patient’s perceptions (Quirk, Mazor, Haley, Philbin, Fischer, Sullivan & Hatem, 2008:360). Similarly, Paulson (2004:359) and Bolderston, Lewis and Chai (2010:199) define a caring professional as a person who displays a humanistic approach of compassion, empathy and kindness towards patients, while optimally operating diagnostic equipment.

Caring has been complicated by opinions suggesting that it is body care, behaviours or a task. However, caring as described by Karlou *et al.* (2015:244) is an ontological perspective of being. Owing to the fact that oncology nursing was one of the first nursing fields in which caring was studied, caring in cancer nursing goes beyond the disease itself and concentrates on the person (Karlou *et al.*, 2015:244). However, caring is not exclusive to nursing and also plays an important role in other

health professions (Bolderston *et al.*, 2010:199). The descriptions and definitions of caring are different in each profession because of the developmental differences in each profession (Bolderston *et al.*, 2010:199). Flynn (2016:29) describes caring as unique to each individual and the right of that individual to define caring based upon psychological, social and spiritual needs. According to Moller (2016:310), diagnostic radiography professionals are rather described as requiring the ability to incorporate and apply knowledge of technology and a human being in a way that puts the patient at the centre during diagnostic imaging examinations, treatments and therapy.

Diagnostic radiographers feel that being a caring professional in an imaging department means performing the correct examination and producing images of a high diagnostic value (Moller, 2016:310). However, for radiation therapists to be regarded as caring professionals, they need to minimise the patients' sense of loneliness through physical touch and the development of meaningful conversations and sincere relationships (Bolderston *et al.*, 2010:200).

While caring has been explored in nursing, medicine and other disciplines of radiography, no literature that explores caring in ultrasound was found during the literature search. Since literature indicates that caring is individually based, it is necessary to explore the concept from an ultrasound perspective. Hence the need to conduct an exploratory, descriptive phenomenological study to explore qualified sonographers' experiences of being caring professionals.

1.2 BACKGROUND AND RATIONALE

Patient satisfaction is gradually becoming important as a marker of healthcare quality (Howard, Noble, Marill, Sajed, Rodrigues, Bertuzzi & Liteplo, 2014:47:47). A patient's experience is formed by the areas of awareness, which include communication, quality of basic amenities

and prompt attention (Wolf, Niederhauser & LaVela, 2014:11). Patients therefore often describe their healthcare experience based on their interaction with a healthcare professional (Bolderston, 2016:356). Caring is a significant element in the healthcare profession and is associated with vital patient outcomes in medicine, including adherence to treatment, malpractice litigation and symptom relief (Zamanzadeh *et al.*, 2010:10; Quirk *et al.*, 2008:359).

Consequently, the strong climate and professional acts of caring within the healthcare organisation are no longer a convenience, but rather an essential aspect of the success of a healthcare organisation (Quirk *et al.*, 2008:359; Canfield, Taylor, Nagy, Strauser, VanKerkhove, Wills, Sawicki & Sorell, 2016:207). The moment a person becomes a patient, their status is significantly reduced by illness or injury, resulting in them feeling frightened and vulnerable (Torpie, 2014:6). Palese, Tomietto, Suhonen, Efstathiou, Tsangari, Merkouris, Jarosova, Leino-Kilpi, Patiraki, Karlou, Balogh and Papastavrou (2011:341) stress that patient satisfaction is related to patients' safety because it influences further health service utilisation and the level of patients' adherence to or compliance with regimens, treatments and recommendations.

Verhovsek *et al.* (2009:1) attribute patient dissatisfaction to poor communication, inadequate staffing and heavy workload. This has raised a concern about patient safety in the medical profession. The issue is further complicated by the large number of patients that require service provision (Verhovsek *et al.*, 2009:1). For example, there are a total of 35 885 beds in both public and private practice in Gauteng that received ultrasound services from 138 qualified sonographers in 2016-2017 (Gauteng Department of Health, 2018; Daffue, 2017). However, the marked problem is the demand for ultrasound as a diagnostic imaging tool and the need for a workforce with the appropriate skills to perform and interpret sonar images (Gibbs, 2013:164). Canfield *et al.*

(2016:207), together with Brask and Birkelund (2014:23), argue that advances in technology have resulted in improvement of physical care, while the emotional needs of the patient are overlooked.

Healthcare professionals need to be able to enlighten patients on basic treatment and diagnosis in simple terms that they can understand (Mathieu, 2007:1). While the physical and emotional needs of patients are crucially important to healthcare professionals, current literature reveals that healthcare professionals who face stressful and negative work environments, have an increased workload and experience cynicism are more prone to compassion fatigue (Mathieu, 2007:1). Compassion fatigue is a diminished desire to have compassion and empathy for patients (Mathieu, 2007:1; Verhovsek *et al.*, 2009:5). In addition, the healthcare professionals face the risk of occupational stress such as excessive physiological or physical demand in the work environments and burnout (Mathieu, 2007:1; Verhovsek *et al.*, 2009:5).

The quality standard for healthcare establishments in South Africa has confirmed a fast track to quality programmes. These programmes stress the importance of attitudes and values of staff and reducing queues and waiting times for administration and diagnosis (Whittaker, Shaw, Spieker & Linegar, 2011:63). Thus, current research emphasises increased workload, the advances in technology and the demand for skills, compassion and care. However, despite the risks of facing burnout and occupational stress, little research has been done to investigate a sonographer's experience of being a caring professional in order to maintain the desired healthcare standard. Research on this topic may aid in the acknowledgement of the importance and value of caring by sonographers.

1.3 RESEARCH PROBLEM

There is an increase in demand for the use of ultrasound as an imaging tool, thus the need arises for appropriately trained and skilled operators to perform and interpret ultrasound images (Canfield *et al.*, 2016:207; Brask & Birkelund, 2014:23). Caring has become a vital aspect in the healthcare profession and within a South African context, there are clear principles that emphasises the importance of people and service delivery; the Batho Pele principles and Ubuntu (Zamanzadeh *et al.*, 2010:10; Pietersen, 2014:254; De la Porte, 2016:13).

This proposes a need for sonographers to adapt their caring. Research studies have explored the experiences of caring in other healthcare professionals but limited attempt has been made to explore a sonographer's experience of being a caring professional. This study was therefore aimed at gaining an understanding of what a caring professional means to a sonographer. This study assists in the development of guidelines to promote caring in the sonography profession.

1.4 RESEARCH QUESTION

The research question that arose from the above research problem and background is: What is a sonographer's experience of being a caring professional?

1.5 RESEARCH PURPOSE/OBJECTIVES

The purpose of this phenomenological study was to explore and describe the sonographer's experiences of being a caring professional within private practice in the province of Gauteng. The researcher developed the guidelines to enhance the sonographers' caring role.

This study was guided by the following objectives:

- To explore and describe sonographers' understanding of being a caring professional.
- To develop guidelines to enhance sonographers' caring role.

1.6 RESEARCH PARADIGM

Ramlaul (2010:8) and Brink (2010:22) define a research paradigm as a set of assumptions about certain aspects in the world that influences and shapes the way things are seen and experienced. Post-modernism was used for this research study. Post-modernism is defined as the set of ideas that is used to describe the circumstances of society, used in a variety of contexts to cover different affairs (Zeeman, Poggenpoel, Myburgh & Van der Linde, 2002:96). The purpose of post-modernism is to deconstruct our general way of thinking and interpreting reality (Zeeman *et al.*, 2002:96). The researcher made use of post-modernism to give the participants the opportunity to reveal their thinking and share their different beliefs about caring in sonography (Zeeman *et al.*, 2002:96).

1.7 DEFINITION OF KEY CONCEPTS

1.7.1 Ultrasound

Ultrasound describes mechanical pressure waves with frequencies higher than 20 000 Hertz (Lutz & Gharbi, 2006:1). Ultrasound is a non-invasive and widely accepted imaging modality. It is frequently used for the diagnosis and treatment of various diseases and is known to be safe (Nordqvist, 2017:2; Eisenberg & Johnson, 2007:18). It is readily available at low cost and has the ability to differentiate between various tissues (Eisenberg & Johnson, 2007:18; Lutz & Gharbi, 2006:1).

1.7.2 Sonographer

A sonographer is a healthcare professional who operates ultrasound equipment and who has learned the skill of high-quality sonography.

Sonographers comment on the findings of the ultrasound examination and suggest additional clinical examinations or follow-up procedures (Sanders & Winter, 2007:659).

1.7.3 Radiographer

A radiographer is a healthcare professional who specialises in one of the following fields: diagnostics, radiation therapy or nuclear medicine (University of Pretoria, 2018). A diagnostic radiographer's purpose is to produce diagnostic X-rays.

A therapeutic radiographer is involved in localisation and immobilisation procedures, accurate radiation dosage planning and the application of treatment by using ionising rays for patients with cancer (University of Pretoria, 2018).

A nuclear medicine radiographer works in the medical fields where numerous radioactive sources are used for the treatment and diagnosis of a disease (University of Pretoria, 2018). A nuclear medicine radiographer's responsibility lies in the preparation and application of radioactive agents to the patient. Sophisticated equipment is used and a computer analyses the diagnostic functional images (University of Pretoria, 2018).

1.7.4 Caring

Caring is the moral ideal of a healthcare professional. This ideal includes will, commitment and values which ultimately result in the protection and enrichment of human dignity (Baldursdottir & Jonsdottir, 2002:68). Paulson (2004:359) describes caring as a humanistic way of sincerely caring for and interacting with patients. Caring has two aspects: instrumental activities and expressive aspects (Zamanzadeh *et al.*, 2010:10; Karlou *et al.*, 2015:245). Caring is instrumental through providing medical information to patients and expressive by giving

confidence and hope to patients (Karlou *et al.*, 2015:245; Widmark-Petersson *et al.*, 1998:238).

1.7.5 Caring professional

A caring professional is an individual who shows a humanistic approach of compassion, empathy and kindness towards patients. This is expressed while optimally operating diagnostic equipment (Paulson, 2004:359; Bolderston *et al.*, 2010:199). In addition, a caring professional is described as someone who connects with people in a dynamic and empathetic manner (Nadelson *et al.*, 2016:8).

1.7.6 Private practice

This refers to the work of a professional healthcare provider who is independent of economic or policy control by professional peers, except for licensing and other legal restrictions (Mosby's Dental Dictionary, 2009).

1.8 RESEARCH DESIGN AND METHOD

1.8.1 Research design

This study was qualitative in nature, with the emphasis on the journey experienced by qualified sonographers during their time as a caring professional. Qualitative studies are focused on gaining an understanding of the phenomena, through looking at people's experiences, opinions and beliefs within the context of their own environment (Brink, 2010:113).

1.8.2 Research method

The study took place in two phases:

1.8.2.1 Phase 1

This study was consistent with descriptive phenomenology, whereby the researcher attempted to understand, explore and describe the 'lived experiences' of qualified sonographers. Hence, interpreting the data

from the sonographers' perspective (Tuophy, Cooney, Dowling, Murphy & Sixsmith, 2013:18). In phase 1, sonographers' experiences of being a caring professional were explored through focus group interviews with sonographers working in private practice in Gauteng. During this study, bracketing was applied to set aside the researcher's feelings and opinions, while gaining an in-depth understanding of a sonographer's experiences of being a caring professional (Tuophy *et al.*, 2013:18).

1.8.2.1.1 Research population and sample

The population included all sonographers registered with the Health Professions Council of South Africa (HPCSA) working in private healthcare settings in Gauteng. Sonographers were invited to participate in this study through purposive snowball sampling to ensure information-rich data. The sample size was dependent on data saturation.

1.8.2.1.2 Data collection

Sonographers were provided with an information letter and consent form (Appendices A, B and C). Data collection took place in a neutral environment outside the radiology department, in the form of focus group interviews. This method was more advantageous because it is socially orientated and participants are more relaxed than in one-on-one interviews (Marshall & Rossman, 2016:154). These focus group interviews were audiorecorded. A central question was posed that allowed the participants to express their feelings within a group:

“Tell me about being a caring professional in sonography?”

Furthermore, extensive field notes were taken on additional information such as body language and group dynamics. The utilisation of probing questions and paraphrasing added value to these interviews until data saturation was reached (Lawrence, Poggenpoel & Myburgh, 2011:2).

1.8.2.1.3 Data analysis

Data analysis is a process that involves making sense of the data through ordering, categorising, manipulating and summarising the collected data (Creswell, 2009:184; Brink, 2010:170). Data analysis occurred simultaneously with data collection. While collecting data, the researcher reflected on and started the thematic data analysis process. Thematic analysis is defined as a method of identifying, analysing and reporting themes. This method reduces the amount of data in a more flexible way (Brink, Van der Walt & Van Rensburg, 2012:194; Castleberry & Nolen, 2018:807). The process of analysis described by Holloway and Wheeler (2010:282) was used, namely transcribing interviews and sorting field notes, organising, ordering and sorting the data and repeatedly listening to and reading or viewing the material collected. The audiotapes of the focus group interviews were transcribed (Appendices L, M, N, and O) and the researcher analysed the transcribed data alongside the documented field notes. The researcher immersed herself in the data until an in-depth understanding of the sonographers' intended meaning was gained. The data was analysed into themes and categories (Holloway & Wheeler, 2010:282).

1.8.2.2 Phase 2

Phase 2 focused on the development of guidelines to enhance a sonographer's caring role.

1.9 TRUSTWORTHINESS

Trustworthiness in qualitative research is described as methodological adequacy and accuracy (Holloway & Wheeler, 2010:302; Lapan, Quartaroli & Riemer, 2012:29). Trustworthiness is evaluated under four components, namely credibility, dependability, transferability and confirmability (Lapan *et al.*, 2012:29). De Vos, Strydom, Fouche and Delport (2003:351) define credibility as the ability to demonstrate that

the subject was correctly described and identified. Credibility in this study was achieved through peer debriefing, triangulation and reflexivity.

Dependability refers to the extent to which the study is replicable and produces the same results if it had to be repeated by another researcher in similar circumstances (Holloway & Wheeler, 2010:299). In this study, well-organised methods and audit trails were established and used to ensure dependability.

Holloway and Wheeler (2010:303) describe transferability as the ability to transfer the findings from one setting to similar participants or situations in another. This is achieved by acquiring knowledge and applying concepts which were originally developed by the initial researchers (Holloway & Wheeler, 2010:303). To ensure transferability, the researcher produced analytic summaries and verbatim quotes, together with a thorough description of the research setting and data population. However, the findings will not necessarily be applicable to all sonographers.

Confirmability refers to the internal agreement between the evidence and the interpretation of the researcher (Brink, 2010:119). In addition, De Vos *et al.* (2003:352) maintain that confirmability is achieved when the data helps confirm the findings and lead to the implications. Confirmability was ensured by a confirmability audit. This audit included audiotape recordings, coding details and field notes to confirm the study's findings.

The researcher will describe trustworthy measures implemented in chapter 2.

1.10 ETHICAL CONSIDERATIONS

Ethics is a set of moral principles which is endorsed by a group or individual, after which it is accepted, and which offers rules and behavioural expectations about the most correct conduct towards others (De Vos, 1998:24). In addition, Ehrlich and Daly (2009:59) define it as a reflection of behaviours on humanity. According to Ramlaul (2010:56) and Flick (2014:5), the principle of ethical review expects the researcher to protect the participants in the research from possible harm while their well-being, dignity and human rights are being protected. The research participants in this study were protected by means of applying the following four concepts:

1.10.1 Informed consent

Before conducting focus group interviews, informed consent was obtained from the interviewees. One consent form was for participation in the research study (Appendix B) and the other for permission to audiorecord the interviews (Appendix C). Each participant received a full description of the study by means of an information letter (Appendix A). Anonymity in this study was achieved by not documenting the names of the participants (Du-Plooy-Cilliers, Davis & Bezuidenhout, 2014:267).

Anonymity cannot be guaranteed in focus group interviews but participants were encouraged to respect each other's privacy by not discussing the interview outside the bounds of the focus group. Participants had the right to withdraw from participation at any time; however, the data that had been collected until the time of withdrawal was used by the researcher. The results of the study have not been linked with any of the participants and all the respondents' queries and concerns were documented.

1.10.2 Privacy and confidentiality

Privacy and confidentiality are associated with the principle of autonomy, i.e. acting with self-reliance and respecting the confidentiality and autonomous choice of an individual (Hammersley & Traianou, 2012:114). In this study, a consent form for participating in the study and for audiorecordings and transcriptions, together with an information form, were provided to participants, as suggested by Miller, Birch, Mauthner and Jessop (2012:62). This ensured a clear understanding among participants of this study (Appendices A, B and C). The audiorecordings were kept in a locked safe and will be destroyed after two years. The information obtained from the focus group interviews was only accessible to the researcher, supervisors and transcribers, who also signed a consent form (Appendix E).

1.10.3 Benefits and risks

The benefits relate to the principle of beneficence. The principle of beneficence suggests goodness and the encouragement of the well-being of the person (Ehrlich & Daly, 2009:63). Risk should be reduced by maximising the best outcome (Lapan *et al.*, 2012:22). The principle of non-maleficence was followed, which emphasises the obligation not to inflict any harm or to do as little harm as possible (Ehrlich & Daly, 2009:63; Ramlaul & Vosper, 2013:265). There is no definite act associated with this principle other than not to harm others. It is merely a professional obligation which encourages respect for others (Ramlaul & Vosper, 2013:265). This study did not aim to benefit or to harm the current participants, but aimed to improve caring among future sonographers by raising awareness of being caring professionals among sonographers. The participants of this study were not exposed to any harm, but if emotional instability had been detected during the recall of events, psychological counselling would have been arranged.

1.10.4 Permission

The researcher requested permission from the Higher Degrees Committee (HDC-01-22-2018: Appendix F) and Research Ethics Committee (REC-01-34-2018: Appendix G) of the Medical Imaging and Radiation Sciences (MIRS) department before conducting any focus group interviews. The principle of justice was adhered to, which suggests that the researcher must act with equity and fairness (Ehrlich & Daly, 2009:63; Ramlaul & Vosper, 2013:265). In addition, justice emphasises moral rights and wrongs as well as people's equal rights (Miller *et al.*, 2012:21). In this study, sonographers who met the inclusion criteria were given the opportunity to participate in the research study.

1.11 OUTCOME OF THE STUDY

The content of this research may be published in a radiology or sonography journal where a gap in enhancing professional caring may be identified. Possible outcomes may include a better understanding of caring among sonographers and the design of caring and communication modules in the sonography curriculum.

1.12 DIVISION OF CHAPTERS

Chapter 1: An overview of the study

Chapter 2: Research design and method

Chapter 3: Discussion of findings

Chapter 4: Guidelines, recommendations and conclusion

CHAPTER 2 RESEARCH DESIGN AND METHOD

A DREAM written down with a date becomes a GOAL. A goal broken down into steps becomes a PLAN. A plan backed by ACTION becomes a reality.

Journeystrength

2.1 INTRODUCTION

The introduction to, background and rationale of the study were discussed in chapter 1. Chapter 2 provides a description of the research design, methodology and the different aspects of trustworthiness in the qualitative, exploratory, descriptive phenomenological research study.

2.2 RESEARCH DESIGN

According to Creswell (2009:3), a research design entails the methods and strategies for research that span decisions from extensive assumptions to meticulous methods of data collection and analysis. The general decision of this plan includes which design should be used to study the topic that will enable the researcher to answer the research questions objectively, validly and accurately (Creswell, 2009:3; Du-Plooy-Cilliers *et al.*, 2014:93). The selection of a research design is based on the type of research problem or issue being addressed, the personal experiences of the researcher and the addressees of the research study (Creswell, 2009:3). Implementing an incorrect research design will result in meaningless, false and invalid results (Edmonds & Kennedy, 2017:1).

Creswell (2009:3) identifies three types of research designs: qualitative, quantitative and mixed methods. The research design of this study was qualitative phenomenological in nature. It is therefore consistent with exploratory, descriptive phenomenology, as the motive of the researcher was to understand, explore and describe the 'lived experiences' of qualified songwriters in private practice within Gauteng (Edmonds &

Kennedy, 2017:168). The data was interpreted from a sonographer's perspective to comprehend their understanding of being caring professionals (Tuophy *et al.*, 2013:18).

2.2.1 Research strategy

According to Saunders, Lewis and Thornhill (2009:600), a research strategy is the general plan of how the researcher is going to answer the research question. The purpose of this study was to explore and describe sonographers' experiences of being caring professionals within private practice in Gauteng. The research strategy was as follows:

2.2.1.1 Qualitative

According to Corbin and Strauss (2015:4) and Edmonds and Kennedy (2017:142), qualitative research is considered emerging, open and non-experimental. It is a form of research in which the data is collected and interpreted by the researcher. During this process, the researcher is as much part of the research process as the participants who provided the information (Corbin & Strauss, 2015:4). This design is flexible and is used to explore the experiences of the population sample (Corbin & Strauss, 2015:4). The researcher used this method to discover the how and why of caring by sonographers and used words for data instead of numbers to explore the experiences of sonographers being caring professionals (Edmonds & Kennedy, 2017:142).

2.2.1.2 Exploratory

The purpose of exploratory research is to gather new information on a subject that has not been researched before (Du-Plooy-Cilliers *et al.*, 2014:12). The aim of exploratory research is therefore to gain insight into a situation for the purpose of identifying key information so that the researcher can become familiar with unknown situations. In addition, it is also to prioritise for social needs, conditions, policies and behaviours (Du-Plooy-Cilliers *et al.*, 2014:77). The concept of caring has been

explored in nursing, diagnostic and therapy radiography, but there was no evidence during literature review of studies that explored the understanding of caring in sonography. Therefore, the researcher deemed this method appropriate for this study to gather information on caring in sonography.

2.2.1.3 Descriptive

Descriptive phenomenology is a process in which the researcher finds and describes information while bracketing their preconceived ideas and beliefs (Holloway & Wheeler, 2010:228; Brink, 2010:114). In addition, Du-Plooy-Cilliers *et al.* (2014:80) explain that the aim of descriptive phenomenology is to describe a problem, situation or phenomenon. The detailed descriptions of the experiences of qualified sonographers in private practice in Gauteng were obtained by means of focus group interviews, field notes, paraphrasing, probing and summarising. The researcher used this method to collect detailed information about caring in sonography. Therefore, the descriptive phenomenological approach was appropriate for this study.

2.2.1.4 Contextual

Contextualisation enables the researcher to explore the meaning of an experience in its natural context (De Vos, 1998:301; Creswell, 2009:13). The contextual design allowed the participants in this study to describe their understanding of caring in sonography. This design was used to capture the meaningful behaviour and experiences of sonographers and their understanding of being caring professionals, so that information-rich data was obtained. The research question was specific to qualified sonographers within Gauteng. The data was analysed using the process of Holloway and Wheeler (2010:228), thus adding to the contextual design of the study. The results therefore cannot be generalised to a larger population, because they are specific to the context of sonography.

2.2.1.5 Phenomenology

The phenomenological approach was invented from Edmund Husserl's philosophical position that the starting point for knowledge is one's own conscious perceptions and feelings that develop from life experiences (Edmonds & Kennedy, 2017:168). In addition, Holloway and Wheeler (2010:213) point out that phenomenology is not a method of inquiry, but rather an approach to philosophy that involves an individual's own experiences (Edmonds & Kennedy, 2017:168). In this study, the researcher used a phenomenological approach with the aim to describe, explore and analyse the meaning of lived experiences of individuals. It involved numerous long in-depth interviews with individuals who had experience of caring in sonography.

Holloway and Wheeler (2010:215) define phenomenology as an effort to describe the lived experiences of participants, without making assumptions about the truth of those experiences. As suggested by Brink (2010:113) and Edmonds and Kennedy (2017:170), the purpose of phenomenological research is to describe what people experience in a specific phenomenon, how people make meaning of their lives, explore how people experience and understand the essence of being caring professionals, and examine the commonalities across these individuals. The purpose of the phenomenological approach in this study was to explore and describe the lived experiences of qualified sonographers in private practice in Gauteng. The researcher intended to understand the participants' experiences by engaging with and becoming immersed in the data collected during focus group interviews.

2.2.2 Reasoning strategies

Reasoning strategies refer to the logical organising and processing of data that supports the conclusions (De Vos, 1998:336). Throughout the research study, the researcher continuously applied the research strategies, which allowed the researcher to organise and process the

data for the development of themes and subthemes. The reasoning strategies included analysis, inductive and deductive reasoning.

2.2.2.1 Deductive reasoning

According to Given (2016:2), deductive reasoning involves working from the top down. Brink (2010:201) describes it as a process of generating theory into empirical data with the aim of testing the theory. Deductive reasoning was used to create conclusions from sonographers' experiences of being a caring professional in sonography in order to develop guidelines to enhance caring in sonography.

2.2.2.2 Inductive reasoning

According to Given (2016:2), inductive reasoning refers to the particular way in which the researcher engages in thinking about the data. Inductive data analysis is used during qualitative research because empirical data is generated to form a theory (Creswell, 2009:175; Brink, 2010:203; Given, 2016:2). During the inductive process for this study, the researcher built the codes, categories and themes by organising the data into more abstract units of information. The inductive process is described by Given (2016:2) as working from the bottom up. During this study, the researcher constantly worked back and forth between themes and the database, until a comprehensive set of themes was identified.

2.3 RESEARCH METHOD

Research method is described as the process and technique for collecting and evaluating research data (Corbin & Strauss, 2015:1). In this phenomenological study, a qualitative, exploratory and descriptive research design was applied in two phases. In phase 1, sonographers' experiences of being a caring professional were explored and described through focus group interviews with sonographers working in private practice in Gauteng. Data collection took place until no new information was obtained from the focus group interviews and data saturation was

reached. Extensive field notes and paraphrasing were used to add value to these interviews. Data was analysed by means of thematic analysis. Phase 2 focused on the development of guidelines.

2.3.1 Population and sampling method

Keyton (2011:121) describes a research population as a group that consists of all units having the characteristics or qualities in which the researcher is interested. The population included all sonographers registered with the HPCSA working in private healthcare settings in Gauteng. All the participants were female who worked in urban areas. The age of the participants ranged from 27 to 42 years and they were from different cultural backgrounds. The experience of the participants as qualified sonographers ranged from 3 to 16 years. All participants had a bachelor of technology degree in diagnostic ultrasound acquired from a higher education institution in South Africa.

2.3.1.1 Purposive sampling

With purposive sampling, the researcher purposively chooses specific characteristics to include in the sample population (Du-Plooy-Cilliers *et al.*, 2014:142; Holloway & Wheeler, 2010:138). The characteristics are chosen by analysing the population sample and research question, and then determining the important characteristics for the research study (Du-Plooy-Cilliers *et al.*, 2014:142; Holloway & Wheeler, 2010:138). The population who met the inclusion criteria for this study was qualified sonographers working in private practices and registered with the HPCSA.

2.3.1.2 Snowball sampling

Snowball sampling is a method that is most commonly used in qualitative research. With snowball sampling, participants in the study provide suggestions for further participants who fit the sample population (Du-Plooy-Cilliers *et al.*, 2014:143). The researcher was

acquainted with the first participants as they were colleagues. These participants carried knowledge about sonography and were practicing in a private healthcare setting, meeting the inclusion criteria. Thereafter, sonographers who also met the inclusion criteria were referred by the initial participants of the study. The researcher then sent information letters to the possible additional candidates by means of e-mail and messages. Sonography is a very small profession, hence the researcher knew the majority of participants.

The sample size was dependent on data saturation. However, the results obtained from the sample of this study cannot be generalised to a larger population. As stressed by Du-Plooy-Cilliers *et al.* (2014:143), the aim of qualitative studies is not generalisation. Data saturation, as described by Du-Plooy-Cilliers *et al.* (2014:136) and Holloway and Wheeler (2010:146), means that no new or additional information originates from the data being collected. In this study, focus group interviews lasted until the researcher saw similar results were appearing after each interview.

2.3.2 Data collection

Data collection is defined as the step in a study in which information is gathered and sampling elements are identified as directed by the research design (Data Collection, 2009:1). Since qualitative research is non-numerical and in the form of written words or videotapes/audiotapes, the data collection steps should include setting the limits for the study, collecting information through unstructured or semi-structured observations and interviews, documents and visual materials, as well as establishing the protocol for recording information (Brink, 2010:185; Creswell, 2009:178).

Data in this qualitative research was collected by conducting interviews in a neutral environment outside the radiology department, in the form

of focus group interviews. This method is more advantageous because it is socially orientated and participants are more relaxed than in one-on-one interviews (Marshall & Rossman, 2016:154). Four focus group interviews were conducted and the groups ranged between 3 to 5 participants. The groups varied in size due to the difficulty to recruit more sonographers to attend interviews at the same time and place. A total of 14 participants were interviewed. Audiorecordings were used to pose a central question, which allowed the participants to express their feelings within a group. The research question was as follows:

Tell me about being a caring professional in sonography.

Data collection followed after ethical approval was obtained. The researcher explained the process and procedures of the focus group interview to the participants beforehand. An information letter was given to each participant to explain the background of, rationale for and purpose of the research study (Appendix A). Informed consent for interviewing the participants and the use of a tape recorder was obtained before conducting the interviews (Appendices B and C). Ethical consideration was applied by reminding the participants that their participation was voluntary and that they were entitled to withdraw at any time without penalty. The participants chose the appropriate time and date for the data collection and the researcher arranged a suitable venue for the focus group interviews. Each focus group interview session was conducted at a different venue and location. A convenient location and time was agreed upon by the participants. The venues were spacious enough to accommodate the participants but also small enough to easily pass the audiorecorder around. Most of the venues were relatively noise free and participants were aware to adjust the audiorecorder when disturbances occurred. The research question was printed in large text and placed in the centre of the table for participants to view when needed.

The interviews were conducted in a very relaxed manner, which resulted in participants being willing to share their lived experiences and feelings. Despite the fact that participants at first thought that it was a very broad research question, they felt encouraged by one another throughout the interviews. The participants even continued to speak after the interviews were concluded. Elements such as caring for patients and an absent psychological component in their years of studying were very apparent. The overall feelings of the participants were positive and lacked no enthusiasm.

Extensive field notes were taken on additional information such as body language and group dynamics (Flick, 2014:537). The utilisation of probing questions and paraphrasing added value to these interviews until data saturation was reached (Lawrence *et al.*, 2011:2). The researcher used probing questions to gain more insight into sonographers' experiences of being a caring professional in sonography and to preserve the line of investigation (Ramlaul, 2010:216; Brink, 2010:2017). Probing questions were also used to encourage the interviewees to elaborate on their answers (Ramlaul, 2010:216; Brink, 2010:2017). Each interview lasted 20 to 60 minutes. Data collection took place between June and July. After data collection, full transcription followed which documented non-verbal communication such as mannerisms, tone and emotional content (Edmonds & Kennedy, 2017:322).

2.3.3 Data analysis

Data analysis is defined as the classification and interpretation of dialectal or visual material (Flick, 2014:370). The aim is to make statements about hidden and unambiguous structures and dimensions of meaning making in the material (Flick, 2014:370). It is understood as a process which involves making sense of the data through ordering, categorising, manipulating and summarising the collected data

(Creswell, 2009:184; Brink, 2010:170). It is an examination of words rather than the numbers that are considered in quantitative studies (Brink, 2010:184).

The aim of the data analysis for this study was to describe a phenomenon: sonographers' experiences of being a caring professional in private practice in the province of Gauteng (Flick, 2014:370). The researcher used the thematic data analysis process. Firstly, the audiotapes of the focus group interviews were transcribed and then the transcribed data and the documented field notes were analysed. After the researcher gathered a large amount of data, the hands-on process was used in which she became deeply immersed in the data; this is also known as 'dwelling' with the data (Ramlaul, 2010:216; Brink, 2010:170). This process lasted until an in-depth understanding of the sonographers' intended meaning was gained (Ramlaul, 2010:216; Brink, 2010:170).

Creswell (2009:184) explains that data analysis is an ongoing process that involves preparing the data for analysis, conducting different analyses, moving deeper and deeper into understanding the data, representing the data and making an interpretation of the greater meaning of the data. However, Edmonds and Kennedy (2017:322) caution that data analysis can only proceed once it is in a suitable coding format. The researcher analysed the data in the form of coding for themes and categories, making memos about the context of the variations in the phenomenon under study, verifying the selected themes through reflection on the data categories, recording support data for categories and identifying propositions (Brink, 2010:184).

According to Brink (2010:185), coding consists of creating and applying a category system. Coding and categories were initiated as soon as data collection began and were used to organise data collection in interviews. Coding was re-evaluated by the researcher's supervisors until

consensus was reached. The researcher developed categories through manual analysis by reviewing the recorded information. The researcher used the analysis process of Holloway and Wheeler (2010:282) to sort the data into themes and categories. The steps of Holloway and Wheeler are as follows:

- a) Transcribing interviews and sorting field notes.
- b) Organising, ordering and storing the data.
- c) Listening to and reading or interviewing the material collected repeatedly.
- d) Coding and categorising.
- e) Building themes.
- f) Describing a phenomenon.

2.4 TRUSTWORTHINESS

Trustworthiness in qualitative research is described as methodological adequacy and accuracy (Holloway & Wheeler, 2010:302; Lapan *et al.*, 2012:29). Decisions on trustworthiness by the researcher were made through developing dependability, credibility, transferability and conformability (Holloway & Wheeler, 2010:302; Lapan *et al.*, 2012:29).

2.4.1 Credibility

Readers have the right to openly scrutinise health research for its 'truth value' in order to determine if it is valid, credible and has quality for professional practice (Holloway & Wheeler, 2010:297). Credibility is therefore obtained by demonstrating that the subject was accurately described and identified (De Vos *et al.*, 2003: 351; Corbin & Strauss, 2015:342). Interpretation and description by researchers and truth telling by participants are important. The collection of incomplete or incorrect data threatens the validity of research; hence the importance of an extensive and detailed field diary (Holloway & Wheeler, 2010:299).

It was important for the researcher to listen to the participants' voices and let them speak. The researcher made use of bracketing by setting aside her own perceptions and thoughts about the phenomenon (Holloway & Wheeler, 2010:299).

According to Holloway and Wheeler (2010:304), there are a number of ways of determining and demonstrating whether qualitative research is trustworthy. The most common strategies include:

- **Peer debriefing:** Regular meetings are held with other people who are not involved in the research in order to disclose the researcher's own blind spots and to discuss the results with them (Flick, 2014:488). For this study, a series of meetings with supervisors were held to assist in and evaluate the coding and categorising process for the development of themes and subthemes.
- **Triangulation:** According to Ramlaul (2010:214) and Flick (2014:174), triangulation is an alternative data collection method in which the results are combined (Ramlaul, 2010:214). In this study, the researcher used descriptive field notes, reflective field notes and interview data to enhance credibility.
- **Reflexivity:** Reflexivity refers to the researcher's self-aware analysis of their role in the research and data collection process. In this study, the researcher made a conscious decision to self-monitor her own actions in order to reduce research bias and ultimately ensure credibility (Holloway & Wheeler, 2010:8). The researcher kept reflective field notes throughout the data collection process.

2.4.2 Transferability

Holloway and Wheeler (2010:303) describe transferability as the ability to transfer the findings in one setting to similar participants or situations

in another. Transferability in this research study was achieved by providing a comprehensive description of the research setting, data population and methodology. However, the findings will not necessarily be applicable to all sonographers.

2.4.3 Dependability

Dependability refers to the extent to which the study is replicable and produces the same results if it is repeated by another researcher in similar circumstances (Holloway & Wheeler, 2010:299). This process requires an audit by an enquiry editor who follows the process and procedures used by the researcher in the study to determine whether they are acceptable (Brink, 2010:119). Accurate and consistent findings of the study portray dependability. This means that the readers will be able to evaluate the adequacy of the analysis by following the decision-making processes of the researcher (Brink, 2010:119).

The researcher kept an audit trail and has described the methodology in detail. The aim was to help readers follow the path and to demonstrate how the researcher reached her conclusions. Holloway and Wheeler (2010:302) state that this also guides another researcher to carry out similar research in a homogeneous context.

2.4.4 Confirmability

According to Brink (2010:119), confirmability suggests that there is a guarantee that the literature supports the findings, conclusions and recommendations. It also suggests that there is correlation between the investigator's interpretation and the concrete evidence. Similarly, De Vos *et al.* (2003:352) maintain that confirmability is achieved when the data helps confirm the findings and lead to the implications. Confirmability in this study was accomplished by the following:

- **Confirmability audit procedures**

During confirmability audit procedures, the researcher exposes the feelings and background of the research to the public. The purpose of this is so that the readers can trace the data to the researcher's sources and are able to scrutinise the information to evaluate it for intellectual honesty and openness of the researcher (Holloway & Wheeler, 2010:303). The confirmability audit procedure was done by writing extensive field notes (Appendices H, I, J and K) and making audiorecordings. The researcher will keep the descriptive field notes, reflective field notes and audiorecordings for two years.

- **Reflexivity**

Once again, reflexivity refers to the researcher's conscious decision to self-monitor their own actions in order to minimise research bias to ensure credibility (Holloway & Wheeler, 2010:8). In this study, the researcher ensured reflexivity by using audiorecordings while taking extensive field notes.

2.5 CONCLUSION

This chapter provided a detailed description and justification of the research design and methodology. The following chapter presents the research findings.

CHAPTER 3 DISCUSSION OF FINDINGS

Greatness lies, not in being strong, but in the right using of strength; and strength is not used rightly when it serves only to carry a man above his fellows for his own solitary glory. He is the greatest whose strength carries up the most hearts by the attraction of his own.

Henry Ward Beecher

3.1 INTRODUCTION

In this chapter, the descriptive findings of the focus group interviews that explored sonographers' experiences of being caring professionals are presented. Themes and categories emerged from the data that was collected during the focus group interviews. Verbatim quotes of the participants are provided to support these themes. The data was conceptualised from allied healthcare professions, such as radiography and nursing. Studies such as "*The concept of caring amongst first year diagnostic radiography students*" by Naidoo, Lawrence and Stein (2018:163) and "*The concept of caring: Perceptions of radiation therapists*" by Bolderston *et al.* (2010:198) have explored caring in radiography. However, there was no information available on caring in sonography during the literature review.

3.2 DEMOGRAPHICS

A thorough description of the population sample was described on page 24. Four focus group interviews were conducted with an average of three to five participants in a group. A total of 14 participants were included for data collection until data saturation was reached. The population consisted of sonographers who were registered with the HPCSA and working in private practices within Gauteng. The interviews were held at a location of the participants' choice at an agreed time. The interviews were 20 to 60 minutes long and were guided by one broad question: *Tell me about being a caring professional in sonography.*

A summary of the themes and categories is shown in table 3.1 below:

TABLE 3.1: THEMES AND CATEGORIES FROM FOCUS GROUP INTERVIEWS

Themes	Categories
1. The effects of a caring relationship between sonographer and patient	1.1 The ability of sonographers to improve their caring through experiences 1.2 Professional pride 1.3 The protective mechanisms of the sonographer 1.4 The emotional/psychological strain of the sonographer 1.5 Caring relationships enhancing trust
2. Circumstances limiting a sonographer in being a caring professional	2.1 Time constraints 2.2 The type of patient in practice 2.3 Task driven 2.4 Religion and cultural diversity
3. Sonographers' approach to caring	3.1 Physical caring 3.2 Emotional caring 3.3 Professional knowledge of the sonographer 3.4 The individuality of a sonographer
4. Educational readiness of sonographers to be caring professionals	4.1 The scope of practice of sonographers 4.2 Lack of a psychological component in sonography 4.3 Student training

3.3 DESCRIPTION AND DISCUSSION OF FINDINGS

The description of the meanings was created by extracting important and relevant statements. The statements that added meaning and value to the phenomena were then grouped into categories and themes. According to Cope, Jones and Hendricks (2014:89), themes are distinctive markers that help to integrate the various meanings of the participants' experiences. The data analysis and interpretation occurred simultaneously and is described below.

3.3.1 Theme 1: The effects of a caring relationship between sonographer and patient

This theme focuses on the participants' feelings of how caring for their patients impacted them. It was evident throughout the interviews that there was a unique relationship between the sonographer and patient. However, despite a sonographer's willingness to care, there were still numerous effects, both positive and negative, that influenced a sonographer's caring ability. Some participants spoke about caring being enhanced through experience.

The participants explained that they enjoyed being able to serve people and they displayed a sense of professional pride during these focus group interviews. The participants indicated that patients often returned to the department with more trust because they felt safe in a sonographer's caring hands. However, sonographers face many difficulties that cause them to use barriers. The researcher herself can associate with this because she has found herself being involved in intense situations with patients who have had cancer, and was then unable to withdraw from these conditions. Despite the complex situations, the sonographers surveyed were still able to commit to their profession. The effects that caring had on the participants are indicated in the categories below:

3.3.1.1 Category 1.1: The ability of sonographers to improve their caring through experiences

The participants indicated that, through experience, sonographers learn how to read their patient to help determine the needs of the patient. They explained that each patient's needs are different and that not all of them want the same type of caring. Most of the participants felt that the type of caring was very patient dependent and the quotes below reflect their perceptions:

FG 1, P 5: *“So from experience I found that you suss out your patient. So you already get a gist of okay, is this patient emotionally stable? Is this patient for example, a breast cancer survivor? I scanned two this week and one was very negative about her scar and she wouldn't even let me touch her scar. So at that point in time you realise that I need to then give a little bit of more TLC. This patient doesn't need only my clinical diagnosis or my clinical skills. She needs me to tell her ma'am, you look fine. When I look at this scar I see a survivor...”*

FG 2, P 2: *“I think at this point also for me, I have been doing this now for long enough that you can sort of see which patients need a bit more of your time and more compassion than somebody who is okay and they are not really that stressed. So they just come in and they are fine with what is happening to them. You can see who needs a bit of like TLC more than anything else...”*

FG 3, P 3: *“Well, you get to know people the longer you are in this profession the more you work with various patients. You get to read your patients. I am not saying I am always correct, but 9 times out of 10 I can sense whether the patient wants to be comforted a bit more than the next patient.”*

FG 1, P 4: “Another case where I also had a patient, for instance, he lost his leg when he was 11 and so I had to look in the other leg for a DVT, but you can again see how bitter he was still in losing it and because of the one case, that guy actually gave me that strength. I could be a bit more supportive towards the guy with the DVT. So I think it depends on your focus and like you said, your cancer and your children and you were worrying about people with miscarriages. So I think everybody is different.”

The well-being of patients is exceptionally important, especially following the diagnosis of a disease. When patients feel that their circumstances are not being understood, they then tend to experience more suffering and rejection of healthcare professionals (Berglund, Westin, Svanstrom & Sundler, 2012:1). From a caring perspective, healthcare professionals must be able to understand a patient’s experience of a disease while accounting for both the physical and emotional aspects of the patient (Berglund *et al.*, 2012:1). Williams, Brown, McKenna, Palermo, Morgan, Nestel, Brightwell, Gillbert-Hunt, Stagnitti, Olausson and Wright (2015:1) and Williams, Boyle and Howard (2015:59) emphasise that empathy shows signs of improved clinical outcomes and higher diagnostic accuracy. Yet, literature stresses that empathy levels decline over time and that it is less evident when a clinician becomes more experienced (Williams, Boyle *et al.*, 2015:65). In addition, Williams, Boyle *et al.* (2015:59) find that diminished levels of empathy are also particularly evident among paramedics.

Notably, healthcare professionals who face stressful and negative work environments, such as oncology and emergency care environments, are at risk of compassion fatigue (Mathieu, 2007:1; Verhovsek *et al.*, 2009:5; Liu & Chiang, 2017:30). Compassion fatigue is defined as the decline in compassion and empathy for patients (Mathieu, 2007:1; Verhovsek *et al.*, 2009:5; Liu & Chiang, 2017:30). In addition, literature illustrates that

56% of 1 000 American oncologists had experienced at least one element of burnout (Font, Corti & Berger, 2015:228).

While current literature indicates a decline in empathy and caring over time, this research study shows contradicting results. The sonographers surveyed felt that their level of caring improved over time and with experience. However, there was no indication of compassion fatigue mentioned by the participants in this study.

3.3.1.2 Category 1.2: Professional pride

The participants explained that they delighted in being caring professionals due to their fulfilling careers. Some participants said that they enjoyed giving answers to patients and that they felt happy to make a difference in patients' lives. Despite some participants being introverts, a sense of professional pride was still apparent during these interviews. The participants' quotes below support these findings:

FG 3, P 1: *"I think even though I am an introvert, I am still caring. I am very emotional. So I think I do enjoy it. It is fulfilling to be able to serve..."*

FG 3, P 3: *"I like giving answers to patients. I believe everybody there wants to know what is going on."*

FG 3, P 3: *"Ja [yes] and we are key in finding a diagnosis for a patient. We are often the first people to see that there is a mass in the liver. We are the first person to see that there is a gallstone. Even though it was suspected, we are the first people to see it and if a patient tells you look, I have been having this pain and it's been going on for months. I have been to various doctors and they can't find out what is wrong, to be able to help that patient then and to*

be able to give an answer to that patient, it is the most fulfilling thing in the world.”

FG 1, P 4: “It made me happy that I could be part of her life, even if it was just for a short while. It made me sad to think what she left behind or who she left behind.”

Pride is a powerful force that empowers a high quality of professional work (Jansen, Van den Brink & Kole, 2012:834). Diagnostic radiographers take pride in obtaining high-quality X-ray images, whether it is in the diagnostic department, intensive care units or in theatre (Reeves & Decker, 2012:82). Pride links to having a professional identity. Literature suggests that the teaching of medical professionalism assists healthcare professionals in developing their own professional identity (Cruess, Cruess, Boudreau, Shell & Steinert, 2015:718). Sociologist Robert Merton stated in a 1957 study of undergraduate medical education that it is the purpose of medical schools to shape beginners into actual practitioners (Cruess *et al.*, 2015:718; Ortiz, 2016:20). This will offer them the best skills and knowledge. A healthcare professional will then ultimately create a professional identity so that they can think, feel and act like a physician (Cruess *et al.*, 2015:718; Ortiz, 2016:20).

The participants in the study resonated with the findings of current literature because they showed distinctive aspects of professional pride in their profession as sonographers.

3.3.1.3 Category 1.3: The protective mechanisms of the sonographer

The participants explained that they had a sincere desire to be compassionate and empathetic. However, when encountering difficult situations that may drain them, they put up barriers. These barriers

restricted them from getting too emotionally involved with the patient. The participants also described stories of being cautious of getting too involved with the patients because it may result in not being able to render a service that the patient requires. Some participants felt that, although it was very difficult for them to create a barrier, they still tried to do so. The participants' protective mechanisms are explained in the statements below:

FG 2, P 2: *"...I think there is a thin line between getting too involved where it compromises the service that you deliver and having professional empathy and when I think about most sonographers that I know, I think you pick that up as you go along and the more you do this you learn at what sort of level you are going to empathise with patients where it does not affect you as a patient."*

FG 3, P 3: *"You need to have empathy with your patients, but not over sympathise that you go home at night wondering how your patient is doing. You need to be able to keep that balance and keep your emotions out the room, but to have empathy with your patient's situation."*

FG 3, P 1: *"I try to be friendly always and to be compassionate and empathetic, but as soon as I feel like this is actually going to drain me too much, then I will put a barrier to it or a personal barrier."*

FG 1, P 4: *"Every case can't go sit on you. You have to at some point shake it off and say okay, because I mean, you have got your own problems. Like she said, a patient comes in there and they are probably at a worse place than you are. So you can carry some of their load, but you can't carry all of it. You have to distance yourself. I think it would be very depressing or emotional or*

whatever to have all of that...So you can't get too involved, otherwise stuff like that is going to get to you."

Medical careers are notorious for their high psychiatric morbidity and psychological distress (Marien & Mckinna, 2012:654). Human beings are therefore taught to distance themselves from undesirable conditions. This action is known as "distancing". Similar to the participants in this study, literature suggests that healthcare professionals use distancing as a coping strategy to deal with difficult situations as part of their professional role (Reeves & Decker, 2012:78). These actions result in meeting the high demand of efficiency, safety and effective needs of their working environment (Reeves & Decker, 2012:78; Kagan & Melendez-Torres, 2015:402).

However, distancing can easily result in diminished empathy and limited compassion. A decline in empathy has a negative effect on the care of patients and patient satisfaction (Marien & Mckinna, 2012:654). Consequently, distancing is one of the characteristics labelled as burnout and compassion fatigue (Kagan & Melendez-Torres, 2015:402). Marien and Mckinna (2012:654) associate burnout with depersonalisation, which can then lead to treating a patient as an object. Another protective mechanism that is evident among healthcare professions is that they exhibit emotions they do not truly feel. This mismatch of displayed feelings is defined as "emotional dissonance", better known as "surface acting" (Yozgat, Caliskan & Uru, 2012:675; Karatepe & Aleshinloye, 2009:349). According to Yozgat *et al.* (2012:675), emotional dissonance has been linked to negative outcomes such as low job satisfaction and burnout.

Literature proposes that diagnostic radiographers are less emotionally involved with their patients and are therefore using that as a coping strategy and to minimise job stress (Reeves & Decker, 2012:82).

Diagnostic radiographers choose the profession because they spend limited time with the patient and the chances of X-raying the same patient twice are scarce (Reeves & Decker, 2012:82). Nevertheless, it is still important to remember that sonographers spend a fair amount of time with their patients during ultrasound procedures. The participants in this study related to the findings in literature through evidence of distancing and some form of emotional dissonance.

3.3.1.4 Category 1.4: The emotional/psychological strain of the sonographer

The participants in the research study shared stories of emotional strain. Difficult situations such as dealing with patients who have cancer were frequently mentioned. However, they were well aware when they got too involved with patients and thus shared their concerns during these scenarios. The participants' stories are highlighted in the verbatim quotes below:

FG 1, P 4: *“So caring for somebody, you have to at some point break yourself or your personal life from your occupation and say I am just a sonographer and do what you are there for. Getting too emotionally involved is also not necessarily a good thing. So I think at a point I probably was a bit too involved, but I am glad I did.”*

FG 1, P 4: *“So the caring went much deeper than just the normal patient, because you actually started bonding with this patient and at the end she didn't make it, but her husband came past with actually something that she knitted for [name withheld]. So that was actually very sad, but you can only be what you are and you are not the doctor. You are the sonographer and you can only lend so much support and care.”*

FG 2, P 1: “Well, I think if you get too involved with your patient also it gets difficult for a sonographer. Especially if it is sad cases, because you see so many sad cases, you can’t take all of that on yourself. So that can be also a bit of a difficult situation to care too much.”

FG 3, P 1: “So it is a very fine line and I think it is probably one of my biggest struggles personally in the career to keep that balance between caring and doing what I need to do, but still maintaining my energy levels.”

FG 4, P 1: “I think I would like to take more of a timeout really if I am feeling like I am very upset. I think that will help me to come back as a better person. Like even taking a walk if you are really really upset. Just take a walk and cool down so that when you go into the next patient you are coming in fresh...”

The well-being of healthcare workers working with cancer patients is exceptionally important (Font *et al.*, 2015:231). Studies have shown that the emotional and physical needs of patients, job demands and workload are the main cause of stress and poor emotional well-being among healthcare professionals (Janjhua & Chandrakanta, 2012:110; Santos, Castanheira, Chambel, Amarante & Costa, 2016:415; Font *et al.*, 2015:231). In nursing, healthcare workers face tremendous strain due to workload, difficulties with patients and stressors due to death of patients (Liu & Chiang, 2017:34). Nurses surveyed in another study explained that they felt pain, anger and frustration when they encountered patients who suffered (Liu & Chiang, 2017:34).

Prolonged stress that results in exhaustion and burnout is frequently detected in various professions, including in the healthcare setting (Font *et al.*, 2015:228). According to Font *et al.* (2015:228), emotional

exhaustion, low job performance and decreased personal fulfilment are features of burnout. Burnout is a psychological syndrome that is characterised by a decrease in strength and a disconnection from work involvement. It mostly encompasses exhaustion and cynicism (Santos *et al.*, 2016:415, 417).

Caregivers experience emotional strain as being overwhelmed, emotionally exhausted and fatigued (Strubin, 2017:60). Healthcare workers working as caregivers, who experience strain, describe it as their perceptions of negative psychological, spiritual and physical effects that inhibit them from providing optimal care for terminally ill patients (Strubin, 2017:60; Santos *et al.*, 2016:417). Strain is defined as the physiological balance between environmental demands and personal coping mechanisms (Strubin, 2017:61; Santos *et al.*, 2016:415; Ashong, Rogers, Botwe & Anim-Sampong, 2016:113).

The physiological and social composure of a person determines their attitude and reaction during stressful encounters (Janjhua & Chandrakanta, 2012:110). Sonographers often work with cancer patients and are therefore inclined to experience strain similar to oncology nurses. These study findings are therefore in line with current literature on emotional strain when caring for cancer patients.

3.3.1.5 Category 1.5: Caring relationships enhancing trust

The participants explained that their caring often resulted in patients returning to the ultrasound department with more trust and assurance. They also explained that they built relationships with patients who returned for follow-up procedures and that they tried to be a friend to patients. Participants shared stories of putting patients at ease by talking to them when they were stressed or explaining the ultrasound procedure when they were unsure. This resulted in gaining a patient's trust within the ultrasound department. Furthermore, the participants also indicated

that the type of care they exhibited towards paediatric patients differed. This was justified by trying to improve trust and acceptance from the children. The quotes below reflect the importance of caring relationships to enhance trust between the sonographer and patient.

FG 2, P 1: *“...There was a patient that came for a follow-up breast sonar. She came for a routine mammogram and ultrasound and we picked up there was a mass and we did the biopsy the same day and when she came back now, I did not even realise that I had an impact on her and then she said every time she thinks of something difficult she thinks of me. [Emotional] I did not even realise that I had helped her that much...I was just basically a friend to her in that situation. So when she came back now last week she told me thank you so much, because she actually feels so good to come back to this place, because she knows she is in safe hands.”*

FG 3, P 2: *“...I had a patient that came in for a mammogram and she was so scared and it was her first mammogram and she has a family history of breast cancer and things. So it was her first mammogram. Anyways, she came for the mammogram and thereafter I took her in for the ultrasound and as I did the ultrasound and stuff we chatted a little bit as I was doing the ultrasound. Towards the end of the day I got an email from her and she was actually an editor for a newspaper and she actually sent out an email saying that we actually relaxed her and her whole experience was so good and she will definitely come again and she is going to put out the word you know, that you must not be afraid and all the things you hear about mammograms, it is not as bad. You know, we made her experience very pleasant.”*

FG 4, P 2: *“I had a kid and I did the ultrasound and she had to come back for a follow-up and as soon as they came through the passage*

the mom said ‘there is that nice aunty you talked about. You are going to go to the same aunty. The same aunty is going to help you’ and the kiddie was all full of smiles. She was happy she could get on the bed. It was also a toddler and she was fine with me doing the ultrasound as well.”

FG 4, P 3: “I had a three-year-old autistic child who had to be sedated for all his previous ultrasounds, because the environment was just too much for him and I don’t know if some miracle...but the day I had to scan him it was not necessary to sedate him. So I don’t know what I did differently than treating the other children, but some or other reason he just liked me I think.”

The Cambridge Dictionary (2018) defines trust as “*the believe that someone is good and honest and will not harm you, or that something is safe and reliable*”. Trust is for that reason an important concept in the healthcare setting, due to the fact that there already is an element of risk and uncertainty for the patient (Allison & Chaar, 2016:4). In addition, Birkhäuer, Kossowsky, Gaab, Hasler, Krummenacher, Werner and Gerger (2017:4) suggest that there is a significant correlation between trust in a healthcare professional and the patient's medical outcome.

It is evident in this study that it is essential for patients to trust their healthcare professional because they believe that healthcare workers, such as doctors, nurses and physiotherapists, all work in the patient’s best interest. Birkhäuer *et al.* (2017:6) suggest that patients who have more trust in a healthcare professional are more satisfied with treatment and show fewer symptoms. Allison and Chaar (2016:1) are of the view that patients will most likely disclose information with a healthcare professional whom they trust. This will lead to improved interaction, better caring perceptions and lower anxiety levels from the patient (Allison & Chaar, 2016:1; Birkhäuer *et al.*, 2017:6).

The stories of the participants aligned with current literature. The patients who had undergone ultrasound procedures by the specific participants in this study experienced a sense of trust and appreciation. They were also willing to return to the diagnostic department feeling a sense of ease and worthiness.

3.3.2 Theme 2: Circumstances limiting a sonographer in being a caring professional

Theme 2 emerged after the participants explained that they encountered difficult situations that limited their caring ability. Factors such as time constraints, the type of patient and diverse cultures contributed to these difficulties. Some participants explained that they were task driven and focused on answering the clinical question first.

Personally, the researcher can relate to all of these factors because a busy day with diverse patients and their various needs has an influence on her caring. The researcher is often task driven but is also very attentive to caring for her patients. The circumstances that limit a sonographer's caring are explained in the categories below:

3.3.2.1 Category 2.1: Time constraints

The participants shared stories of time constraints in a busy ultrasound department. Some participants said the most difficult element for them was that there was no time to sympathise with or listen to their patients. The participants acknowledged that a sonographer should be caring. However, they showed feelings of concern with regard to the negative influence that time constraints had on their caring ability. The participants' stories are shared below:

FG 1, P 1: “...A sonographer who has half an hour to scan one patient, which we all know doesn't work. They don't really book every half an hour. Or I suppose they can, it depends on how busy

the department is. But you don't have a lot of time to listen to your patients."

FG 2, P 3: "...because that is the most difficult thing for me in a radiology department. There is no time to actually sympathise..."

FG 1, P 1: "I suppose naturally sonographers should be caring, because we do work with sick patients, but I think one of the things is, we deal with patients who get diagnosed with cancer or whatever the case may be, terminal illnesses and we should be caring, but I think we have time constraints."

Workload is described as an aspect of time, complexity and the amount of work that must be performed in a certain time frame (Ross, Rogers & King, 2018:1). According to Janjhua and Chandrakanta (2012:110), healthcare professionals who face stressful working conditions are more susceptible to emotional and physical diseases. A low level of care and increased stress and anxiety have been reported among healthcare professionals who operate under strenuous working conditions (Janjhua & Chandrakanta, 2012: 110; Ross *et al.*, 2018:1; Raziq & Maulabakhsh, 2015:719). This was evident in this study. Nunes, Williams, Sa and Stevenson (2011:13) and Egan, Keyte, McGowan, Peters, Lemon, Parsons, Meadows, Fardy, Singh and Mantzios (2018:2) assert that an increased workload and time pressures not only contribute to a lack of empathy, but also create a barrier to self-compassion and compassionate care for patients.

Lown, Muncer and Chadwick (2015:1005) define compassionate care as the ability to display understanding, empathy and emotional resonance. Thus, when their time is constrained, healthcare professionals use "rationing". Rationing is when these professionals make a deliberate decision about how much care they are able to

provide in a short amount of time (Ross *et al.*, 2018:1; Aghakhani, Nai, Ranjbar, Rahbar & Beheshti, 2012:13; The Society and College of Radiographers, 2012). Ross *et al.* (2018:1) therefore emphasise that a patient's safety is at risk when the healthcare professional experiences a high workload and low job satisfaction.

The findings from this research study are supported by literature. Time constraints and rationing are the main elements that portray the influence that the caring of healthcare professionals has on their patients. Concern and guilt were sensed among the participants who were unable to provide sufficient care for their patients when their time was limited.

3.3.2.2 Category 2.2: The type of patient in practice

Sonographers encounter numerous patients on a daily basis. These patients are all different, with distinctive pathologies and emotions. Some participants spoke about the difficulties in being a caring professional when patients were rude or on their cellphones. The sonographers also expressed their irritation when patients were pushy by trying to intervene in their scanning protocol. Additionally, the participants recognised the broad variety of patients, some who were poor and disabled, and others who had feelings of fear when entering the department. The participants' feelings are explained in the statements below:

FG 1, P 3: *"I found that I struggle to be a caring professional if I call a patient from the waiting room and they are on their cellphone and they don't even acknowledge me at all and they just carry on talking, and they carry on talking and they follow me and then I found that I walk faster, because I just don't have patience for that. If they come into the room and they just carry on talking on their*

phones, I just find it at the height of rudeness. It is so disrespectful and then I found that that blocks my sense of caring after that..."

FG 4, P 1: *"You know, also sometimes you get difficult patients that tell you this is what they want and this is what should be done and I feel like that can be also be very hard to try and now care for them in the best possible way. And, you have to try and keep your cool and still treat them the same way. I felt it is very hard and you now have to be also very assertive and telling them what your job is to do and why they are here and telling them you know, we have to stick to this protocol in doing that."*

FG 2, P 3: *"I am very sensitive to being biased. I like...especially people that look poor to me or handicap, I like to make them feel that they are so important."*

FG 3, P3: *"I think the important thing to remember is that every patient who comes through the ultrasound department is scared. They all Googled. They all think that they have got the worst cancer and they are going to live about 5 minutes after they get out. [Laughter]. We work with very emotional patients. Above that, 80% are starved and grumpy. So they are in pain."*

FG 4, P3: *"I just try to distract them by just going as fast and efficient as you possibly can. It is not a pleasant experience for them to be scanned and to be in the hospital, but distraction works very well and whatever works with that specific child. I try to work with their parents instead of against them. If the child is comfortable sitting on the mother's lap, the child will sit on the mother's lap. If the child is comfortable laying down, the child will lay down. So I try to not intervene in their comfort zone too much."*

People always want care, whether they are scared, injured or sick (Rising, Hudgins, Reigle, Hollander & Carr, 2016:536). According to Naidoo *et al.* (2018:163), patients often enter radiology departments with anxiety due to fear of the unknown. Evidently in this study, the participants were aware that patients are scared and unsure. McColl-Kennedy, Danaher, Gallan, Orsingher, Lervik-Olsen and Verma (2017:248) found that patients experience a sense of vulnerability and a loss of control over their bodies and psyche.

Moreover, the large radiology equipment often intimidates paediatric patients. Children experience anxiety, fear and stress when entering the sterile-looking radiology department (Quan, Joseph, Nanda, MoyanoSmith, Kanakri, Ancheta & Loveless, 2015:12). Stressed children often cry, move and talk, which results in the healthcare professional being unable to focus and perform the desired task (Quan *et al.*, 2015:2). As also indicated by the participants in the study, literature claims that the stressful nature of radiology procedures may lead to short-term effects such as the use of sedation or cancellation of radiology procedures (Quan *et al.*, 2015:2). The participants acknowledged children's fear and were aware that children found their hospital experience unpleasant. Similarly, the participants in this study knew what impact diagnostic procedures have on children. They shared stories of their understanding of how to create a more pleasant experience for paediatric patients.

Dealing with patients' heightened emotions is stressful for healthcare professionals and may increase the possibility for malpractice (McColl-Kennedy *et al.*, 2017:247). The emotions of patients are extremely important in patient well-being and in the healthcare setting (McColl-Kennedy *et al.*, 2017:247). Silverman, Stern, Gross, Rosenstein and Stern (2012:14) point out that there is an unwritten code of honour by which healthcare professionals are prevented from performing certain

actions that can negatively influence a patient or that can decrease the dignity of their profession. Therefore, they have to maintain integrity and politeness in a socially acceptable manner (Silverman *et al.*, 2012:14).

The diversity of patients and their individual needs is apparent throughout literature, as it was in the current study. The participants in this study appeared to be struggling to deal with difficult and various patient types in practice. Some participants acknowledged the fear of being a patient, while others battled to be caring when patients did not allow room for it. Additionally, the participants were well aware of the emotions of paediatric patients, which is in line with current literature.

3.3.2.3 Category 2.3: Task driven

The participants shared their awareness of having to be caring healthcare professionals by paying attention to their patients. However, they also expressed the importance of focusing on the examination that enabled them to answer the clinical question. The participants felt that they were being caring by performing the examination that was required of them. This then possibly fulfilled the primary need that initially led to the patient's visit to the ultrasound department. The quotes below support the task-driven qualities of the participants:

FG 4, P 3: *“Okay, I think first of all it is important to answer the clinical question, because they were sent to you for a specific reason. So if they are querying a supraspinatus tear, to say yes or no. There is no supraspinatus tear. So for me first of all I focus on the act of actually doing the ultrasound, because they were sent to you for a purpose and that purpose is to actually answer the clinical question that the doctor referred them for.”*

FG 2, P 2: “If you really get too involved with the patient, then you get to a point where you get too emotional to really deliver the service that you should.”

FG 3, P 1: “I think it is an important balance to have to be able to give enough attention and do your examination and not be distracted, but still keep that professionalism not to say anything that could get you into legal trouble or that would be offensive.”

The demand for delivering high-quality healthcare services has increased tremendously throughout recent years and consequently resulted in increased stress among healthcare professionals (Janjhua & Chandrakanta, 2012:110). Literature stresses that the advances in technology influence a healthcare professional’s caring ability. According to Reeves and Decker (2012:82), radiology departments substitute the humanistic interaction of patients by rather focusing on diagnostic excellence. Likewise, the objectification of patients is on the rise and therefore removes the humanity aspect of the patient (Reeves & Decker, 2012:82). According to Reeves and Decker (2012:82) and Naidoo *et al.* (2018:167), objectification is used as a coping mechanism. By objectifying the patient, healthcare professionals avoid getting too attached to the patient.

When healthcare professionals focus on operating equipment to demonstrate their technical capabilities and efficiency, it is often mistaken for compromising the emotional aspect of caring (Reeves & Decker, 2012:82). Kagan and Melendez-Torres (2015:402) are of the opinion that healthcare professionals can easily focus on diagnoses, room numbers and examinations while neglecting their caring for the patient. Particularly, diagnostic radiographers are described to have a “hit and run” culture because they are distanced from their patients by spending a short amount of time with the patient while focusing on

operating the equipment (Reeves & Decker, 2012:82; Kagan & Melendez-Torres, 2015:402).

It is evident in literature that healthcare professionals are known for concentrating on equipment and diagnosis while compromising care. It is also evident through the stories of the participants in this study that sonographers tend to provide the patient with a diagnosis first, leaving room for compromised care. The participants of this study therefore resonated with the findings of current literature.

3.3.2.4 Category 2.4: Religion and cultural diversity

Sonographers explained that caring involves spirituality and culture. They shared stories about their insufficient knowledge of other cultures and said that this limited their caring. The participants also touched on the advantages of knowing different languages and stressed the importance of not being biased. Another participant mentioned the importance of being aware of not being biased. The participants' stories are shared below:

FG 1, P 2: *"I think there is also spiritual part to it and I think very often that causes internal conflict, because sometimes you think that I can maybe say something to this patient to encourage them, but you are not allowed to diagnose."*

FG 1, P 4: *"You were talking about spiritual and I am thinking religion-wise and that guy I was talking about with the amputation, he is a Christian. So we could relate, but I mean not everybody is and you always...Well, for me you would say I would feel things happen for a reason and you can't say it to a patient, but I just think your religion can help you being a better caring professional or it can actually offend a patient and not necessarily be caring. You are trying to be, but it is just...I mean, I can't look at the Muslim or the*

Hindu. I don't know their religion."

FG 2, P 3: "Ja [yes], and not being biased. Like if they are black, if they are Indian, if they are white, if they are fat and you think how am I going to get through this to that liver [Laughter], but...I still make them feel comfortable and being professional."

FG 3, P 2: "In my case and with the environment that I work in, being bilingual is actually good, because most of our patients that we do get are old Afrikaans people and I mean, if you cannot speak Afrikaans or don't understand Afrikaans, I think it puts a hold on the whole exam kind of thing."

South Africa is universally known as the "rainbow nation", a multicultural country with 11 official languages and a diverse culture, ethnic and religious population (Heribert & Moodley, 2015:200; Posel & Casale, 2011:449). Religion and culture offer the presence of tangible and intangible health-promoting factors for both the caring professional and the patient (De la Porte, 2016:12; Hordern, 2016:589). Bakker, Van Leeuwen and Roodbol (2018:1) state that integrated spiritual care from healthcare professionals helps paediatric patients to deal with their sickness or disability.

According to Hordern (2016:589), the Department of Health verifies that an individual's religion or beliefs are acknowledged as playing an important role in the overall healing process. That is why healthcare professionals are obligated to eliminate their personal prejudices that may affect the quality of care or influence a patient's confidence and trust (Allison & Chaar, 2016:4). Understanding a person's culture is an essential requirement for the establishment of a nurse-patient relationship, based on trust and respect (Diallo & McGrath, 2013:121). Consequently, cultural competency is defined as the ability of systems

to provide care to patients with diverse values, beliefs and behaviours. It includes adapting the delivery of care to meet the cultural, social and linguistic needs of the patient (Diallo & McGrath, 2013:122; Mechanic, Dubosh, Rosen & Landry, 2017:392).

Healthcare professionals encounter numerous patients with unfamiliar religious beliefs (Green, 2004:662). They therefore need to be trained for cultural competence. However, from the findings of this study, sonographers felt unable to connect on a spiritual and cultural level with patients. The participants saw their limited knowledge of diverse cultures as a barrier to provide optimal caring. This has the potential to restrict a patient's ability to trust and respect the sonographer.

3.3.3 Theme 3: Sonographer's approach to caring

Theme 3 focuses on how sonographers approach caring. Every sonographer is a human being and a unique individual who displays caring in a different manner. The participants felt that there were physical and emotional aspects to caring. They also shared the effect that professional knowledge has on caring. They felt that their knowledge of their profession made them better caring professionals. Moreover, the participants explained that uncomfortable situations were created due to company policy that often restricted them from disclosing patient diagnoses. This then indirectly had an influence on their caring. The sonographers' approaches to caring are shown in the categories below:

3.3.3.1 Category 3.1: Physical caring

Sonographers gave their opinion on what they thought physical caring was. Some participants believed physical caring was helping patients undress and assisting them onto the bed while others said it was greeting the patients and using warm gel. Sonographers' understanding of physical caring is shared in their stories below:

FG 1, P 2: *“I think there are different aspects to it. So there would be physical caring. So patients who need to be helped, you need to help them on and off the bed and stuff...”*

FG 1, P 1: *“You know, if they need physical help, I will I help them undress. If a lady can’t walk, I will fetch her in reception and I will lead her even if it takes ten hours, to the sonar room, help her undress, get her comfortable on the bed and warm the gel.”*

FG 2, P 3: *“...When you position them, make sure that they feel that you covered everything that should be covered. Tell them what you are going to do next and warm the gel, I think that is very important. And, then make sure your patient is comfortable.”*

FG 1, P 3: *“I am just trying to think of a few examples like just taking your time to lift up the foot flaps on the wheelchair and taking the gowns off and helping them with the drip and sometimes that you know, it requires patience, especially if they are very immobile and that kind of thing, but I think they appreciate that.”*

FG 1, P 2: *“If I think of the doctor that I would choose, I will go to a doctor who is not rushed. So I think time is probably important for me and being thorough. So for me having good care as a patient would involve a person not rushing me and being thorough in the examination that they do.”*

Literature shows that the physical aspect of caring involves activities such as giving bed baths and providing medical information (Zamanzadeh *et al.*, 2010:10; Karlou *et al.*, 2015:245; Widmark-Petersson *et al.*, 1998:238; Pomona College, 2017; Verhovsek *et al.*, 2009:5). Furthermore, McMaster and DeGiobbi (2016:298) state that technology has improved to benefit the patient. However, patients do not

always see these advances and would therefore recognise caring in more emotional components. McMaster and DeGiobbi (2016:298) emphasise that little gestures such as a smile, a warm blanket and a reassuring touch have an immense impact on patients. Little gestures are also expressed through the decoration of immobile masks for paediatric oncology patients (McMaster & DeGiobbi, 2016:298). By customising these masks with various patterns and animation characters, children could look forward to treatment and have a feeling of control over their therapy. McMaster and DeGiobbi (2016:298) found in their study involving radiation therapists that the incalculable value of the patients' smiles when they first saw the customised masks had a very rewarding and fulfilling influence on these therapists.

Moreover, Florence Nightingale, the founder of professional nursing, demonstrated aspects of physical caring such as providing medical equipment and giving fruit and water to soldiers during the Crimean war (Karimi & Alavi, 2015:1). Similarly, Albertina Sisulu, a South African nurse and activist, believed in expressing caring through an act of kindness and a smile (Downing & Hastings-Tolsma, 2016:223). These are ways of creating an environment of respect and caring for the human body, as illustrated by the participants in this study. The participants' interpretation of physical caring therefore echoes what current literature reveals.

3.3.3.2 Category 3.2: Emotional caring

The participants felt that emotional caring entailed listening to their patients and answering their questions. Some participants said that emotional caring is communication and patience, and others indicated that emotional caring can be expressed through empathy and sympathy. The participants' feelings of emotional caring are shared in the following quotes:

FG 2, P 1: “To care for the patient basically. To listen to the patient’s problems and to try and help them as far as you can further than your scope for sonography.”

FG 1, P 5: “I think communication is very important. If you say to a patient this who I am. This is what we are going to do. This is why you are here and this is what this is what we are going to do.”

FG 2, P 3: “Just try to understand their circumstances and understand where they are coming from. It is not everybody that is happy when they come to the hospital. They have got pain. They have got troubles.”

FG 3, P 3: “I think the most important thing is you have to be patient, because as I said, your patients are important. So if you lose your temper with the patient, then the whole thing just goes haywire. You are not focusing on your examination and you miss pathology.”

FG 4, P 1: “...You have to be sympathetic to patients and that is why we are there. I mean, the patients are there because they are sick. So just like how we would like to care for our family members, we have to be very sympathetic and very caring...”

FG 3, P 2: “I am very compassionate. I show a lot of empathy. Sometimes my husband jokes as well and says he wishes that sometimes he was one of my patients [Laughter].”

Healthcare services are generally a very high emotional service and are crucial (Berry, Davis & Wilmet, 2015:87). Emotional caring encompasses expressive aspects such as providing emotional support

to the patient through offers of confidence and hope (Zamanzadeh *et al.*, 2010:10; Karlou *et al.*, 2015:245; Widmark-Petersson *et al.*, 1998:238; Pomona College, 2017; Verhovsek *et al.*, 2009:5). In addition, Milne and Spuur (2009:96) maintain that comprehensive listening and the awareness of the verbal as well as the non-verbal needs of patients are essential.

Empathy, hope and compassion are behaviours that are associated with caring (Karlou *et al.*, 2015:244; Naidoo *et al.*, 2018:163). Not only does compassion help build a foundation between human relationships, but it also promotes mental and physical health (Bramley & Matiti, 2014:2791). Compassion is the essence of caring and helps to alleviate suffering while enabling patients to retain their dignity and independence (Bramley & Matiti, 2014:2791). Haslam (2015:1), Jeffrey (2016:447) and Sinclair, Beamer, Hack, McClement, Bouchal, Chochinov and Hagen (2017:440) all agree that compassion, empathy and sympathy can be demonstrated through:

- Kindness, sensitivity and warmth.
- Identifying and understanding a patient's circumstances and psychological state.
- Reacting to a patient's suffering.

The participants in this study had a similar interpretation of emotional caring.

3.3.3.3 Category 3.3: Professional knowledge of the sonographer

Many participants felt that they were caring when they had ample knowledge about pathology in sonography. The participants explained the importance of questioning the patient on their visit before performing the ultrasound procedure. This allow them to obtain a more thorough patient history that could enhance patient diagnosis. The sonographers

added that, through professional knowledge, patients will not necessarily feel that they are being cared for. The participants shared their stories as follows:

FG 1, P 1: *“I think as a sonographer you basically have to do all the physical stuff and also chat to them when they need to chat, but I mostly just remember pathology. So if you are doing a kid and there is a neuroblastoma, then you will be more compassionate. You will try and answer the mother’s questions and then if she needed to talk to the radiologist, you would call the radiologist..”*

FG 1, P 4: *“I think knowledge as well. I think knowledge makes you sometimes more caring, because you actually know the pathology. I mean for instance, if a patient is very sick and the doctor just sent them for an ultrasound of the abdomen for instance and he doesn’t really know what is wrong and you are listening to the patient’s symptoms and you say okay, this sounds like an appendix, but he didn’t write appendix. He just wrote abdomen. You probably won’t get into trouble if you don’t look for the appendix, but knowing the symptoms that makes you not necessarily...I think it helps in caring, because she won’t feel it to her body, but you go that extra mile.”*

FG 4, P 2: *“Also like before you start a scan, I will always ask them relating to the indication of what the ultrasound is for and what symptoms they have been having, what is it that they have been experiencing, why are they there to get their view as well, because a lot of the times what they say and what the referring doctor wrote, it does not correlate.”*

Patients rely on the competence of medical staff and tend to trust their healthcare professional when they are knowledgeable and skilled in

their profession (Allison & Chaar, 2016:1; Rortveit, Hansen, Leiknes, Joa, Testad & Severinsson, 2015:195). Healthcare professionals have a moral obligation to develop a trustworthy relationship with their patients and to represent their profession in a worthy manner (Allison & Chaar, 2016:4). Terry, Newham, Hahessy, Artherley, Bakenko-Mould, Evans, Ferguson, Carr and Cedar (2017:1) and Karlou *et al.* (2015:244) identify technical skills and communication as features of professionalism and a professional attitude, since caring is not only demonstrated through expressive behaviours, but also through instrumental activities.

Similar to the beliefs of the participants in the current study, literature stresses that patients are better cared for when healthcare professionals have knowledge about a disease (Rortveit *et al.*, 2015:195). In terms of the Health Professions Act of South Africa (2016:28), sonographers need sufficient knowledge to operate and care for equipment during ultrasound procedures. In addition, they are required to perform quality control on accessories while applying optimal techniques during procedures.

In resonating with current literature, the participants felt that their professional knowledge made them caring professionals. The participants shared stories of going the extra mile to assist in patient diagnosis. Revealing their knowledge and representing their profession in a worthy manner may promote trust.

3.3.3.4 Category 3.4: The individuality of a sonographer

The participants explained that they were all human beings and that every healthcare professional expresses caring in a different manner. They felt that caring is personal and related to personality, how a person was raised and what their mood was that day. Some participants also shared stories on how they would jokingly put the patients at ease. They

added that when they used humour to calm their patients, it did not make them less professional. The participants shared stories of their individuality in the quotes below:

FG 1, P 4: *“I think caring is also a personal thing or how you grew up probably, because I am not necessarily very professional if I can say it like that. I would make jokes rather than being too formal. I am really more informal. So I think in some patients that might feel this person is actually not caring and other patients would probably think she is unprofessional probably. In that case they might feel I am not caring enough, but it is just how I was brought up.”*

FG 1, P 2: *“Then also I think it is influenced by unfortunately, your own mood for the day or what you have experienced in the last week or whatever and how stressed you are. So that definitely also affects your caring. If you don’t have a great day, then your patient might not get the care they need.”*

FG 1, P 5: *“You know, also you have got to think about your mood. What am I experiencing today and working with students, the one thing I have always told them is that when you walk in this door you leave your personal problems at home and as hard as it is to do that, we all have PMS and on other days you just can’t handle your emotions. It is the one thing I always try to do, is that the person that you are dealing with has a greater problem than you have.”*

FG 1, P 1: *“We have bed warmers as well and I would ask her all the necessary questions and if she was anxious, I would try and jokingly make her feel more at ease. If she has any questions I*

would try and answer it. If it was something that I would not be able to answer, I would call the radiologist.”

FG 3, P 1: “So I think it is very related to your personality. I think some people are focused on walking into a room doing the examination and more interested in the technical side of things and to walk out and get the next patient in the room, especially when you have time constraints.”

According to Kennedy, Curtis and Waters (2014:140), the choice of occupation is influenced by one’s personality. People choose careers that can provide personal satisfaction and meet their personal needs. Furthermore, Kennedy *et al.* (2014:140) explain that personality is the characteristic of a person that impacts the way they feel, think and behave. According to literature and as described by the participants, people show caring in different ways (Kennedy *et al.*, 2014:140). These caring elements might be different from what patients expect. Each sonographer has their own identity and Aagaard, Sorensen, Rasmussen and Lauren (2016:620) state that the professional identity of a nurse is influenced by education, cultural changes and their individual experiences.

As mentioned, participants indicated that their caring depended on their mood that day and how stressed they were. Kennedy *et al.* (2014:140) explain that diverse personality traits have been associated with burnout, while other personality types are linked to improve coping mechanisms during stressful situations. This shows that personality can either enhance or limit caring in complex circumstances. Furthermore, as indicated in the study, some participants mentioned that they would jokingly try and put a patient at ease. Feagai (2011:45) remarks that humour is seen as a universal language and plays an important role in caring for others and oneself. It has numerous benefits such as

strengthening the immune system and reducing blood pressure and pain (Odom-Forren, 2012:229; Berger, Wilson, Potts & Polivka, 2014:286). In addition, humour and laughter are seen as a positive attribute and are used to reduce anxiety and stress while acting as a coping mechanism (Odom-Forren, 2012:229; Berger *et al.*, 2014:286).

Throughout literature it is evident that caring is not shown in a universal and set manner among healthcare professionals. It is evident that the participants created an atmosphere of healing and trust through subtle humorous interactions with their patients. In addition, their personal and professional identity influenced their actions towards patients. The shared experiences of the participants were therefore in line with current literature.

3.3.4 Theme 4: Educational readiness of sonographers to be caring professionals

Theme 4 focuses on the participants' readiness to be caring professionals. The participants shared that patients often did not understand the scope of practice of sonographers. This grey area caused challenges for both the sonographer and the patient. Furthermore, the participants felt that they would want to study a psychology subject that could help them deal with complex situations within the working environment. They also indicated that the new four-year Bachelor of Diagnostic Ultrasound (BRad) students would have difficulty in caring for patients due to their lack of experience of patients and care.

The researcher can relate to this because she has had numerous encounters with patients who did not understand the scope of practice of sonographers. The situation was worsened when patients became pushy and demanded their results in the ultrasound room. The researcher has also had several encounters with cancer patients and

was unable to emotionally distance herself from the scenario. Furthermore, she feels that students learn by example and that it is vital to teach them the skill of being caring. The categories below support theme 4:

3.3.4.1 Category 4.1: The scope of practice of sonographers

The scope of a sonographer is an area which most patients frequently struggle to understand. The participants suggested that the scope of practice of a sonographer should be explained to patients. Furthermore, the participants said that they were in the difficult position of not being a nurse but also not a doctor. They felt that their inability and authorisation to disclose any results had had an undesirable impact on their caring. Frequently, participants had to explain to patients that they were not allowed to divulge information, and this then resulted in conflict with the patient. Sonographers also shared feelings of concern about the fact that it might not be the correct setting to break bad news to the patient. The participants' stories are shared below:

FG 1, P 5: *“I think it is important to start at the beginning of exactly what the role of a sonographer is and I find that that is a problem for most patients and for sonographers themselves. You are not the doctor. So it is very difficult to diagnose. You see a miscarriage or you see that there is an absent foetal heart and the patient can see the same thing that you are looking at and you are not allowed to confirm. At the same time, you are not a nurse. So you are not doing all the detailed caring. That takes time, you know? You spend an entire day with a patient. So you have that bond that you have created. We are sort of in the middle of all of that. We don't have the time to spend with patients and we don't have the ability to diagnose. So if you understand your role, that I am here to do this job and the patient understands that, then I think you will be able to deliver a service...”*

FG 2, P 3: “Explain the examination, but as far as it goes from treatment, you know that is why...Are we allowed to tell the patient you have got gallstones or not, because the next very important thing is, what now? Is it surgery? So that is not for us to decide. So I always say to the patient that is not my scope of practice. You need to discuss this with your doctor...Tell them what your scope is.”

FG 1, P 5: “...I can’t give the diagnosis. At the end you can say ma’am, I am not really concerned about what I see, but you do know that the doctor makes the final decision and we will discuss it with him now, bear that in mind. So that is sort of the issues that I had at the beginning of my career.”

FG 3, P 3: “It is a position that you are there for in your current job situation. Those are the rules of the company. You do not divulge information to your patient, even if they ask for it. You don’t know how a patient is going to react. If you tell a patient listen, I see there is some cancer in your liver and the patient walks out there and steps in front of a car, it is your responsibility, because it is not done in the correct setting.”

FG 3, P 2: “In some cases, I think it is good that we don’t diagnose, because if you had to see a cancer or something, for you to break that to the patient, I would not have the heart to actually do that. I would just leave it as is. Even though it is like a pro and a con. You win some and you lose some. So if it means me not diagnosing a cancer as I see it, I would actually rather go ahead and just leave that stone there and look inferior when the patient asks me. [Laughter].”

According to Denney-Koelsch, Cote-Arsenault and Lemcke-Berno (2015:1), sonographers' continuous interaction with patients may result in the potential to share confidential information and disclose results. The participants of this study revealed that patients tended to pressurise them to divulge information. Similarly, some literature explains that patients who undergo standard diagnostic ultrasound procedures actually prefer the sonographer to disclose the results rather than waiting for their referring doctor (Denney-Koelsch *et al.*, 2015:2). Sonographers are permitted to disclose information to the patient, but this is very departmental dependent.

Moreover, sonographers have not been trained to communicate with and counsel patients. The lack of communication between healthcare professionals and patients may have an influence on patient safety, because the sonographers' response to patient diagnosis may vary according to their experience (Berglund *et al.*, 2012:2; Denney-Koelsch *et al.*, 2015:2). Therefore, Allison and Char (2016:2) assert that it is compulsory for healthcare professionals to adapt their communication skills so that they can effectively communicate with patients in a way that meets the patients' needs.

In terms of the Health Professions Act of South Africa (1974), the scope of practice of a diagnostic sonographer involves interpreting ultrasound images, describing the findings and suggesting additional treatment management. Furthermore, the sonographers' scope involves responsibilities such as producing and recording ultrasound images of the human anatomy and physiology, while applying patient care during these procedures (Health Professions Act of South Africa, 1974). However, there is no clear evidence in the Health Professions Act that a sonographer is trained to accurately disclose information to the patient. In addition, most participants indicated that the rules of the company prevented them from diagnosing or divulging information.

Some participants felt content with not disclosing a diagnosis because it was not the correct setting for doing so.

Nevertheless, at the University of Johannesburg, the Radiographic Practice IV (Olsson, 2017:18) subject prepares sonography students to interpret and analyse ultrasound images in order to differentiate normal from abnormal. This enables them to report on the findings both verbally and in writing (Olsson, 2017:18).

3.3.4.2 Category 4.2: Lack of a psychological component in sonography

The participants expressed their desire to have a psychological component that may aid in dealing with complex situations. The participants shared stories about situations where they were out of their depth in providing the desirable care that was required for the patient. Some participants also explained that it was difficult for them to erect barriers to avoid becoming emotionally involved with patients. Other participants added that it was difficult to compose themselves when they encountered patients with undesirable pathologies. The participants' stories are shared in the quotes below:

FG 1, P 3: *"I often struggle with patients for instance who come in with a miscarriage and when I scan and I see that the patient has actually miscarried, I struggle to figure out how to actually try to be caring, but on the other hand I am actually not supposed to really give them much information, but on the other hand, if I act like everything is all honky dory, then I feel like I am actually deceiving them as well. So that is often a very difficult situation to be in. You know, I feel like I often don't know how to handle it, but obviously it is a very sensitive time in that patient's life. So I have got to try and figure that one out."*

FG 1, P 3: *“I think I often felt or been in circumstances when I feel I am actually out of my depth. This patient needs help and I don’t know how to do that. It is more the emotional support and I have often felt like this patient needs help and I can’t provide it. So I think that there should be some kind of psychology component to the training that helps prepare us for all of those different situations that are so difficult. So that we will know exactly what to do in those circumstances and what is actually required of us.”*

FG 3, P 2: *“For me as a sonographer, it is very hard to create that line and that barrier between you and your patient, because in that room it is just you and that patient and your patient will open up to you in certain ways and it’s good to actually listen and to give advice. I personally would interact with them in a way that makes them feel comfortable, because laying on that side of the bed, I think it puts a lot of pressure and strain on a person, because they rely on you.”*

FG 2, P 1: *“Well, I think if you get too involved with your patient also it gets difficult for a sonographer. Especially if it is sad cases, because you see so many sad cases, you can’t take all of that on yourself. So that can be also a bit of a difficult situation to care too much.”*

FG 3, P 1: *“I think it is a difficult position personally for me to be in, because we don’t have the background of psychology and you don’t always have the answers either, because we are not radiologists. So we can’t necessarily comfort them on a medical level also because we should be careful of doing that.”*

FG 3, P 2: *“If I had a sad case or a rude patient or something, it really affects me emotionally. So, I think a psychological class or*

something like that would actually help us to maintain that patient-sonographer barrier kind of thing, because with me basically there is no barrier. I think in a way you should create that barrier. I think in some cases it is beneficially for you, but in some cases it is not.”

FG 4, P 3: “Sometimes you do get personally involved, although you don’t want to, because [name withheld] is a cancer hospital. We do a lot of oncology. We do a lot of paediatric oncology and those children and those family members come to you on a regular basis. Some of those patients you even start to know and you start to know their family members. You start to know their friends. They remember your birthdays. So there for me it is a little bit difficult to draw the line between patient and carer, because you actually start to know these people and it is sad when they pass away and they do. You lose more than you help, but you try to maintain that distance and not to be friends with them.”

Work-related psychological well-being is described as an individual's positive experience at work (McInerney, Kopershoek, Wang & Morin, 2018:146). There is no universal definition of well-being, although it provides necessary information about one's coping mechanism and the ability to handle stress (McInerney *et al.*, 2018:146). Good spiritual well-being results in motivation and better performance (McInerney *et al.*, 2018:146). A negative influence on the spiritual well-being of an individual causes loneliness and depression (Fathi, Hamzepour, Gammon, Roshani & Valiee, 2018:3107).

Liu and Chiang (2017:34) are of the opinion that nurses play a vital role in patient safety and care. When healthcare professionals in a good psychological and emotional state deliver high-quality medical care, it can improve the health outcome of patients (Janjhua & Chandrakanta, 2012:110). In addition, Arieli (2013:193) and Strubin (2017:60) point out

that the lack of preparation for unusual patient situations contributes to emotional challenges and can create an element of apathy. Similarly, literature explains the concept of resilience in nursing. Resilience is described as the ability to continue normal development, despite encountering difficult situations and stressors (Cope *et al.*, 2014:88).

It is evident that psychological well-being has an immense influence not only on a professional, but also on fellow peers and patients. The feelings of the participants in this research study did not align with literature in this instance. However, although the participants had difficulty in coping with certain draining scenarios, they were not ignorant of the fact that they might need some form of coping mechanism.

3.3.4.3 Category 4.3: Student training

The participants of this study stated that students play a major role in the sonography department. However, their caring ability is often doubted. Participants expressed feelings of concern about students who often focused on learning the technique of ultrasound, which resulted in them frequently forgetting that there was a patient to care for. Some participants also said that they tried to lead by example, but they thought that the new BRad students would have some difficulty in caring for patients. This was because of the students' inexperience and lack of prior knowledge gained in diagnostic radiography about patients and the duty of a sonographer. However, one participant disagreed and said that students would listen more carefully to each their patient. The participants' feelings about student training in practice are shared in the quotes below:

FG 1, P 5: “...and working with students, the one thing I have always told them is that when you walk in this door you leave your personal problems at home and as hard as it is to do that, we all have PMS and on other days you just can't handle your emotions.

It is the one thing I always try to do, is that the person that you are dealing with has a greater problem than you have. They are more vulnerable than you are.”

FG 1, P 5: “I think if you also tell them, because they are so focused on this is a patient, you know? Or here is a liver or here is a kidney and if you sort of just like remind them that it is a human being and you can have a conversation and you can interact and then you can provide maybe a more holistic service...”

FG 1, P 4: “I think now the new students are probably going to get more of a bomb shock than what we did, but we were radiographers before we were sonographers and we knew what the job entailed.”

FG 3, P 3: “I think especially the new students needs to have something to build on their emotional side and how they deal with patients, because some of our students aren’t very great with that. They are not very great with patient care to start with. They just want to come in and they want to show you that they have learned in the class and that they can do this now. So sometimes your patient care goes all the way out the window.”

Another participant disagreed:

FG 3, P 1: “I think students are more likely to be more caring and interested in the patient on a personal level. I think they are often overwhelmed by the emotional side of things that they sort of...I think in a sense you get...blunted as a qualified that you sort of get to a point where you are not really...I won’t say not interested, but when you deal with one person after the other with each having their own emotional story, then you won’t necessarily want to listen to each one as thoroughly as you would when you were a student.”

According to Ortiz (2016:20), student nurses' inability to provide competent care causes them to experience anxiety and self-doubt. De Swart, Van Rensburg and Oosthuizen (2017:1) stress the importance of implementing the process of professional socialisation. This will result in superior care to all South African citizens (De Swart *et al.*, 2017:1). Professional socialisation is described as the process in which students adopt the language, technology and professional values of their profession (De Swart *et al.*, 2017:1). In addition, current literature on nursing education reports that nursing students need to receive psychology instruction that helps to improve their understanding of themselves, patients and healthcare organisations (De Vries & Timmins, 2017:27).

At the University of Johannesburg, the two-year Baccalaureus Technologiae (BTech): Ultrasound consists of numerous subjects to create knowledgeable, skilled and competent diagnostic ultrasound professionals (Olsson, 2017:18). Students are also taught to assess and perform patient care to guarantee patient well-being. In addition, the subject Psychodynamics of Patient Management provides students with the ability to communicate with diverse patients within the diagnostic department (Hazell, 2015:10; Olsson & Van Dyk, 2017:9; Olsson, 2017:20). This will equip the students to care for their patients and not just focus on the equipment, as indicated by the participants of this study.

The four-year BRad: Ultrasound appears to serve the same purpose over the first two years as the BTech (Van Dyk & Mahlaola, 2016:8; Casmod & Van Dyk, 2017:12). However, Professional Practice is a subject that is additionally taught during their first and second year of ultrasound studies (Casmod, Lawrence & Hazell, 2018:11). In this subject, students not only learn the knowledge and skills of being a

healthcare professional, but also discover their role as a healthcare member. The hope is that the student will act professionally towards patients and interact with them with care. Although the participants of this study doubted the ability of students, it is evident that tertiary education prepares them to be healthcare professionals who care.

3.4 CONCLUSION

The experiences of the participants of this study give a strong indication that sonographers have a clear and sound understanding of caring. Trusting relationships between sonographer and patient were evident, which created an overall encouraging impression and a sense of professional pride. Most of the information from the participants aligned with current literature. However, some categories raised concern and revealed a negative impact of caring in sonography. Guidelines and recommendations to alleviate these concerns will be discussed in the following chapter.

CHAPTER 4 GUIDELINES, RECOMMENDATIONS AND CONCLUSION

Educating the mind without educating the heart, is no education at all.

Aristotle

4.1 INTRODUCTION

The previous chapter presented and conceptualised the descriptive findings of the focus group interviews. Due to the lack of information on ultrasound, the literature was based on allied healthcare professions. Chapter 4 focuses on developing guidelines and recommendations of the study that may assist and enhance future caring in ultrasound, both clinically and academically.

4.2 OVERVIEW

During literature control in chapter 3, it was noticeable that sonographers understood the concept of caring. However, while listening to the participants' stories, it was evident that sonographers struggle with certain elements. It was apparent that they experience emotional and psychological strain, and that caring for diverse patients can be challenging. The participants exhibited a need for some form of coping mechanism while also expressing their concern regarding the ability of students to be caring. It was therefore urgent for the researcher to develop guidelines that may assist caring in sonography.

4.3 GUIDELINES

Guidelines are defined as the development of statements to help assist and improve future circumstances (Lomotan, Michel, Lin & Shiffman, 2010:510). This qualitative study is consistent with descriptive phenomenology. The researcher used Brink's (2010:113) suggestion of gaining an in-depth understanding of sonographers' experiences, opinions and beliefs as caring professionals. Throughout the study, the researcher explored and described the lived experiences of the

participants to assist in developing accurate guidelines and recommendations (Tuophy *et al.*, 2013:18). In this study sonographers were passionate about caring for their patients, but they encountered a number of circumstances that affected their caring ability. The guidelines that have been developed were based on the findings of the data that was collected under each theme in this study.

A process of inductive and deductive reasoning was applied in this study, which is in keeping with qualitative studies. The researcher used inductive reasoning to identify underlying meanings from the stories shared in order to develop themes and categories. The researcher also relied on her reflective field notes to ensure a true understanding of the sonographers' experiences. Deductive reasoning was applied by the researcher reflecting on the data obtained from the themes and making conclusions to develop guidelines to enhance caring among sonographers.

Table 4.1 below provides a summary of the guidelines and strategies for their implementation:

TABLE 4.1: GUIDELINES AND METHODS

<p>Theme 1: The effects of a caring relationship between sonographer and patient</p>	<p>Guideline: Facilitate a supportive and healing environment for sonographers</p> <ul style="list-style-type: none"> • Reflective practice • Peer discussion • Services of a psychologist • Tea garden
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<p>Theme 2: Circumstances limiting a sonographer in being a caring professional</p>	<p>Guideline: Promote patient-centred caring among sonographers</p> <ul style="list-style-type: none"> • Encourage little gestures approach to caring • Promote role modelling • Adapt and endorse practices of Jean Watson's theory of transpersonal caring
<p>Theme 3: Sonographer's approach to caring</p>	<p>Guideline: Encourage professional development among sonographers</p> <ul style="list-style-type: none"> • Create a professional identity among sonographers • Undergo continuous professional development
<p>Theme 4: Educational readiness of sonographers to be caring professionals</p>	<p>Guideline: Develop a caring module for the undergraduate programme</p> <ul style="list-style-type: none"> • Teach communication skills • Psychology module • Cultural competence • Reflective practice • Altruism

The guidelines are described in detail on the following page:

4.4 THEME 1: THE EFFECTS OF A CARING RELATIONSHIP BETWEEN SONOGRAPHER AND PATIENT

Guideline 1: Facilitating a supportive and healing environment

The first theme explored the effects of a caring relationship between sonographer and patient. Participants explained that, through experience, they learned how to read patients in order to determine what type of care the patient required. The participants spoke about the difficulty in creating a barrier so that they did not get too involved with patients and their situations. This resulted in sonographers experiencing emotional and psychological strain. However, regardless of these challenges, they were still proud to be sonographers. They had an overall optimistic outlook and their caring relationships resulted in positive outcomes such as patients trusting the healthcare professional and gaining the confidence to undergo ultrasound examinations.

The researcher felt there was a need to develop guidelines to help facilitate a supportive and healing environment in order to overcome the negative effects of a caring relationship. Suggestions on how to implement this guideline are provided below:

4.4.1 Reflective practice

Literature indicates that caring diminishes over time (Williams, Boyle *et al.*, 2015:59). The researcher therefore believes that reflection among qualified sonographers and students should be encouraged. Frantz and Rowe (2013:3) define reflection as the process of thinking about previous experiences in order to improve current behaviour. They consider it a vital aspect that develops thinking skills. Sonographers should therefore be encouraged to keep reflective journals to document events that influence them emotionally and how they can improve their future reactions towards those events. The reflective journals can then be shared during peer discussions that must be held on a regular basis.

The end result of reflective practice should enhance patient experience by having a sonographer who reflects, thinks and cares better for every patient.

4.4.2 Peer discussion

Sharing knowledge and practical experiences during peer discussion can develop and improve reflective skills and self-efficacy (Frantz & Rowe, 2013:3; Palsson, Martensson, Swenne, Adel & Engstrom, 2017:82). Some other benefits of peer discussion include promoting teamwork, leadership and communication. Successful peer discussions have effective advantages such as belonging, involvement and participation (Bridges, 2018:290; Shaw, Mitchell, Del Fabbro, 2015:124). Peer discussion therefore ultimately enhances personal, intellectual and professional development (Shaw *et al.*, 2015:124).

During peer discussions, sonographers can share both difficult and enjoyable encounters. In this way they can propose possible strategies to counteract negative behaviour or challenges and also motivate their peers to be caring sonographers by sharing their heartfelt experiences.

4.4.3 Services of a psychologist

As indicated in the previous chapter, the emotional well-being of healthcare professionals is fundamental. Healthcare professionals work in an environment where they are required to interact with other professionals to ensure the best interest of the patient (Font *et al.*, 2015:228). Sonographers are exposed to numerous aspects that can lead to emotional strain and burnout. Being emotionally exhausted can then have a negative consequence on the patient and patient safety (Font *et al.*, 2015:228).

In the data collected, there was no evidence of emotional support for the sonographers. Sonographers did not have access to a psychologist to

share traumatising events. The researcher recognised the necessity to set up meetings with a psychologist. These meetings can take place at regular intervals and will encourage all staff members to utilise the facility and not one person has to feel shy about it. This will allow sonographers to receive professional help in time of need. Not only will this implementation be beneficial for the sonographer, but literature suggests that a healthcare professional with good psychological well-being will react constructively during the inevitable stressful situations within a healthcare environment (Janjhua & Chandrakanta, 2012:110). They will also be able to still care for patients and this caring will not be influenced by their mood that day, or the demanding situations of the department.

4.4.4 Tea garden

There is growing evidence to suggest that exposure to natural environments can be associated with mental health benefits (Pearson & Craig, 2014:1). Exposure to nature has been linked to lower levels of stress and a reduction in anxiety and depression (Pearson & Craig, 2014:1). Giving sonographers access to a tea garden will give them the time and ability to relax and meditate. This will maintain psychological well-being by enabling sonographers to de-stress. The patient will automatically benefit from this technique, because sonographers will return to the department less overwhelmed and stressed, thus able to provide sufficient care to the patient.

4.5 THEME 2: CIRCUMSTANCES LIMITING A SONOGRAPHER IN BEING A CARING PROFESSIONAL

Guideline 2: Promote patient-centred caring among sonographers

Theme 2 emerged after the participants indicated that there were certain circumstances that limited them in being caring professionals. Caring for different types of patients in practice and religion and cultural diversity

are some challenges that sonographers encounter. Most of the participants shared concern about caring for their patients when they were under time pressure and having to answer clinical questions first, showing some evidence of being task driven. The following guidelines are suggested:

4.5.1 Encourage little gestures approach to caring

Reeves and Decker (2012:82) stress the importance of teaching little gestures. This will decrease a healthcare professional's task-driven behaviour that is often seen as non-caring. Terry *et al.* (2017:9) emphasise this: *"Touch other, physically, emotionally, intellectually, and spiritually. Learn to use silence, it provides a powerful means of communication."*

McMaster and DeGiobbi (2016:298) give examples of little gestures such as providing patients with a blanket, a smile or just a reassuring touch. Despite the focus on patient diagnosis, by using effortless gestures, patients will experience a sense of appreciation and caring from the sonographer. Little gestures can be encouraged among sonographers by having a 'caring reward'. A caring professional can be nominated each month and will then be rewarded with, for example, an extra day's leave or free lunch. Striving for an award might create a sense of pride and a habit of sincerely caring for the patient.

4.5.2 Promote role modelling

A caring culture among leaders can influence subordinates. Improving morale such as practising a thank you or paying colleagues a compliment can decrease compassion fatigue among healthcare professionals (Haslam, 2015:3). Literature reports that role modelling can relieve stress within the clinical environment and has the ability to encourage compassion, caring and empathy (Benbassat, 2014:550). The researcher feels that when caring is displayed by a senior

sonographer, sonographers will be more aware of their behaviour towards patients. It should therefore be a senior sonographer's responsibility to encourage caring and not just patient care. A senior sonographer must also empower fellow sonographers to continuously develop their attributes as a caring professional, and to create and maintain a positive work environment with a caring morale.

4.5.3 Adapt and endorse practices of Jean Watson's theory of transpersonal caring

Watson's theory of human caring was developed for nursing practice to ensure that caring is a key component in the patients' experience (Pajnikihar *et al.*, 2017:2; Watson Caring Science Institute, 2019). Watson's theory initially consisted of 10 carative factors, which later evolved into caritas factors (Watson Caring Science Institute, 2019). The core principles of Watson's human caring science emphasise the act of exercising loving-kindness while fostering a wholeness of one's mind, body and spirit (Pajnikihar *et al.*, 2017:2; Watson Caring Science Institute, 2019; Naidoo *et al.*, 2018:163).

This model may be adapted to suit a sonography environment. Sonographers can be encouraged to engage with these factors and share them with fellow healthcare professionals.

4.6 THEME 3: SONOGRAPHER'S APPROACH TO CARING

Guideline 3: Encourage professional development among sonographers

The third theme focuses on a sonographer's approach to caring. The participants shared some compelling stories that created the impression that they understood the concept of being caring professionals. Participants were aware of the different aspects of caring and they acknowledged their own diversity, recognising that their approach to

caring for patients differed. This made the researcher sensitive in creating a guideline that can assist a sonographer with being comfortable with who they are as a healthcare professional. The approach to help create a voice for sonographers is explained below:

4.6.1 Create a professional identity among sonographers

Professional pride and professional confidence are dynamic processes that develop in a social and active manner. Professional pride entails the ability to respond to certain situations, based on one's tradition and knowledge (Sneltveldt & Bondas, 2015:562; Ortiz, 2016:23). When a healthcare professional has pride in their work, they are able to deliver high-quality care (Sneltveldt & Bondas, 2015:562; Ortiz, 2016:23). Likewise, Aagaard *et al.* (2016:620) assert that education is one of the keys to forming a professional identity in nursing. There is no common definition of professional identity, but it encompasses important attributes for a healthcare profession, for example being patient-centred, portraying compassion and having good communication skills (Bridges, 2018:290).

The participants indicated that caring is influenced by personality and how a person was raised. Another participant said that caring depended on their mood that day. The researcher therefore suggests that medical professionalism should be included in the curriculum in undergraduate studies so that sonographers can develop their own professional identity (Cruess *et al.*, 2015:718). They will be able to care for their patients' needs without feeling guilty for not handling situations in the same way as other sonographers. Professional identity development will give them more confidence to take pride in their profession and their mood that day will not influence their level of professionalism. They will start to think and feel like sonographers: knowledgeable and competent healthcare professionals. They will also act like a sonographers, with pride and a well-fostered identity. Consequently, with pride and a professional

identity, they will have the ability to act as professionals who treat patients with care and compassion.

4.6.2 Undergo continuous professional development

The researcher suggests that there should be short learning courses or continuous professional development (CPD) workshops to help qualified sonographers who did not have Applied Psychology as a module in their two-year BTech curriculum. These workshops or courses will provide sonographers with the opportunity to grow and transform. In addition, in extreme circumstances, positive psychology intervention (PPI) can also be applied in clinical practice due to its ability to reprogramme the brain and help sonographers to cope with previous psychological trauma.

4.7 THEME 4: EDUCATIONAL READINESS OF SONOGRAPHERS TO BE CARING PROFESSIONALS

Guideline 4: Develop a caring module for the undergraduate programme

This theme echoed an overall perturbed feeling among the participants. The participants were not comfortable disclosing information to patients because most of their practices did not allow this. In addition, the participants felt it was not within their scope to do so. Not only did the participants crave a psychological component to assist in dealing with intense scenarios, but also expressed feelings of concern pertaining to students who, according to them, do not meet the requirements of being caring professionals. The researcher suggests methods to assist in creating an overall positive healthcare experience:

4.7.1 Teach communication skills

Communication is defined as the process of establishing a mutual understanding between people (Strydom, 2012:5). The context of communication occurs in a physical space with social, cultural and

psychological conditions (Kourkouta & Papathanasiou, 2014:65). Communication is an essential element in healthcare and the inability of healthcare professionals to communicate effectively results in suboptimal care that compromises patient safety (Janjhua & Chandrakanta, 2012:113; Berglund *et al.*, 2012:2). The researcher therefore stresses that communication skills should be started early during undergraduate studies in order to acquire and improve the skill of good communication as a qualified sonographer.

4.7.2 Psychology module

Healthcare professionals have tremendous occupational stress that causes loss of interest in the practice, tiredness and burnout. As mentioned previously, this can have a negative influence on the patient and may result in malpractice. The researcher therefore stresses the need to implement coping mechanisms. Healthcare professionals can only put oxygen masks on their patients after they have put them on themselves first (Egan *et al.*, 2018:2; Ashong *et al.*, 2016:116).

The researcher therefore suggests that a module on PPI be incorporated in sonography. According to Antoine, Dauvier, Andreotti and Congard (2018:140), PPI re-educates the memory and has the ability to promote psychological well-being by improving positive attributes and eliminating negative feelings (Donaldson, Dollwet & Rao, 2015:185). Where there is psychological well-being, people often have self-acceptance, personal growth and positive relationships (Antoine *et al.*, 2018:141).

4.7.3 Cultural competence

Cultural competence can be taught by making use of Giger and Davidhizar's transcultural assessment model (Albarran, Rosser, Bach, Uhrenfeldt, Lundberg & Law, 2011:7). This model enables a healthcare professional to address cultural issues and to treat patients in a holistic manner (Karabudak, Tas & Basbakkal, 2013:342). This model signifies

a synergy with spirituality and religion and highlights the danger of stereotyping. It is a model used by nurses and is therefore suitable to use for many healthcare professionals, such as a sonographer.

Therefore, by appreciating the uniqueness of patients, sonographers can treat them with cultural sensitivity. The cultural phenomena of the model consist of six dimensions (Karabudak *et al.*, 2013:342):

- 1. Communication:** This refers to conveying and protecting an individual's culture.
- 2. Space:** This entails respecting and providing personal space for the patient when possible.
- 3. Social organisation:** This encompasses the patient's beliefs, family and affiliations.
- 4. Time:** This refers to the cultural orientation of time such as past, present and future.
- 5. Environmental control:** This is the ability of the patient to have a sense of control over factors that may have an influence on them. When patients have control or a sense of control, they will adhere to treatment and easily participate in activities that can improve their health.
- 6. Biological variations:** This includes the development, growth and diseases as experienced by different racial groups.

Implementing the transcultural assessment model may have the potential to enhance caring in sonography.

4.7.4 Reflective practice

When students are present during peer discussions, they will be able to share their innocent and newfound knowledge while simultaneously learning from the qualified sonographers. In addition, the age gradation of sonographers working together usually varies and may provide

additional changes and an innovative approach to caring during peer discussions. Peer discussions might help the sonographer think about caring for the patient in a way that has never been in their frame of reference. The techniques that are learned during these peer discussions can be implemented in everyday practice. It is important that these discussions take place on a regular basis and in a social manner. A senior sonographer should be present to ensure that students are able to voice their opinions and not feel intimidated.

4.7.5 Altruism

Empathy and compassion were frequently reported by the participants in the interviews. According to Gogola (2018:45), compassion is essential for displaying commitment and commitment is a nurturing way of caring. Commitment in the nursing profession is described as the delivery of selfless care (Gogola, 2018:45; Harris, 2018:3). Alavi, Zargham-Boroujeni, Yousefy and Bahrami (2017:5) use the word 'altruism' to define a generous act of caring while sacrificing oneself for the benefit of the patient (Alavi *et al.*, 2017:5). Moreover, they stress that empathy is a fundamental attribute altruism, because helpful actions cannot be displayed without feeling empathetic towards others. It is therefore evident that empathy and compassion have an immense influence on caring.

The researcher therefore suggests that sonography students should spend one day a month in a senior citizens' home, a home for people with special needs and/or an orphanage. In that way, they can learn to experience and appreciate each person as a unique individual in his/her environment and comprehend the challenges and inner experiences of every human being. This might stimulate their compassion and empathy in a more relaxed environment that can then be transferred to their clinical environment. A monthly engagement is suggested so that

students do not see it as a project that must be dealt with, but rather as caring being built into them as healthcare professionals.

4.8 RECOMMENDATIONS

Copland (2016) defines a recommendation as a significant suggestion to benefit and improve a certain situation. Based on the findings of the study, important recommendations are made:

4.8.1 Recommendations for ultrasound practice

- Sonographers are encouraged to have reflective journals to document important events that might have an emotional influence on them.
- Peer discussions should be held so that sonographers can share experiences and recommendations for caring.
- A psychologist should be available to counsel traumatised or emotionally challenged sonographers.
- Practices should invest in building a tea garden for sonographers. This garden can be used during breaks or when needed and has multiple mental well-being benefits.
- Ultrasound practices should focus on selecting senior sonographers who display, reflect and encourage caring.

4.8.2 Recommendations for ultrasound education

- Higher education institutions should adapt and endorse practices of Jean Watson's theory of transpersonal caring.
- There is a need to develop professional identity development among sonographers. A possible professional identity module should therefore be incorporated in tertiary education programmes.
- Communication skills should be enhanced to assist in transferring and disclosing information to patients in the correct manner. A communication module would therefore be of benefit.

- Positive psychology interventions or Applied Psychology as a subject are advised from first-year undergraduate studies.
- Community engagement should be incorporated in the students' studies to create and sustain caring in sonographers as healthcare professionals.

4.8.3 Recommendations for ultrasound research

- Due to the limited information that is available on caring in sonography, it is recommended that more research be done to generate further knowledge on this matter.
- It is recommended that a similar study should be considered in public institutions to help build and develop the foundational ground of caring in sonography.
- Information on enhancing and rectifying the emotional state of sonographers who did not study Applied Psychology during their postgraduate studies should be obtained.

4.9 LIMITATIONS OF THE STUDY

The only limitation that might pose a threat is that this qualitative, descriptive phenomenological study was limited to sonographers who worked in private practices in Gauteng. The researcher experienced no other challenges.

4.10 CONCLUSION

Possible guidelines and recommendations were provided in this chapter that might not only improve caring among sonographers, but also enhance the psychological well-being of healthcare professionals. The purpose of the descriptive phenomenological study was to explore and describe sonographers' experiences of being caring professionals within private practice in Gauteng. The participants in this study explained and shared their understanding of being caring professionals. They portrayed a sense of professional pride and shared many stories

regarding trusting relationships with patients. However, they encountered many challenges as a caring professional, both physically and emotionally. It is crucial to recognise these challenges and the importance of improving the well-being of the sonographer. This will ensure a healthy and happy sonographer that will ultimately exhibit sufficient caring towards patients and thus enhance patient satisfaction.

Four main themes were developed based on the stories and experiences shared by the participants. These themes led to the development of four potential guidelines to enhance caring among sonographers. The aim of the research study was therefore achieved. However, the implementation of these guidelines is highly recommended. It is the responsibility of sonographers, sonography departments and universities to implement, enhance and sustain caring within healthcare.

4.11 MY REFLECTION OF THE STUDY

The process of compiling and writing the dissertation has been an immensely challenging yet fulfilling experience. It required great discipline and sacrifices to ultimately complete this to the best of my ability. I gained so much knowledge about research and the skill of scientific writing. I thoroughly enjoyed the data collection process because it was good to hear that fellow sonographers experience similar difficulties and satisfaction in their profession. The title of this dissertation had a major influence on my thoughts and behaviour as a caring professional. It made me aware of my true intentions towards patients. It made me ask myself: *“Am I applying patient care or am I caring? Am I caring for my patients with genuine intentions and empathy?”* It put me on a spiritual journey of appreciation for and compassion towards humanity. I discovered a new passion for my profession and a desire to not only be a faultfinder, but a problem solver for sonography.

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APPENDIX A: INFORMATION LETTER



DEPARTMENT OF MEDICAL IMAGING AND RADIATION SCIENCES RESEARCH STUDY INFORMATION LETTER

June 2018

Good Day

My name is Leah van der Westhuizen **I WOULD LIKE TO INVITE YOU TO PARTICIPATE** in a research study on **SONOGRAPHERS' EXPERIENCES OF BEING A CARING PROFESSIONAL WITHIN PRIVATE PRACTICE IN THE PROVINCE OF GAUTENG**

Before you decide on whether to participate, I would like to explain to you why the research is being done and what it will involve for you. **I will go through the information letter with you and answer any questions you have.** This should take about 15 to 20 minutes. This study is part of a research project being completed as a requirement for an M.Tech Degree in Radiography through the University of Johannesburg.

THE PURPOSE OF THIS STUDY is to: explore and describe the sonographers' experiences of being a caring professional in order to develop guidelines to enhance the sonographer's caring role.

Below, I have compiled a set of questions and answers that I believe will assist you in understanding the relevant details of participation in this

research study. Please read through these. If you have any further questions I will be happy to answer them for you.

DO I HAVE TO TAKE PART? No, you don't have to, participation is voluntary. It is up to you to decide to participate in the study. I will describe the study and go through this information sheet. If you agree to take part, I will then ask you to sign a consent form.

WHAT EXACTLY WILL I BE EXPECTED TO DO IF I AGREE TO PARTICIPATE? Should you choose to participate in my study; you will be asked to share your experience of caring. This will be done in the form focus group interviews. I cannot ensure confidentiality by group participants, but only request that they keep the discussion confidential. The interview will be 30-40 minutes long and will be audiotaped which will allow me to accurately reflect on what was said during the interview. You will be requested to give permission for the audiotaping on a different consent form. In this research study, there will be no financial gain or direct benefit to you as the participant, however, it is anticipated that this study will benefit the Sonography profession as a whole.

WHAT WILL HAPPEN IF I WANT TO WITHDRAW FROM THE STUDY? If you decide to participate, you are free to withdraw your consent at any time without giving a reason and without any consequences. If you wish to withdraw your consent, please inform me as soon as possible. However, data collected until the time of withdrawal will be retained by the researcher since no names will be used during the focus group interviews. Therefore, audio-taped data will remain anonymous and the researcher will be unable to identify the contribution made by the particular participant. The data will be destroyed 2 years after publication of the research.

IF I CHOOSE TO PARTICIPATE, WILL THERE BE ANY EXPENSES FOR ME, OR PAYMENT DUE TO ME:

You will not be paid to participate in this study and you will not bear any expenses.

RISKS INVOLVED IN PARTICIPATION: There are no anticipated risks to participants involved in this study.

BENEFITS INVOLVED IN PARTICIPATION: There are no direct benefits to you as a participant; however, the benefits of participating in the study will give you a chance to share your experiences with other Sonographers. Also, you will be given an opportunity to help me gain valuable insight into your experience of caring, which will in turn assist in the development of guidelines to enhance caring amongst Sonographers.

WILL MY PARTICIPATION IN THIS STUDY BE KEPT CONFIDENTIAL? Yes. Names during the interview will not be captured on the data sheet. All data and back-ups thereof will be kept in password protected folders and/or locked away as applicable. Only I or my research supervisors will be authorised to use and/or disclose your anonymised information in connection with this research study. Any other person wishing to work with your anonymised information as part of the research process (e.g. an independent data coder) will be required to sign a confidentiality agreement before being allowed to do so.

My contact details are:

Leah van der Westhuizen

Tel: 0721267252

Email: leanavdw@yahoo.com

You may also contact my research supervisor:

Mrs. K. Naidoo

Tel: 011 5596231

Email: kathleenn@uj.ac.za

Co-Supervisor:

Ms. Y. Casmod

Tel: 011 559 6337

Email: yasminc@uj.ac.za

Co-Supervisor (2):

Mr. M. Mdletshe

Tel: 011 559 6066

E-mail: sibusisom@uj.ac.za

If you feel that any questions or complaints regarding your participation in this study have not been dealt with adequately, you may contact the Chairperson of the Faculty of Health Sciences Research Ethics Committee at the University of Johannesburg:

Prof. C. Stein

Tel: 011 559-6564

Email: cstein@uj.ac.za

FURTHER INFORMATION AND CONTACT DETAILS: Should you wish to have more specific information about this research project information, have any questions, concerns or complaints about this research study, its procedures, risks and benefits, you should communicate with me using any of the contact details given above.

Researcher:

Leah van der Westhuizen

APPENDIX B: CONSENT FORM FOR PARTICIPATION IN RESEARCH STUDY



**DEPARTMENT OF MEDICAL IMAGING AND RADIATION
SCIENCES RESEARCH CONSENT FORM
*SONOGRAPHERS' EXPERIENCES OF BEING A CARING
PROFESSIONAL WITHIN PRIVATE PRACTICE IN THE PROVINCE
OF GAUTENG***

Please initial each box below:

I confirm that I have read and understand the information letter dated June 2018 for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

I understand that my participation is voluntary and that I am free to withdraw from this study at any time without giving any reason and without any consequences to me.

I agree to take part in the above study.

Name of Participant

Signature of Participant

Date

Name of Researcher

Signature of Researcher

Date

APPENDIX C: CONSENT FOR AUDIO RECORDINGS



DEPARTMENT OF MEDICAL RADIATION AND IMAGING SCIENCES RESEARCH CONSENT FORM OR INTERVIEWS TO BE AUDIO TAPED

SONOGRAPHERS' EXPERIENCES OF BEING A CARING PROFESSIONAL WITHIN PRIVATE PRACTICE IN THE PROVINCE OF GAUTENG

Please initial each box below:

I hereby give consent for my interview, conducted as part of the above study, to be audio-taped.

I understand that my personal details and identifying data will be changed in order to protect my identity. The audio tapes used for recording my interview will be destroyed two years after publication of the research.

I have read this consent form and have been given the opportunity to ask questions.

Name of Participant Signature of Participant Date

Name of Researcher Signature of Researcher Date

APPENDIX D: CONFIDENTIALITY AGREEMENT: INDEPENDENT CODER



CONFIDENTIALITY AGREEMENT – INDEPENDENT CODER

I, _____ hereby declare that I understand and agree to the following conditions with regards to the coding of the audio recordings.

1. I understand that the audio recordings and transcribed data are received for the purpose of coding data from interviews held with the participants in a research study.
2. I undertake to treat all data received as confidential content to which only I will have access. I will keep the audio tapes, transcribed data and any copied material securely in a locked cupboard.
3. I will return all copies back to the researcher on completion of the data coding.

NAME: _____

SIGNATURE: _____

DATE: _____

APPENDIX E (1): CONSENT FOR AUDIO RECORDINGS AND TRANSCRIPTIONS- TRANSCRIBER

Appendix E: Consent for audio recordings and transcriptions- Transcriber.




CONFIDENTIALITY AGREEMENT – TRANSCRIBER

I, **Cisca Bosman** hereby declare that I understand and agree to the following conditions with regards to the transcription of the audio recordings.

1. I understand that the audio recordings are received for the purpose of transcribing records of interviews held with the participants in a research study.
2. I undertake to treat all audio tapes received as confidential content to which only I will have access. I will keep the audio tapes and any copied material securely in a locked cupboard.
3. I will return all copies back to the researcher on completion of the transcription.

NAME: **Cisca Bosman**

SIGNATURE:  _____

APPENDIX E (2): CONSENT FOR AUDIO RECORDINGS AND TRANSCRIPTIONS- TRANSCRIBER

Appendix E: Consent for audio recordings and transcriptions- Transcriber.



CONFIDENTIALITY AGREEMENT – TRANSCRIBER

I, Melanie du Plessis hereby declare that I understand and agree to the following conditions with regards to the transcription of the audio recordings.

1. I understand that the audio recordings are received for the purpose of transcribing records of interviews held with the participants in a research study.
2. I undertake to treat all audio tapes received as confidential content to which only I will have access. I will keep the audio tapes and any copied material securely in a locked cupboard.
3. I will return all copies back to the researcher on completion of the transcription.

NAME: Melanie du Plessis

SIGNATURE: Melanie du Plessis

APPENDIX F: HIGHER DEGREE COMMITTEE LETTER OF APPROVAL TO CONDUCT RESEARCH STUDY



FACULTY OF HEALTH SCIENCES

HIGHER DEGREES COMMITTEE

HDC-01-22- 2018

21 May 2018

TO WHOM IT MAY CONCERN:

STUDENT: VAN DER WESTHUIZEN, L
STUDENT NUMBER: 201002743

TITLE OF RESEARCH PROJECT: Sonographers' Experiences of Being a Caring Professional within Private Practice in the Province of Gauteng


DEPARTMENT OR PROGRAMME: MEDICAL IMAGING AND RADIATION SCIENCES

SUPERVISOR: Ms K Naidoo CO-SUPERVISOR: Ms Y Casmod
CO-SUPERVISOR: Mr S Mdletshe

The Faculty Higher Degrees Committee has scrutinised your research proposal and concluded that it complies with the approved research standards of the Faculty of Health Sciences; University of Johannesburg.

The HDC would like to extend their best wishes to you with your postgraduate studies

Yours sincerely



Prof Y Coopce

Chair: Faculty of Health Sciences HDC

Tel: 011 559 6944

Email: yogac@uj.ac.za

APPENDIX G: RESEARCH ETHICS COMMITTEE LETTER OF APPROVAL TO CONDUCT RESEARCH STUDY



FACULTY OF HEALTH SCIENCES

RESEARCH ETHICS COMMITTEE

NHREC Registration no: REC-241112-035

REC-01-34- 2018

21 May 2018

TO WHOM IT MAY CONCERN:

STUDENT: VAN DER WESTHUIZEN, L
STUDENT NUMBER: 201002743

TITLE OF RESEARCH PROJECT: Sonographers' Experiences of Being a Caring Professional
within Private Practice in the Province of Gauteng

DEPARTMENT OR PROGRAMME: MEDICAL IMAGING AND RADIATION SCIENCES

SUPERVISOR: Ms K Naidoo CO-SUPERVISOR: Ms Y Casmod
CO-SUPERVISOR: Mr S Mdletshe

UNIVERSITY
OF
JOHANNESBURG

The Faculty Research Ethics Committee has scrutinised your research proposal and confirm that it complies with the approved ethical standards of the Faculty of Health Sciences; University of Johannesburg.

The REC would like to extend their best wishes to you with your postgraduate studies.

Yours sincerely,

A handwritten signature in black ink, appearing to be "C Stein", written over a horizontal line.

Prof C Stein

Chair : Faculty of Health Sciences REC

Tel: 011 559 6564

Email: cstein@uj.ac.za

APPENDIX H: FIELD NOTES ONE

FIELD NOTES

FOCUS GROUP INTERVIEW 1

DATE: 2 JUNE 2018

PLACE: KEMPTON PARK

LOGISTICS:

The interview was conducted at a house in Kempton Park. Five participants and I were present during the interview. The interviewees sat around a dining table which could easily accompany six people. The refreshments were in the centre of the table which made it easily accessible during the interview. The venue was good because it was in a house and hence appeared more informal where participants were able to relax and just talk freely. The only noise interference was when the audio recorder's tape was full and had to be changed.

OBSERVATIONAL NOTES:

I was really stressed at first but tried to make the interview setting as comfortable as possible. I introduced the participants to one another to try and make them feel at ease. Participants were not used to talking into an audio recorder but were more comfortable with the device at a later stage. Only one participant was nervous but seemed to have relaxed after a few minutes. Also, the participant's found the question very broad and did not know how to answer it at first. But as soon as one answered the question, the conversation just started flowing. The interviewees were eager to share their stories, opinions and beliefs. The overall atmosphere was comfortable and participants seemed to have enjoyed the topic.

PERSONAL NOTES:

Initially I was stressed and I think the participants did not fully understand why. Thus, might have been the cause why one participant was also nervous. I had one audio recording to rotate amongst participants and the other one was in the centre of the table. However, it was just bothersome when I had to replace tapes for both recorders. In the future, a device with a longer recording ability will be in the centre of the table. I enjoyed the interview so much. It was very interesting to hear each participant's opinion and I have learned the importance of having a diverse group partaking in a research project.

METHODOLOGICAL NOTES:

The descriptive phenomenology approach was appropriate to help understand and explore the 'lived experiences' of qualified sonographers. It was easy for the participants to just talk and share their opinions and beliefs. I think that it also made them think and they were able to learn from one another. I printed the question in large text on A4 to try and remind them what the core concept was.

THEORETICAL NOTES:

The answers from the participants emphasised the following:

- Compassion and empathy.
- Compassion fatigue.
- Workload and time.
- Leading by example.
- Religious/ religion aspects.
- The job description of a sonographer.

APPENDIX I: FIELD NOTES TWO

FIELD NOTES

FOCUS GROUP INTERVIEW 2

DATE: 30 JUNE 2018

PLACE: CONSTANTIA PARK

LOGISTICS:

The interview was conducted at a house in Constantia Park. The venue was very good because there were no other people or interferences present and had warm and safe environment. Three participants and I were present during the interview. The interviewees sat in a semi-circle which created a welcoming and relaxed atmosphere. The refreshments were handed to each participant to enjoy. The only noise interference was when the audiorecorder's tape was full and had to be changed.

OBSERVATIONAL NOTES:

I was not as stressed during the interview like the first one I have conducted. The participants were very relaxed and friendly. They seemed quite comfortable with using the audiorecorder and were eager in sharing their stories and feelings. One participant got emotional during the course of the interview due to the touchy topic and the passing of a best friend. The overall atmosphere was more relaxed than the previous interview and participants seemed to have enjoyed the topic as well.

PERSONAL NOTES:

I really tried to be less stressed with this interview. I welcomed the participants in Afrikaans because that was their first language. The reason for doing this, was to let them feel more relaxed and at ease. However, because I was so calm, I have forgotten to mention in my audiorecordings that they have signed the consent forms. Next time I will make sure that I have said everything that I need to be mentioned.

Each interview gets more interesting. It was really so great to see that even though the participants are all different, they all share very similar experiences and beliefs.

METHODOLOGICAL NOTES:

The descriptive phenomenology approach was appropriate to help understand and explore the 'lived experiences' of qualified sonographers. It was easy for the participants to just talk and share their opinions and beliefs. I think that it also made them think and value caring. I think we were able to learn from the topic and from one another. I printed the question in large text on A4 to try and remind them what the core concept was.

THEORETICAL NOTES:

The answers from the participants emphasised the following:

- Listen to what the patients say.
- Be sympathetic.
- Workload and time.
- Try and understand the patient and their circumstances.
- Don't be biased.
- Patient first.
- Stay professional.
- The scope of a sonographer.

APPENDIX J: FIELD NOTES THREE

FIELD NOTES

FOCUS GROUP INTERVIEW 3

DATE: 14 JULY 2018

PLACE: HENNOSPARK, CENTURION.

LOGISTICS:

The interview was conducted at a friend's house in Hennospark, Centurion. I have found it very difficult to arrange this interview because the participants were from Johannesburg and Centurion, hence the location to conduct the interview was initially a struggle. However, the venue was good with no interferences. Warm refreshments were available for the participants to enjoy. The only noise interference was when the audiorecorder's tape was full and had to be changed.

OBSERVATIONAL NOTES:

The stress for each interview becomes less while the excitement rises. The participants were relaxed although they did not provide as much room for conversation. Hence, this demanded me to listen very carefully in order to try and make the conversation flow with appropriate probing questions. The participants were comfortable with using the audiorecorder and were good in passing it on to the following participant. They were eager to share their feelings although not every participant could specifically mention their good or bad caring experiences. The overall atmosphere was relaxed and they seemed to have put a lot of thinking into to research topic.

PERSONAL NOTES:

I was not stressed with this interview however, each participant had things to do afterwards so I was a bit pressed for time. Hence, my

mission was to conduct this interview as quickly as possible. However, each answer fascinated me so much that I just wanted to listen, ask and understand more of their feelings towards caring. This time I also welcomed the participants in Afrikaans to try and create a relaxed atmosphere. This time I looked at my notes to make sure I haven't forgotten to mention any important information pertaining the research interviews. I am starting to see uniformity amongst the sonographers.

METHODOLOGICAL NOTES:

The descriptive phenomenology approach was appropriate to help understand and explore the 'lived experiences' of qualified sonographers. It was easy for the participants to just talk and share their beliefs and feelings. I think that it also made them think and value caring. I think we were able to learn from the topic and from one another. I printed the question in large text on A4 to try and remind them what the core concept was.

THEORETICAL NOTES:

The answers from the participants emphasised the following:

- Two aspect to caring: technical and emotional.
- Listen to what the patient say and talk to the patient.
- Be compassionate, empathetic and sympathetic.
- Comfort the patient and be friendly.
- Language "barrier".
- Psychology in sonography.
- The scope of a sonographer.

APPENDIX K: FIELD NOTES FOUR

FIELD NOTES

FOCUS GROUP INTERVIEW 4

DATE: 21 JULY 2018

PLACE: MIDRAND.

LOGISTICS:

The interview was conducted in Midrand. This interview was also a bit difficult to arrange because the participants became hard to find. The venue was easy for the participants to reach although it had to be held outside. Nonetheless, they were comfortable and very adaptable. The only noise interference was when the audiorecorder's tape was full and had to be changed and a bit of wind from the weather.

OBSERVATIONAL NOTES:

I was a bit nervous before the interview because I have never really had a proper conversation with these participants before. The participants were friendly, relaxed and did a great job with speaking into the audiorecorder. They were thoughtful and easily shared their feelings, opinions and beliefs. The overall atmosphere was relaxed and they seemed to have put a lot of thinking into to research topic.

PERSONAL NOTES:

I think I am really enjoying to interview people and the topic is really becoming so important for me. I learn an enormous amount of caring aspect from each participant. Again, my mission was to conduct this interview quickly because the participants were busy. However, I think that the answers and stories which they shared, provided me with sufficient insight into sonographer's experiences of being caring professionals. I think data saturation is reached.

METHODOLOGICAL NOTES:

The descriptive phenomenology approach was appropriate to help understand and explore the 'lived experiences' of qualified sonographers. It was easy for the participants to just talk and share their beliefs and feelings. I think that it also made them think and value caring. I think we were able to learn from the topic and from one another. I printed the question in large text on A4 to try and remind them what the core concept was.

THEORETICAL NOTES:

The answers from the participants emphasised the following:

- Accurately diagnose a patient.
- Be sympathetic and friendly.
- Listen, talk and explain to the patient.
- The border in becoming too involved.



APPENDIX L: TRANSCRIBED NOTES FOCUS GROUP ONE: 2 JUNE 2018

INTERVIEWER: I just wanted to confirm that every one of you have signed the consent forms “A” and “B” for the participation in the study and for the recording of the study. Okay. So I am going to start with one broad question, which says, “*Tell me about being a caring professional in sonography.*”

PARTICIPANT 1: I suppose naturally sonographers should be caring, because we do work with sick patients, but I think one of the things is, we deal with patients who get diagnosed with cancer or whatever the case may be, terminal illnesses and we should be caring, but I think we have time constraints. For instance, if in the department it is a busy day, you will not be able to care for your patients and give them the emotional care that they want from you, because I find that a lot of the patients do want to chat about their mother or their father or their husband that got diagnosed and now they are nervous. They have a lot of anxiety.

So on a busy day it is very difficult to properly care for your patients, but on a quiet day, if the department starts off slowly then ja. I would sit with my patient. I would talk to them. I would listen to all their stories. So I would just say we can be caring, but there are time constraints to being caring, because the department is busy. So we don't always get a chance to deal with the patient's anxiety or emotional needs I suppose.

PARTICIPANT 2: I think there are different aspects to it. So there would be physical caring. So patients who need to be helped, you need to help them on and off the bed and stuff and then also emotional and then also the family. I

think it also involves them, because they are probably just as nervous. If you are a mother and your child is being sonared, you are also nervous about what is going to be found and things like that. Then also I think it is influenced by unfortunately, your own mood for the day or what you have experienced in the last week or whatever and how stressed you are. So that definitely also affects your caring. If you don't have a great day, then your patient might not get the care they need.

INTERVIEWER: So if you have experienced a bad day, how does it make you feel if you were unable to care for your patient?

PARTICIPANT 2: Definitely guilty. Not at the time, but sometimes you get home and you realise that patient probably could have done with better care. So often you feel guilty if you did not do what you are supposed to do.

PARTICIPANT 3: I often struggle with patients for instance who come in with a miscarriage and when I scan and I see that the patient has actually miscarried, I struggle to figure out how to actually try to be caring, but on the other hand I am actually not supposed to really give them much information, but on the other hand, if I act like everything is all honky dory, then I feel like I am actually deceiving them as well. So that is often a very difficult situation to be in. You know, I feel like I often don't know how to handle it, but obviously it is a very sensitive time in that patient's life. So I have got to try and figure that one out. I often get the doctor to come and speak to them. Sometimes it is better that way and sometimes not so much.

APPENDIX M: TRANSCRIBED NOTES FOCUS GROUP 2: 30 JUNE 2018

PARTICIPANT 2: I will always remember certain things that happened and things that I have seen, but I know that in the greater picture I am delivering a helpful service to patients. So I don't take each case to heart that much, because I just don't think it affects me that way. Ja [Yes]. So I can process a situation and then recover from that and not be too emotional about it for too long.

INTERVIEWER: So tell me about your best caring moment?

PARTICIPANT 1: [Laughter] I have got so many I can't pick one. This week or last week there was a patient that came for a follow-up breast sonar. She came for a routine mammogram and ultrasound and we picked up there was a mass and we did the biopsy the same day and when she came back now, I did not even realise that I had an impact on her and then she said every time she thinks of something difficult she thinks of me. [Emotional] I did not even realise that I had helped her that much. So that was cool and ja...

PARTICIPANT 3: Was that the day that you did the biopsy?

PARTICIPANT 1: The day that we did the biopsy was the day that [NAME WITHHELD] died and then she came back and said to us, 'thank you so much for caring so much.'

INTERVIEWER: What do you think what did you do that made her think of you? What did you offer her as a caring professional?

PARTICIPANT 1: I have no idea. I was just basically a friend to her in that situation. So when she came back now last week she told me thank you so much.

APPENDIX N: TRANSCRIBED NOTES FOCUS GROUP 3: 14 JULY 2018

PARTICIPANT 1: No, I will not generally. I think it also depends on the patient. Sometimes they would sort of lead the conversation in a direction where ... and I am talking about really like the more intense cases. I am not talking about something light, you know? Like if someone has a real problem. I had a patient last year that was raped and she had HIV and then she fell pregnant. I mean, someone like that you cannot just send out the door. So in a case like that I would comfort her by saying ... I cannot remember what I said, but it may lead to more than an opinionated answer, because that is often more personal. They often experience a clinical answer as less supportive than something coming from the heart.

INTERVIEWER: You were saying that as an introvert it is sometimes difficult to deal with the buzz and stuff. So what do you enjoy most about being a caring professional? Why did you choose this? What are you enjoying about this job?

PARTICIPANT 1: I think even though I am an introvert, I am still caring. I am very emotional. So I think I do enjoy it. It is fulfilling to be able to serve. To be able to mean something to someone and to apply my knowledge and passion through the work in order to help someone. So it is a very fine line and I think it is probably one of my biggest struggles personally in the career to keep that balance between caring and doing what I need to do, but still maintaining my energy levels.

APPENDIX O: TRANSCRIBED NOTES FOCUS GROUP FOUR: 21 JULY 2018

PARTICIPANT 1: I am just thinking about in terms of being a caring professional is also professionalism, but friendliness and warmth and I feel like it is something that I feel like is very difficult, because I know of a colleague of mine that the one time they called her in and they said to her you know, she does not have a very welcoming face and this kind of face. I thought you know, I feel like that is difficult, because people are different, but it is not to say that she is not a caring person. I know her as a caring person, but I think maybe the look of being friendly and having a warm face, a welcoming face to the patient is also something that is important.

PARTICIPANT 2: Their body language is just as important as the verbal aspect of it. So what people see from the outside and what your body says, tells them a lot about you. So if they see from the body language already you know, there is something going on, as soon as you are going to open your mouth, then they might already have doubt in you just by judging you. People are that way.

INTERVIEWER: Is there any way that you could better your caring behaviour as a sonographer?

PARTICIPANT 3: I think sometimes not letting situations distract you from what you are actually supposed to do. By that I mean like a patient complaining and so now you are a little bit irritated with that. You have a full list and you are busy and then obviously you will not have a smile on your face when you call your next patient. So just try to be mindful and that thing about random acts of kindness.

APPENDIX P: PLAGIARISM REPORT

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CHAPTER 1

AN OVERVIEW OF THE STUDY

Therefore, as God's chosen people, holy and dearly loved, clothe yourselves with compassion, kindness, humility, gentleness and patience.
Colossians 3:12 (NIV)

1.1 INTRODUCTION

The use of ultrasound in medicine began during World War II in several institutions around the world (Gibbs, 2013:164). Sonography is a multifaceted area of practice which consists of a wide range of applications (Gibbs, 2013:164). Diagnostic medical sonography is a non-invasive procedure that is considered to be patient-safe. This imaging modality uses high frequency sound waves to produce echoes within the human body (Ehrlich & Daly, 2009:373; Gibbs, 2013:164). As the echoes return to the transducer, their timing and strength are interpreted by a computer, after which an image is produced that represents the echo distribution (Ehrlich & Daly, 2009:373). Sonography is a subdivision of special imaging modalities and is operated by sonographers with a high level of training who have advanced level certification (Ehrlich & Daly, 2009:357).