

**Perceptions, expectations and experiences
of first time chiropractic patients when
consulting chiropractic students at a
teaching clinic in KwaZulu-Natal**

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DECLARATION

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ABSTRACT

The focus of the chiropractic profession is to diagnose, treat and prevent mechanical disorders which affect the neuromusculoskeletal system of the body. Chiropractic is a young profession in South Africa as law only recognized chiropractors as recently as 1971. As a result, perceptions of chiropractic are continually evolving as it gains popularity among the public. Despite its growth to date, further expansion of the profession may be limited due to its isolation from the public health care system of South Africa.

This study aimed to determine the demographics, perceptions, expectations and experiences of first time chiropractic patients who consulted chiropractic students at a teaching clinic in KwaZulu-Natal. This information may allow identification of requirements for improved clinical outcomes of first time chiropractic patients and clinical practice of chiropractors and the chiropractic profession.

This qualitative study utilized an exploratory and descriptive design. This methodology was chosen for its potential to reveal a deeper understanding of the fundamentals of chiropractic. Data collection involved semi-structured interviews with fourteen first time chiropractic patients who presented to the Durban University of Technology (DUT) Chiropractic Day Clinic (CDC). Interviews were voice recorded, transcribed verbatim and analysed which resulted in eight themes with numerous subthemes. These were explored and demographic characteristics of participants were determined to fulfil the objectives of the study.

Eight participants were male and six were female. Most were aged in their thirties, forties or fifties. With regards to population groups, six participants were Black/African, three were Indian, three were Coloured and two were White. Half the participants had medical aid and most were professionals, technicians and associate professionals and services and sales workers.

The understanding of chiropractic and chiropractic care theme revealed a limited awareness and understanding of chiropractic, perceptions of the chiropractic scope of practice and beliefs regarding chiropractic care for special population groups. The care-seeking influential factors theme indicated that the reasons chiropractic care was sought were: soreness, trusted suggestions and unsuitable alternative care options.

The experience anticipations theme showed that some participants had indistinct ideas prior to their experiences while others had conceived expectations for the chiropractic care. The consultation outcomes theme indicated expectations for improvement in presenting complaints as well as occurrence of adverse reactions. The origins of beliefs theme revealed that perceptions and expectations of chiropractic were formed from accessible information as well as the first time chiropractic consultation experience.

Professional and unprofessional aspects of the DUT CDC environment were discussed in the first impressions theme. The chiropractic care theme explored experiences of the thorough and detailed examination, feelings of fear and apprehension and trust and comfort, patient centered care, effectiveness of the treatment and pain and adverse effects. The last theme, experience reflections, demonstrates the extent to which expectations were met, aspects of the experience which could be improved and desires to return to and recommend the DUT CDC to others.

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ABBREVIATIONS

AHPCSA	Allied Health Professions Council of South Africa
AMA	American Medical Association
CAM	Complementary and Alternative Medicine
CASA	Chiropractic Association of South Africa
CDC	Chiropractic Day Clinic
DUT	Durban University of Technology
EENT	Eye, ear, nose and throat
IREC	Institutional Research Ethics Committee
PBCO	Professional Board for Chiropractic and Osteopathy
SA	South Africa
UJ	University of Johannesburg
UK	United Kingdom
US	United States of America
WFC	World Federation of Chiropractic
WHO	World Health Organization
yoa	years of age

GLOSSARY

Adjustment/manipulation: the World Health Organization (WHO) (cited in Hawk 2017) defined it as “any chiropractic procedure that ultimately uses controlled force, leverage, direction, amplitude and velocity, which is applied to specific joints and adjacent tissues. Chiropractors use such procedures to influence joint and neurophysical function”.

Adverse effects: “harmful or unfavourable” effects (Collin 2008).

Case history: “details of what has happened to a patient undergoing treatment” (Collin 2008). An in depth discussion about the patient’s complaints, past illness, family history, social history and review of systems (Redwood 1997).

Cerebrovascular accident: “a sudden blocking of or bleeding from a blood vessel in the brain resulting in temporary or permanent paralysis or death” (Collin 2008).

Chiropractic: “a health profession concerned with the diagnosis, treatment and prevention of mechanical disorders of the musculoskeletal system and the effects of these disorders on the function of the nervous system and general health. There is an emphasis on manual treatments, including the spinal manipulation or adjustment” (WFC 2001).

Chiropractic care: “the process of [chiropractors] caring for somebody or something and providing what they need for their health and protection” (Oxford University Press 2000).

Chiropractic student: Those completing their Masters Degree in Chiropractic (Durban University of Technology 2015b).

Clinician: “a doctor, usually not a surgeon, who has considerable experience in treating patients” (Collin 2008).

Consultation: “a meeting between a doctor and a patient in which the doctor may examine the patient, discuss his or her condition and prescribe treatment” (Collin 2008).

Diagnose: “to identify a condition or illness by examining the person and noting symptoms” (Collin 2008).

Elementary occupations: “Elementary occupations consist of simple and routine tasks which mainly require the use of hand-held tools and often some physical effort” (International Labour Organization 2004).

Ergonomics: “the study of working conditions, especially the design of equipment and furniture, in order to help people work more efficiently” (Oxford University Press 2000).

Examination: “a close look at something or somebody, especially to see if there is anything wrong or to find the cause of a problem” (Oxford University Press 2000).

Expectation: “a strong belief about the way something should happen or how somebody should behave” (Oxford University Press 2000).

Experience: “to have a particular situation affect you or happen to you” (Oxford University Press 2000).

Extremity: “a limb” (Collin 2008).

Holistic: “treating the whole person rather than just the symptoms of a disease” (Oxford University Press 2000).

Joint dysfunction/subluxation: the World Health Organization (cited in Hawk 2017) defined it as “a lesion or dysfunction in a joint or motion segment in which alignment, movement integrity and/or physiological function is altered, although contact between joint surfaces remains intact.”

Liberal professions: “The liberal professions include lawyers, notaries, engineers, architects, doctors, dentists and accountants, amongst others. They all require special training in the arts or sciences, and their activities are usually closely regulated by national governments or professional bodies” (European Commission 2018).

Neuromusculoskeletal: refers to nerves, muscles and bones (Collin 2008).

Orthodox medicine: healthcare which is “generally accepted or approved of” (Oxford University Press 2000). The focus of treatment is placed on drugs and surgery (Saks 2003).

Osteopathy: “A system of medicine that emphasizes the theory that the body can make its own remedies, given normal structural relationships, environmental conditions and nutrition. It differs from allopathy primarily in its greater attention to body mechanics and manipulative methods in diagnosis and therapy” (Andrews and Faulkner 2004).

Perception: “an idea, a belief or an image you have as a result of how you see or understand something” (Oxford University Press 2000).

Physical examination: “an examination of someone’s body to see if he or she is healthy” (Collin 2008).

Scope of practice: “the acts specially pertaining to any specific profession” (AHPCSA 1982).

Soft tissue: “skin, muscles, ligaments or tendons” (Collin 2008).

Spinovisceral: refers to the spine and internal organs (Collin 2008).

Transcribe: “to record thoughts, speech or data in a written form” (Oxford University Press 2000).

Treatment: “something that is done to cure an illness or injury” (Oxford University Press 2000).

Treatment outcome: “the result or effect” of treatment (Oxford University Press 2000).

CHAPTER ONE: INTRODUCTION

1.1 BACKGROUND

Chiropractic is defined by the World Federation of Chiropractic (WFC) as “a health profession concerned with the diagnosis, treatment and prevention of mechanical disorders of the musculoskeletal system and the effects of these disorders on the function of the nervous system and general health. There is an emphasis on manual treatments, including the spinal manipulation or adjustment” (WFC 2001). Chiropractic is seen as an alternative form of health care that is used in conjunction with orthodox medicine (Ernst 2008). It is able to offer “a readily available, caring and sympathetic, low cost, low risk, non-invasive and natural healing approach” (CASA 2017b).

The chiropractic profession was founded in the late 1800s by Daniel David Palmer who defined it as “a science of healing without drugs” (Redwood and Cleveland 2003; Ernst 2008; Hawk 2017). He was a magnetic healer who included “quick hand thrusts” to the spines of patients during his sessions which happened to enhance treatment outcomes (Hawk 2017).

The major initializing event occurred in September 1895 when D.D. Palmer applied a “hand thrust” to Harvey Lillard’s spine, a deaf man, which resulted in restoration of his hearing. He continued use of this technique and noted improvement of other disorders from which emerged the theory that nerve impingement may be the cause of other diseases (Redwood and Cleveland 2003; Hawk 2017). Subsequently, this practice was termed “chiropractic” which was derived from the Latin meaning of “done by hand” which resulted in the “hand thrust” being known as the “chiropractic adjustment” (Ernst 2008; Hawk 2017).

D.D. Palmer formulated the chiropractic philosophy by combining known spiritual and metaphysical concepts with the scientific principles of that time. He postulated that a minor positional change of a vertebra, known in chiropractic as the “subluxation”, could alter nervous system functioning leading to dis-ease. To correct this, the chiropractic adjustment was applied to the affected segment to allow the body to heal itself. He believed that disease was caused by internal

imbalances which lead to hypofunction or hyperfunction of bodily systems rather than an invasion from an external source (Redwood and Cleveland 2003; Hawk 2017). The philosophy was vitalistic as it suggested that living bodies encompass self-healing mechanisms (Redwood and Cleveland 2003; Hawk 2017; Mirtz 2017). Originally the adjustment was used to cure all human illnesses and was not used for musculoskeletal conditions (Ernst 2008).

In 1897 D.D. Palmer began his Palmer School and Infirmary in Davenport, Iowa, to train others in the practice of chiropractic (Redwood and Cleveland 2003; Hawk 2017). In 1903 he partnered up with his son Bartlett Joshua Palmer which lasted until 1906 when he sold his share of the school to his son and moved west following his arrest for “practicing medicine” without a license. B.J. Palmer proceeded to grow the school into one of the largest schools in the country for chiropractic health practitioners. In the following years there was a lengthy struggle for licensing legislation of chiropractors which was complicated by the current field of medicine against chiropractic as well as the internal struggle between “mixer” and “straight” chiropractors (Redwood and Cleveland 2003).

Early in chiropractic history opinions differed regarding the chiropractic scope of practice. This led to the development of two groups labelled “straight” and “mixer” practitioners. This split remains to this day. Straight chiropractors focus on the vertebral subluxation and its correction through the adjustment with a lack of emphasis on physical examination or medical diagnosis. Mixer practitioners are scientific and open to orthodox medicine. They assess and diagnose a patient before deciding whether they will benefit from chiropractic treatment or referral to another health care practitioner (Redwood and Cleveland 2003; Ernst 2008). In addition, mixers are open to using alternative therapies as an adjunct to the adjustment (Redwood and Cleveland 2003).

From the 1920s the American Medical Association (AMA) tried to eliminate chiropractic. This escalated to their development of the Committee on Quackery in 1963. During this time chiropractors were unable to practice in a hospital setting. In 1976 a group of chiropractors launched an antitrust suit against the AMA who was found guilty in 1987. In 1984 the first hospital accepted chiropractors on its

staff. In present day chiropractors are known to work in hospital settings but this remains a rare occurrence (Redwood and Cleveland 2003).

The minority of chiropractors continue to believe nervous system dysfunction to affect distant organs, therefore, correction of such a dysfunction is said to benefit all bodily processes (McGregor *et al.* 2014; Hawk 2017). Scepticism still exists toward chiropractic due to this out-dated theory of the subluxation being the root of all illness. Currently, however, the adjustment is mostly used for correction of joint dysfunction to stimulate nervous system reflexes and restore range of motion and biomechanical function (Durban University of Technology 2015a; Hawk 2017). Chiropractors contribute largely to health care in general (Myburgh and Mouton 2007) and chiropractic dominates the complementary and alternative medicine category of medical care (Meeker and Haldeman 2002).

During the last few decades public perceptions of chiropractic treatment have changed and it is growing in popularity among contemporary societies (Adams, Broom and Jennaway 2008). This may be attributed to the natural form of healing associated with chiropractic and the public's negative outlook on orthodox medicine and medicinal adverse effects (Brown *et al.* 2014). Some people consider their chiropractor to be their primary health care provider (Cambron, Cramer and Winterstein 2007), others only seek chiropractic treatment as a last resort (Wilson, Swincer and Vemulpad 2007) and some perceive chiropractic to be "dangerous" (Goldstein 2000).

Perceptions may be distorted by expectations as people are likely to see what they expect to see irrespective of the true traits of the perceived object (Robbins 2005). Perceptions and expectations differ between patients (Sigrell 2001) and this information is of much interest to the health care industry due to its relationship with healthcare outcomes (Sigrell 2002; Delgado *et al.* 2008).

1.2 RESEARCH QUESTION

What are the demographics, perceptions, expectations and experiences of first time chiropractic patients who consult chiropractic students at a teaching clinic in KwaZulu-Natal?

1.3 PURPOSE AND OBJECTIVES

The purpose of this study was to gain an understanding of patients' perceptions, expectations and experiences of their first time chiropractic consultation with a chiropractic student at the DUT CDC.

Through gaining this information it was hoped to:

- Determine the demographics (age, gender, ethnicity, occupation, medical aid subscription) of the first time chiropractic patients.
- Explore the perceptions that first time chiropractic patients have of chiropractic.
- Explore the expectations that first time chiropractic patients have prior to their chiropractic consultation with the chiropractic student.
- Describe patients' first time experiences of a chiropractic consultation with a chiropractic student.

1.4 RATIONALE

During the last few decades public perceptions of chiropractic treatment has changed and it is growing in popularity among contemporary societies (Adams, Broom and Jennaway 2008). Some people consider their chiropractor to be their primary health care provider (Cambron, Cramer and Winterstein 2007), others only seek chiropractic treatment as a last resort (Wilson, Swincer and Vemulpad 2007) and some perceive chiropractic to be "dangerous" (Goldstein 2000). Understanding the patient perception is important as it has been shown to influence treatment outcomes (Sigrell 2002).

Studies by Sigrell (2001) and Wilson, Swincer and Vemulpad (2007) were utilized to assist in developing the interview questions for this study. Wilson, Swincer and Vemulpad (2007) performed a questionnaire study to determine the perceptions that the Australian public population had of chiropractic. Results from the current study may differ from Wilson, Swincer and Vemulpad (2007) as ten years have lapsed and the current study was conducted in South Africa (SA) with first time chiropractic patients and not the general public. In addition, patient's perceptions,

expectations and experiences were explored in the current study with the use of semi-structured interviews. This may result in an abundance of unique information when compared to the results of a questionnaire study based exclusively on perceptions. Additionally, demographic data differ between Australia and SA (Lehohla 2015, 2016a; Australian Bureau of Statistics 2017)

Sigrell (2001) conducted a study on patient expectations in private practice in Sweden using interviews as well as open and closed ended questions. Results from the current study may differ from Sigrell (2001) as fifteen years have lapsed and the current study was conducted in SA at a learning institute for chiropractic students. The current study also focused on the patient's perception, expectation and experience rather than exclusively on the patient expectation theme. In Sweden expectations of a chiropractic consultation could differ from SA as their scope does not allow them to take radiographs, refer patients to medical specialists or issue sickness absence (Westin *et al.* 2013), whereas chiropractors in SA are qualified to do so (Republic of South Africa 2015). In addition, McDonald (2012) summarized that the presenting demographics differed between chiropractic learning institutes and private practice and therefore needed to be studied separately. These demographics included age, sex, ethnic group, occupation, medical aid subscription and presenting complaints.

Qualitative research is not often utilized in the chiropractic profession (Adams, Broom and Jennaway 2008) despite its potential to reveal an in depth understanding of the subject matter (De Vos *et al.* 2011). In addition, it eliminates the researchers own assumptions allowing them to develop a true understanding of the experienced phenomenon (Adams, Broom and Jennaway 2008). When compared to other health care practitioners, chiropractors have been deemed most effective at patient education (Piccininni *et al.* 2000). The outcomes of this study are expected to assist chiropractic students in this important domain of patient education.

Understanding the patients' perceptions, expectations and experiences of their first time chiropractic consultations could help chiropractors with patient communication, thereby facilitating a decreased risk of undesirable treatment outcomes (Sigrell 2002; MacPherson *et al.* 2015). This could also result in more

positive therapeutic relationships being formed between the chiropractor and their patients (Tahepold, van den Brink-Mulnen and Maarros 2006; Ernst and Hung 2011). In addition, clinical practice may be improved for both the chiropractor and the chiropractic profession (MacPherson *et al.* 2015)

A high correlation between patients' expectations and experiences can lead to increased patient compliance with treatment and improved participation in their own care (Asadi-Lari, Tamburini and Gray 2004) which in turn results in better treatment outcomes. In addition, patients are more likely to continue the use of a type of medical care and return to a health care provider (Asadi-Lari, Tamburini and Gray 2004). Patients who have positive perceptions of their experiences at the DUT CDC are also more likely to return to and recommend it to others. These factors could have a favourable influence on the chiropractic students with regards to improved teaching and learning opportunities, an aim of the DUT CDC mentioned in the Chiropractic Clinic Manual (Durban University of Technology 2016). In addition, the DUT CDC would benefit financially through incoming fees and improved reputation (Jones 2014). The DUT CDC may also use the research to evaluate planned expenditure (Asadi-Lari, Tamburini and Gray 2004).

1.5 OUTLINE OF CHAPTERS

Chapter One was an introduction to the study which included the definition of chiropractic, an overview of the history of the chiropractic profession as well as a brief introduction to perceptions and expectations. The main research question and purpose and objectives were stated. The rationale behind the study was included to emphasize the necessity of the research. An outline of the chapters functioned to summarize what can be expected from the dissertation.

Chapter Two is an in depth review of the literature relating to this study. It includes information relating to the chiropractic profession and the Durban University of Technology Chiropractic Day Clinic. Perception is defined and factors influencing the perception as well as techniques used to form perceptions are described. A summary of the literature relating to perceptions and expectations of chiropractic are included. There is an introduction to experience with literature pertaining to patient experiences of healthcare. Insight is provided into the demographics

chosen for this study. These selected demographics are presented for the KwaZulu-Natal and South African population and chiropractic patients within and outside of SA.

Chapter Three states the methodology which was followed for this study. This is a qualitative study utilized an exploratory and descriptive design. The key research questions are stated. Convenience sampling was used to obtain the study population which consisted of patients who lacked previous chiropractic experience. Additional sample characteristics are listed. Data collection is discussed which took the form of fourteen individual semi-structured interviews as the flexibility and freedom warranted by this method allowed for desirable in depth answers. Interviews were recorded, transcribed verbatim and analysed as discussed in this Chapter. Professional and personal aspects of the researcher's identity were explored in relation to the possible influences they may have had on shaping the study outcomes. Ways in which the principles of ethics - autonomy, beneficence, non-maleficence and justice - were upheld, are provided. The trustworthiness of the study is discussed which includes information related to the pilot study.

Chapter Four presents the results of the study. The demographic characteristics of participants are revealed. Eight themes were produced from participants' responses which encompassed the purpose of the study. These themes have been presented along with supporting quotes which were extracted from the verbatim transcripts produced from the interviews.

Chapter Five follows which functions to discuss the results of the study. The demographic characteristics of participants have been related to those of chiropractic patients within and outside of SA and the South African and KwaZulu-Natal population. Participant responses within each of the eight themes have been explored and compared to existing related literature. Additionally, this chapter provides the limitations of the study.

Chapter Six follows which concludes the study and provides recommendations for further research, the DUT CDC and the chiropractic profession.

CHAPTER TWO: LITERATURE REVIEW

2.1 INTRODUCTION

This chapter will reveal the history of chiropractic in South Africa and at the Durban University of Technology (DUT) as well as the professions' current status. The chiropractic scope of practice is presented as well as a detailed explanation of the chiropractic care patients may receive during a consultation at the DUT Chiropractic Day Clinic (CDC). The adverse effects patients may experience and special populations presenting for chiropractic care are discussed. Literature relating to perceptions, expectations and experiences of chiropractic and other health care professions are included. Demographics relating to the study are explored.

2.2 CHIROPRACTIC

2.2.1 Chiropractic in South Africa

In 1962 the "Report of the Commission of Inquiry into Chiropractic" was published which denied chiropractic to have a scientific basis and stated that the beneficial aspects of chiropractic could be included in the physiotherapy and orthopaedic surgeon curriculum (Parkin-Smith 1993). The fight for legislation of chiropractic resulted in Act 76 of 1971 which recognized the current chiropractors and students, however, disallowed further chiropractors from registering or practicing as well as further chiropractic educational training (Parkin-Smith 1993; CASA 2017a).

The Chiropractic Association of South Africa (CASA) approached the Minister of Health numerous times and produced documents regarding chiropractic, as requested by the Minister. These efforts resulted in the South African Health Service Professions Bill in 1982, however, chiropractic education and registration of chiropractors was still prohibited (Parkin-Smith 1993).

In 1984 the Chairman, Registrar and Vice Chairman of the South African Associated Health Services Professions Board spent time at international educational institutions and accrediting agencies for chiropractic and homeopathy

to gain knowledge and submit information regarding the educational standards and procedures to the Department of Health (Parkin-Smith 1993).

The struggle ended in 1985 when parliament approved the Bill known as the Associated Health Service Professions Amendment Act which allowed registration of new chiropractors and chiropractic students. The then Technikon Natal, now known as the Durban University of Technology, was chosen to host the chiropractic program. The syllabus was developed and approved allowing the first chiropractic course of SA to commence in January 1989 (Parkin-Smith 1993; CASA 2017a). In the following years chiropractic became available for students at the Wits Technikon Faculty which has since been renamed the University of Johannesburg (UJ) (CASA 2017a).

Chiropractic in South Africa has two regulatory bodies, namely, the Allied Health Professions Council of South Africa (AHPCSA) and CASA. The AHPCSA has a Professional Board for Chiropractic and Osteopathy (PBCO) Internship subcommittee which functions to coordinate the chiropractic internship program at DUT and UJ. The aims are to maintain the primary health care function of chiropractic, ensure the best interests of patients are preserved and to safeguard the public as is legally required in the *Allied Health Professions Act, Act 63 of 1982* (AHPCSA 2017). CASA functions voluntarily to advance chiropractic in SA and maintain the standard of the profession by liaising with professional organizations and associations of the healthcare system (Lawson 2017).

The chiropractic programs at DUT and UJ consist of six years of study which adhere to international standards of chiropractic education resulting in a Masters Degree in Chiropractic (Lawson 2017). Teaching and learning is evidence-based within the biomedical model (Myburgh and Mouton 2007). Education obtained as a result of completion of the chiropractic degree in SA may differ from some chiropractic programs in other countries as standards and emphases tend to vary. Chiropractic programs at government funded universities, which are the minority, are evidence-based and the staff involved in research. The remaining majority of chiropractic programs are provided by private colleges, some of which do not insist on quality research production by staff, lack the authority to award higher degrees

based on completion of research and/or produce vitalistic subluxation based chiropractors (Walker 2016).

Currently, CAM practitioners in SA face difficulty accessing the broad South African population due to their exclusion from the public health care system. The state neglects to utilize the services of CAM practitioners despite its contribution to their education and the inadequate quantity of medical personnel available. Access to the public is further restricted by the lack of support from private medical aid schemes which only utilize 0.14% of their expenditure on CAM therapies. As a result, CAM services are only available to the South African population through private practice to those who can afford it which, in turn, results in CAM therapists practicing in urban areas. Therefore, those who are located outside of urban areas and those who cannot afford CAM as an out of pocket expense are hindered from accessing CAM services (AHPCSA 2014).

In KwaZulu-Natal public access to chiropractic services has been made more affordable by the presence of the Durban University of Technology (DUT) Chiropractic Day Clinic (CDC).

2.2.2 Durban University of Technology Chiropractic Day Clinic

The DUT CDC formed the study setting. It is situated in the city of Durban within KwaZulu-Natal, South Africa. The CDC was opened at Technikon Natal in 1994 by Prof Andre du Preez. Chiropractic treatment is offered at reduced rates to the public by students who are completing their Masters Degree in Chiropractic (Parkin-Smith 1993; Durban University of Technology 2015b; Korporaal 2017).

Each chiropractic consultation at the DUT CDC begins with a brief case history taken by a qualified chiropractic clinician prior to the student beginning their assessment. Following on, the students perform their own thorough case history and physical examination of the patient. During this time the student presents their findings to the qualified chiropractic clinician twice – once on completion of the case history and the second time after the completion of the physical examination. These report backs enable the discussion of the case and the treatment plan (Durban University of Technology 2015b, 2016; Korporaal 2017).

The initial consultations take an average of two and a half hours to complete. Payments are made in cash prior to the consultation, however, the DUT CDC can issue a monthly medical aid statement in order for patients to claim back from their medical aid (Durban University of Technology 2015b; Korporaal 2017).

2.2.3 Chiropractic Scope of Practice in South Africa

“The Associated Health Service Professions Act of 1982 states the following acts particularly pertaining to the chiropractic profession:

- a) The physical examination of any person, with or without the taking, reading and interpreting of X-ray plates, for the purpose of diagnosing any physical defect, illness or deficiency in such person.
- b) The treatment or prevention of any physical defect, illness or efficiency related to spinal, pelvic, spinovisceral and general neuromusculoskeletal conditions in any person by -
 - manipulation or adjustment;
 - electrotherapy;
 - exercise therapy;
 - hydrotherapy;
 - traction therapy;
 - thermal therapy;
 - vibration therapy;
 - immobilization therapy;
 - neuro-muscular reflex therapy;
 - massage therapy;
 - acupuncture or acupressure therapy; or
 - remedies, dietary advice or dietary supplementation.”

(AHPCSA 1982)

2.2.4 Chiropractic Care at the Durban University of Technology

a. The Chiropractic Examination

Redwood (1997) stated that chiropractors place much emphasis on the patient assessment from which an accurate diagnosis, treatment plan and/or necessity for referral is determined. The initial consultation begins with a case history which is an in depth discussion about the patient's complaints, past illness, family history, social history and review of systems. The physical examination follows which includes vital signs and assessment of the respiratory, cardiovascular, abdominal and neuromusculoskeletal systems (Redwood 1997; Durban University of Technology 2015a). Any red flags are noted, which are signs indicative of serious pathology, such as dizziness, vomiting, slurred speech, imbalance and facial droop which necessitates immediate referral (Hawk 2017).

Next, the chiropractor observes the area of complaint for unusual tissue textures or atypical muscle presentation. Range of motion testing reveals limitations and pain (Hawk 2017). The chiropractor then performs manual palpation to evaluate the joint function or dysfunction. Special tests may be performed by the chiropractor such as orthopaedic and neurologic tests (Redwood 1997). Orthopaedic tests function to aggravate symptoms to assist in diagnosis (Hawk 2017).

Following on, chiropractors may refer patients for additional tests, including imaging procedures or urine and blood tests, if necessary (Redwood 1997; Durban University of Technology 2015a). Radiography has been utilized by chiropractors since the founding of the profession (Wilson, Swincer and Vemulpad 2007). Some chiropractors use X-rays to decide on the necessary adjustments, however, most use an evidence-based approach where diagnostic imaging, such as X-rays or ultrasounds, are only mandatory for patients with red flags or history of trauma (Hawk 2017).

Focus is placed on the formation of differential diagnoses and exclusion of disease which does not fall within the chiropractic scope of care. Patients for which chiropractic care is not indicated are referred to an appropriate medical practitioner (Meeker and Haldeman 2002).

b. Chiropractic Treatment

Chiropractors use a non-invasive approach to treatment consisting of various joint and soft tissue techniques. These may include the adjustment, joint mobilization, traction, stretches, acupressure, acupuncture, neural mobilization and myofascial trigger point therapies such as dry needling, friction massage, ischaemic compression and active release. Numerous safe and painless physical modalities may also be utilized to assist reduction in inflammation, muscle spasm and pain. These include interferential current (IFC), transcutaneous electrical nerve stimulation (TENS), therapeutic ultrasound, laser, infra-red, thermotherapy, cryotherapy and hydrotherapy. In addition, a wide range of supports, braces and orthotics may be utilized (Wilson, Swincer and Vemulpad 2007; Durban University of Technology 2015a, 2015b, 2016; CASA 2017b; Hawk 2017).

The adjustment or manipulation forms the most significant component of chiropractic treatment and distinguishes chiropractors from other manual therapists. It is described as a high velocity, low amplitude thrust applied to a hypomobile joint to restore normal range of motion. Often there is an associated audible pop, click or crack resulting from a release of nitrogen gas from the joint (Durban University of Technology 2015a; Hawk 2017). Generally, the adjustment is performed manually, however, there are assistive instruments available. Effects of the adjustment are biochemical, as cytokines and endorphins are released, and biomechanical, as functioning of muscle spindles are altered (Hawk 2017).

Chiropractors frequently manage their patients in a holistic manner, therefore, in addition to the treatment, they are known to advise about rehabilitation and strengthening exercises, stretches, ergonomics and posture as well as promote healthy lifestyles. Patients are encouraged against smoking, controlling stress and following a healthy diet and general fitness regimen (Wilson, Swincer and Vemulpad 2007; Durban University of Technology 2015a, 2015b; CASA 2017b; Hawk 2017).

Hawk (2017) stated the outcomes of the National Board of Chiropractic Examiners survey which determined that the most frequent reasons people consulted a chiropractor were for headaches, neck or back pain, muscle strains, extremity pain

or numbness and inflammation. Meeker and Haldeman (2002) mentioned that some patients seek chiropractic care for general well-being and health concerns as well as disease prevention.

The National Board of Chiropractic Examiners survey revealed conditions that are regularly treated by chiropractors. These included arthritis, joint sprain, whiplash and intervertebral disc bulge or herniation. Less frequently were dizziness, inflammatory arthritides, scoliosis, fibromyalgia, tendon disorders, temporomandibular joint dysfunction, osteoporosis, obesity, carpal tunnel syndrome, diabetes, problems resulting from pregnancy or menstruation, sinus disorders and issues related to food and nutrition. Non-musculoskeletal disorders such as infantile colic, ear infections and asthma lack substantial evidence regarding benefits from chiropractic treatment (Hawk 2017).

Meeker and Haldeman (2002) stated that a great deal of the success of chiropractic may be attributable to the patient-physician relationship on which emphasis is placed during patient management. The compassionate, hands-on, “can do” approach utilized reassures patients and gives rise to feelings of comfort and empowerment, a sense of understanding and expectations for change (Meeker and Haldeman 2002).

2.2.5 Adverse Effects of Chiropractic Treatment

Minor adverse effects to spinal manipulation may occur which are most commonly local or additional pain. Less frequently headache, stiffness, radiating pain and fatigue may be experienced with nausea and dizziness occurring rarely. These adverse effects usually subside within one or two days following treatment (Meeker and Haldeman 2002; Hurwitz *et al.* 2004). Rare and serious complications which have been reported are cauda equina syndrome and cerebrovascular accidents (Meeker and Haldeman 2002).

References to chiropractic being “dangerous” and “risky” and chiropractors being “quacks” have been made by some people who may be ignorant or misinformed of the practice of chiropractic (Goldstein 2000; Wilson, Swincer and Vemulpad 2007). Ernst (2008) wrote that limited scientific proof to explain the effectiveness of the manipulation and the fear of adverse effects is what prevented the public from

consulting chiropractors as primary health care practitioners. The types of adverse effects that were suggested of inducing fear included: local or radiating pain, tiredness, headache or serious vascular accidents as well as subarachnoid haemorrhage and paraplegia in children (Ernst 2008).

Breen (2009) wrote that the allegations that chiropractors do harm are usually based on the temporary and mild exacerbation of pain after manipulation which does not last or affect long-term outcomes. In addition, he suggested that the reason for the lack of evidence to explain the manipulation was because intrinsic mechanics could not be safely measured in living people (Breen 2009).

Major complications may arise due to inappropriate manipulation of unstable fractures, metastatic cancer or another space-occupying lesion, free disc fragments and osteopenia (Redwood 1997).

Cauda equina syndrome could be a serious complication which results in loss of bowel, bladder and sexual function as well as anaesthesia of the groin, anus and inner thighs (Strigenz 2014). It occurs due to dysfunction of the bundle of spinal nerves below the spinal cord (Strigenz 2014) and has been said to occur rarely in only one out of 100 million lumbar manipulations (Meeker and Haldeman 2002; Wilson, Swincer and Vemulpad 2007).

Another complication is cerebrovascular accidents which are rare, however, occurrence rates vary between authors. Hawk (2017) stated similar likelihoods of suffering cerebrovascular accidents between chiropractic patients and the remaining population being two and a half to three cerebrovascular accidents per 100 000 people. Other studies indicated cerebrovascular accidents to occur in the range of one out of every 400,000 to three to six out of every ten million cervical manipulations (Meeker and Haldeman 2002; Wilson, Swincer and Vemulpad 2007). Redwood (1997) likened the risk of unpredictable strokes to the risk of a severe complication arising following a routine surgery. Hawk (2017) wrote that various studies indicated there was more strain placed on the vertebral artery during daily activities and diagnostic testing than during the cervical adjustment. The probable reason for this complication may be the initial presentation of a cerebrobasillar stroke involving prodromal symptoms of neck pain, headaches or

unsteadiness for which the patient seeks chiropractic help. Subsequently the chiropractor gets accused of causing the stroke (Breen 2009; Hawk 2017).

Chiropractors are trained to identify red flags during history-taking and physical assessment of a patient which may indicate that they are at risk of developing severe adverse effects following chiropractic treatment. Under normal circumstances chiropractic treatment is safe, if adverse effects do occur they are generally short term and rarely severe (Hawk 2017).

2.2.6 Special Populations

a. Athletic population

Chiropractors frequently diagnose, manage and/or treat the athletic population for spinal, extremity, visceral and head injuries. This may occur on the sideline or in private practice prior to or following the athlete's participation in a sporting event (Redwood 1997; Hawk 2017). In this field of work chiropractors may work alongside orthopaedists, physical therapists, athletic trainers, emergency medical services and medical doctors (Redwood 1997).

Management of the athlete may include nutrition, injury rehabilitation, return to play and advice on training techniques and conditioning to improve performance and reduce the likelihood of re-injury. Sports chiropractic places emphasis on optimizing the function of the kinetic chain which includes all musculoskeletal structures involved in an individual completing a commonly performed action during sport (Redwood 1997; Hawk 2017).

b. Working population

The working population often require chiropractic for occupational injury and illness (Redwood 1997). Joint dysfunction and muscle hypertonicity may result from emotional and mental work-related stress as well as physical stress from extended periods of sitting or performing repetitive tasks with poor posture (Boudreau and Wright 2003; Hawk 2017). This usually results in disorders affecting the neck and upper extremity (Boudreau and Wright 2003). This population often utilizes chiropractic treatment for tension or cervicogenic

headaches which originate in the upper back and neck (Hawk 2017). Other disorders may include tendonitis, carpal tunnel syndrome and repetitive strain injuries. In addition to the chiropractic physical examination and treatment, emphasis is placed on identification of occupational risk factors and assessment of and advice pertaining to ergonomics (Boudreau and Wright 2003).

c. Paediatric population and pregnant women

Other populations commonly treated by chiropractors are paediatrics and pregnant women. Low back pain during pregnancy is common as a result of hormone related ligament laxity and postural changes that occur. Chiropractic treatment for this population involves gentle adjustments with the patient either supine or side-lying to ensure comfort (Hawk 2017).

Presenting complaints of the paediatric population are usually musculoskeletal disorders or infantile colic. Other complaints may include difficulties with nursing or sleeping, asthma, headaches, otitis media, constipation and nocturnal enuresis. Some parents desire chiropractic care for their children to ensure wellness and avoid development of future issues (Hawk 2017). A full physical examination of the paediatric patient may reveal the presence of joint fixations and other health conditions (Redwood 1997). Treatment techniques are modified to suit the paediatric patient in that less force or an instrument is used to perform the adjustment (Hawk 2017).

d. Elderly population

Adults aged 65 years or older frequently utilize chiropractic care as musculoskeletal conditions are rife within this age group. Factors may be identified which could be detrimental to the health of geriatrics or increase their risks of falls such as blood pressure irregularities, medication adverse effects, heart disease, balance and gait disorders and home safety risks. Therefore, it is necessary that chiropractic care is utilized concurrently with that of other healthcare providers (Hawk *et al.* 2010; Hawk 2017).

When it comes to chiropractic treatment of the elderly some of the manual techniques are modified or an instrument is used to incur less force which takes

frailty, easy bruising, osteoporosis and patient preferences into account. This population benefit greatly from the integration of therapeutic exercise into the chiropractic treatment plan. This may enhance their physical function and minimize impairment leading to improved general health and decreased incidence of falls (Hawk *et al.* 2010; Hawk 2017).

2.3 PERCEPTION

A perception is a personalized understanding of a phenomenon that one develops through interpretation of information presented by the senses: sight, smell, touch, hearing, taste and proprioception. To perceive is to develop an individualized way of viewing the world (Hayes 1996; Chaffee 2006; Green and Thorogood 2014).

2.3.1 Factors Influencing Perception

There are two groups of theories used to explain perception: “top-down” and “bottom-up” theories. The top-down theories place emphasis on the involvement of prior experience and knowledge, expectations, cognitive factors and current circumstances in directing perceptions. On the other hand, the bottom-up theories state that perceptions are formed purely from available stimuli (Hayes 1996).

Neisser (cited in Hayes 1996) proposed that perceiving was an active process which involved a combination of the top-down and bottom-up theories. He explained that our perceptions are influenced by our expectations and past experiences therefore the perception process is constantly changing depending on lived experience. This directs how we perceive the world leading us to select certain information, ignoring the rest. This in turn effects future perceptions forming a perceptual cycle (Neisser, cited in Hayes 1996).

There are factors in the perceiver, the perceived object and the environment which may influence perceptions. Factors in the perceiver include personal characteristics such as demographic characteristics, values, interests, preferences, attitudes, prejudices, motives, expectations and past experiences (Bergh and Theron 1999; Robbins 2005; Chaffee 2006). These factors form an individual’s “eye glasses” or “contact lenses” which result in differing perceptions of the same event between people (Chaffee 2006). An individual’s unique

personality, past experiences, biases and assumptions which may distort the way they view the world leading to incomplete or subjective perceptions of the world. Hayes (1996) referred to a “perceptual set” which is an individual’s state of readiness to perceive certain things over others which allows one to respond efficiently and effectively. Some factors which form the perceptual set include expectations, motivation and emotion, values and attitudes and culture of an individual. Therefore, one’s perceptions may differ considerably from objective reality (Robbins 2005).

Characteristics of the perceived object influence perceptions in that we tend to group close or similar items together as well as relate an object to its background. Other factors include motion, sounds, size, proximity and novelty (Bergh and Theron 1999; Robbins 2005).

Work and social settings as well as the time at which the object was seen are elements in the surrounding environment which can influence perception. Examples of situational factors may include location, light or heat (Bergh and Theron 1999; Robbins 2005).

Beliefs and perceptions are closely related. Our perceptions of the world form the basis of our beliefs and our beliefs influence our perceptions. For beliefs to be formed perceptual experiences must be organized into a belief structure through a thought process known as cognition. Our own direct experiences are not adequate for formation of complete beliefs as one simply cannot experience enough in one’s lifetime. Therefore, we base many of our beliefs on the experiences of others. When it comes to this, it is important to think critically and question the reliability of the information as well as the source of the information (Chaffee 2006).

2.3.2 Forming Perceptions

People tend to use a number of techniques to rapidly form perceptions to make this burdensome task more manageable. One technique is known as selective perception in which people select bits and pieces of what is observed and interpret it based on their interests, background, experience and attitudes. This carries the risk of forming incomplete and subjective perceptions as people see what they want to see (Robbins 2005).

Another technique is known as projection in which people attribute their own characteristics to others. The accuracy of this technique is jeopardized when the perceived object happens to be different to the observer (Robbins 2005).

Stereotyping is a technique in which an individual is judged based on the perception of the group to which they belong. Making generalizations allows easier assimilation and maintenance of consistency. The problem occurs when a stereotype is untruthful or irrelevant but is so widespread leading to many people forming the same incomplete perception about a group based on a false premise (Robbins 2005).

The last technique is known as the halo effect. This occurs when a general impression of an individual is made by isolating a single trait of theirs and allowing it to influence their overall view of the person. Examples of traits may include intelligence, appearance, enthusiasm and determination. Allowing one trait to override all others may lead to production of distorted perceptions (Robbins 2005).

2.3.3 Perceptions of Chiropractic

According to Goldstein (2000), perceptions are mostly deduced from common perceptions rather than education and experience. Perceptions may be distorted by expectations as people are likely to see what they expect to see irrespective of the true traits of the perceived object (Robbins 2005). Dagenais (2013) expressed that patient perceptions of chiropractic may originate from previous experiences mentioned by friends, family or colleagues, advertising claims, media reports and perceptions of surgeons, physicians and other health care practitioners about chiropractic. Blum *et al.* (2008) wrote that a minority of patients who seek chiropractic care may have a lack of understanding of the chiropractic scope of practice rather than lack of acceptance of chiropractors as wellness practitioners.

For many patients, chiropractic treatment is used as a last resort (Wilson, Swincer and Vemulpad 2007). Many of the general population in Australia had not sought chiropractic care, the main reason being lack of education about the profession (Wilson, Swincer and Vemulpad 2007). Out of those who sought chiropractic care in Australia, most utilized it simultaneously with orthodox medicine and general practitioners and felt it was not a last resort. Chiropractic was perceived to be

complementary and alternative medicine which improves general health and well-being and allows patients to take responsibility for their own health. The choice to seek chiropractic care was influenced significantly by personal philosophy, however, referral by friends and family was the most frequent reason for attending the chosen chiropractic practice (Brown *et al.* 2014).

The patient population was mainly believed to be adults, the middle aged and the elderly. The main reasons for seeking chiropractic care were back and neck pain. The majority believed chiropractors to treat the root of a problem and deal with the neuromusculoskeletal system and its related complaints (Wilson, Swincer and Vemulpad 2007).

When it came to chiropractic treatment, more of the Australian public population perceived chiropractors to massage than perform the adjustment (Wilson, Swincer and Vemulpad 2007). For a negligible minority, chiropractic treatment received was disappointing or it was felt that the quantity of consultations was excessive (Wilson, Swincer and Vemulpad 2007). Generally, patients in a US study formed positive perceptions of chiropractors whereas negative perceptions dominated with regards to chiropractic care (Weeks *et al.* 2016).

2.4 EXPECTATION

An expectation is a cognitive belief that is affected by information and can be changed over time (Sigrell 2001). Before commencing treatment, patients have already formed beliefs regarding the end result of the treatment which are known as outcome expectations (Constantino *et al.* 2011). Cross *et al.* (2015) suggested that a lack of previous exposure to an intervention can limit the clarity of patient expectations and subsequent to the initial consultation expectations may only be partially established.

According to Constantino *et al.* (2011), during a consultation outcome expectations may be influenced by the patient's own history, experience with the physician and constant evaluation regarding the efficacy of the treatment. Although patients may be enthusiastic about the treatment, they may still form negative outcome

expectations as a result of distress regarding their situation (Constantino *et al.* 2011).

Being aware of patient expectations for treatment can help the practitioner appropriately deal with patients and know what information they require which will help with formation of deeper therapeutic relationships between the practitioner and patient (Ernst and Hung 2011). It is of great importance that chiropractors communicate effectively with patients and understand their expectations. Failure to bridge the gap between expectations and care delivery may result in negative treatment outcomes (Sigrell 2002; MacPherson *et al.* 2015). Additionally, whether a person returns, recommends or advises against a business depends on the extent to which expectations were met and the positive or negative perceptions that were formed regarding the experience of the service received (Jones 2014).

The main expectations of patients for chiropractic care in Sweden included improved symptoms, an accurate diagnosis and an explanation thereof (Sigrell 2001). In addition, expectations for CAM were to prevent illness, experience fewer adverse effects, improve immune functioning, gain control over one's health and impact the natural course of disease (Ernst and Hung 2011). It was noted that patients in the UK expected to be educated about chiropractic treatment and the composition, cost and duration of the consultation (MacPherson *et al.* 2015).

Expectations for chiropractors were for them to be knowledgeable, communicate effectively and provide high quality care (Sigrell 2001). Both chiropractors and patients in Sweden expected symptomatic improvement, however, differences existed as patients expected rapid symptomatic improvements and placed a greater emphasis on the importance of advice and exercise (Sigrell 2002). It was of importance to patients that the chiropractor keeps them informed regarding their diagnosis and treatment and facilitates their involvement in their own care (MacPherson *et al.* 2015).

2.5 EXPERIENCE

The way experiences are perceived encompass what it means to be human. Studying experiences assists the researcher in capturing and clarifying the

subjective “richness and ambiguity” of a phenomenon. These are usually aspects of daily life which are rarely noticed or questioned (Finlay 2011).

Healthcare has become dehumanized with a large deficiency in patient-practitioner communication. The latter has been said to be the greatest contributor to healing. Understanding patients’ experiences of healthcare provides practitioners with the opportunity to realize what is valuable to ensure humanity during care (Duffy 2014). Focus placed on treating the patient as a whole possesses the power to enhance their experiences of healthcare. Planetree (cited in Carmel-Gilfilen and Portillo 2016) discovered that to succeed in patient-centered care, practitioners should use a kind, compassionate approach, treat patients with dignity, involve the patients’ families, address their physical environments and consider their “psychological, emotional, spiritual and social needs”.

Studies based on experiences of chiropractic outside of SA have explored various aspects including informed consent (Boon, Mior and Caulfield 2014), the reception area, the chiropractic treatment (Hennius 2013), patient education, treatment outcome and adverse effects (MacPherson *et al.* 2015). Strutt, Shaw and Leach (2008) determined that patients at a UK osteopathic training clinic placed emphasis on feeling empowered regarding their health care which involved honest discussions regarding duration and cost of treatment as well as the risks and benefits associated with it (Strutt, Shaw and Leach 2008).

It was of importance that there was empathy, “respect, care and sensitivity” associated with the consultation and that attention was paid to patients’ concerns and understandings regarding their conditions. They compared their experiences of osteopathy to other health care services in which the “approach to care”, “holism”, “waiting times”, “accuracy of diagnosis” and “referral” were considered. Patients were cognizant of the therapists being students and were aware of resultant limited competence, however, this was generally well accepted. Patients felt a “sense of pride, respect and support” toward the future of the students and criticized unsupportive and disrespectful supervisors (Strutt, Shaw and Leach 2008).

Potter, Gordon and Hamer (2003) conducted a study in Australia in which positive experiences with physiotherapists were based on their “communication ability” which consisted of listening to the patient, demonstrating empathy and trustworthiness, having a friendly and caring manner, providing appropriate patient education and displaying professionalism and punctuality. In addition, they should provide effective treatment within a pleasant, convenient and easily accessible environment (Potter, Gordon and Hamer 2003).

2.6 DEMOGRAPHICS

2.6.1 Demographics Covered in this Study

a. Gender

Parsons and Symmons (2014) wrote that the female gender is a risk factor for musculoskeletal disease, such as osteoporosis (Fejer and Ruhe 2012). According to Brown *et al.* (2014) females form the majority of chiropractic and orthodox medicine patient populations worldwide. The reason being that females generally experience poorer health and increased musculoskeletal conditions in comparison to males for reasons not well understood. Disparities may be related to variances between the two sexes with regards to psychological, biological, behavioural and social factors (Fejer and Ruhe 2012; Brown *et al.* 2014).

Widanarko *et al.* (2011) discussed four possible reasons for the differences found in musculoskeletal prevalence between genders. Firstly there are work related gender differences as males make up 77% of heavy physical workers and females dominate the light physical workers at 62%. The way that females and males within the same job perform tasks has also been shown to vary (Widanarko *et al.* 2011).

Secondly, females are less capable of performing physical tasks due to smaller body size and dimensions therefore will experience higher workload and increased musculoskeletal symptoms in a physically demanding job (Widanarko *et al.* 2011).

Thirdly, hormonal differences between the genders exist. Oestrogen has been shown to influence the perception of pain therefore during the menstrual cycle

when oestrogen levels are low females may experience exaggerated pain compared to males. Lastly, stereotypes related to gender roles may influence how pain is perceived (Widanarko *et al.* 2011).

Weeks *et al.* (2016) studied the demographics of US adults with positive and negative perceptions of chiropractors and chiropractic care. Negative perceptions of chiropractors were frequently from those of the male sex. More males disagreed that chiropractic was expensive and dangerous but felt that too many visits were required (Weeks *et al.* 2016).

b. Age

Worldwide the most prevalent age group to utilize complementary and alternative medicine is the 30-55 year age group (Brown *et al.* 2014). Parsons and Symmons (2014) and Fejer and Ruhe (2012) discussed increasing age as a risk factor for the development of musculoskeletal conditions. The growing population of those aged 65 and older within the UK is expected to rise from 16% currently to 24% by 2041 resulting in a rise in the prevalence of musculoskeletal conditions (Parsons and Symmons 2014) especially osteoarthritis, knee pain, back pain and osteoporosis (Fejer and Ruhe 2012).

Generally the prevalence of musculoskeletal disease increases with age but it was also noted that the prevalence may decrease in those aged 80 or older. Suggested reasons for this decline were: a “general birth cohort effect”, acceptance of pain as an aspect of aging, age related decreases in pressure pain and the “survival of the fittest” phenomenon (Fejer and Ruhe 2012).

With regards to perceptions of chiropractic care, Weeks *et al.* (2016) determined that younger participants reported negative perceptions more frequently. They perceived chiropractic care to be expensive and dangerous yet disagreed that the number of visits required was excessive (Weeks *et al.* 2016).

c. Population Group

Population groups seeking chiropractic care may vary. Whedon and Song (2012) focused on racial disparities in those who utilized chiropractic care under Medicare in the United States. Reasons for such disparities remained undetermined, however, possibilities were considered. Population groups tend to vary regarding culture, level of education, spoken language, socioeconomic status, healthcare preferences and inclinations and prevalence of specific conditions which may influence choices to seek chiropractic care. Chiropractors themselves may contribute as the profession tends to display limited variation in population groups and may neglect to reach out to and interact with all population groups. Additionally, chiropractors may display discriminative tendencies or fail to express sensitivity when dealing with patients of contrasting population groups (Whedon and Song 2012).

Graham *et al.* (cited in Whedon and Song 2012) stated that the Black and Hispanic population groups were 29% and 22% less likely to use complementary and alternative medicine respectfully compared to the White population group. Mahomed (2007) and McDonald (2012) determined the White population group to seek chiropractic care more commonly within SA and at the DUT CDC respectfully which was in line with the results of studies based outside of SA (Coulter and Shekelle 2005; Mootz *et al.* 2005; Whedon and Song 2012; Brown *et al.* 2014; Kaeser, Hawk and Anderson 2014; Weeks *et al.* 2015).

On the contrary, Cross *et al.* (2015) noted that those who took part in their study who were receiving osteopathic care at a teaching clinic were more likely to be non-White as a result of the location of the clinic in an ethnically diverse area. This may prove to be applicable to the current study due to the location of the DUT CDC within KwaZulu-Natal which has been shown to consist predominantly of the Black/African population group (Lehohla 2015). In addition, Black/African individuals comprised the lowest percentage (10.6%) of those subscribed to medical aid in SA, therefore the DUT CDC may be popular amongst this population group due to the reduced fees (Durban University of Technology 2015b; Lehohla 2015).

d. Medical Aid Subscription

Barriers preventing people from seeking chiropractic care include the cost as well as the type or lack of health insurance (Stevens *et al.* 2016). Xue *et al.* (2008) mentioned that the limited compensation from medical aid schemes for chiropractic treatment may affect the frequency of visits.

Myburgh and Mouton (2007) indicated that chiropractic was initially Eurocentric in that it was available to those who could afford it as an out-of-pocket expense. However, currently in SA most medical schemes as well as the Compensation for Occupational Injuries and Diseases Act offer reimbursement for chiropractic treatment (CASA 2017b) which allows greater opportunity for the public to access chiropractic care (Wilson, Swincer and Vemulpad 2007).

Mahomed (2007) determined that the majority of chiropractic patients in SA subscribed to medical aid of which most covered chiropractic consultation costs. On the contrary, McDonald (2012) found that there was a decrease in medical aid subscriptions at the DUT CDC. Possible reasons for this decrease were that patients with medical aid subscription would prefer to attend a private chiropractor or that the DUT CDC attracts the poorer members of the community due to the lower consultation fees. Another possibility was that generally people may be unsubscribing from medical aid schemes to lower expenses. Nevertheless, patients presenting to the DUT CDC were twice as likely as the local population to be covered by a medical aid scheme (McDonald 2012). Only 11.9% of the KwaZulu-Natal population belonged to a medical aid scheme in 2015 (Lehohla 2015).

e. Occupation

Widanarko *et al.* (2011) discussed the relation between musculoskeletal symptoms and occupation. It was determined that those who worked in physically demanding occupations, such as commercial fishers and aluminium workers, had the highest prevalence of musculoskeletal symptoms and were more likely to experience these symptoms in most areas of the body. This may be attributed to the manual exertion, awkward use of the hands, the repetitive

nature of tasks and the strenuous, uncomfortable body positions that employees are exposed to (Widanarko *et al.* 2011).

Neck symptoms are more common in those who are employed in physically light occupations such as secretaries. This may be attributed to extended periods of sitting, working on a computer, overuse of the hands as well as poor hand and neck postures (Widanarko *et al.* 2011).

2.6.2 Demographics of Chiropractic Patients within and Outside of South Africa and the South African/KwaZulu-Natal population

Various studies within and outside of SA have determined the demographic characteristics of chiropractic patients who presented to private chiropractic practices and chiropractic teaching clinics. The search strategy aimed to find research articles with large focus placed on determining the demographic information of chiropractic patients. Four articles (Coulter and Shekelle 2005; Mootz *et al.* 2005; Brown *et al.* 2014; Weeks *et al.* 2015) were chosen on the basis that they determined the demographic characteristics of chiropractic patients outside of SA. Two of the aforementioned studies (Brown *et al.* 2014; Weeks *et al.* 2015) were perception studies, an aspect similar to the current study. Three articles were chosen which specifically pertained to chiropractic teaching clinics outside SA as the current study was based within a chiropractic teaching clinic (Martinez, Rupert and Ndetan 2009; Lishchyna and Mior 2012; Kaeser, Hawk and Anderson 2014).

Studies have been performed which determined the demographic characteristics of chiropractic patients of SA (Mahomed 2007) and of the DUT CDC (McDonald 2012). Both were included as the current study is based in SA at the DUT CDC. The demographic information of SA/KwaZulu-Natal (Lehohla 2015, 2016a, 2016b) was included as it related to the study location.

Table 2.1 below presents the demographic information of chiropractic patients within and outside of SA and the SA/KwaZulu-Natal population.

Table 2.1: Comparison of the demographics of the KwaZulu-Natal population and Chiropractic Patients Within and Outside of South Africa

	Chiropractic patients outside of South Africa				Chiropractic patients of teaching clinics outside of South Africa			Chiro-practic patients of SA	Patients of the DUT CDC	SA/ KwaZulu-Natal population
Reference	Brown <i>et al.</i> (2014)	Weeks <i>et al.</i> (2015)	Coulter and Shekelle (2005)	Mootz <i>et al.</i> (2005)	Kaeser, Hawk and Anderson (2014)	Martinez, Rupert and Ndetan (2009)	Lishchyna and Mior (2012)	Mahomed (2007)	McDonald (2012)	Lehohla (2015) Lehohla (2016a) Lehohla (2016b)
Study location	Australia	United States	United States and Canada	Massachusetts and Arizona	United States	Mexico	Canada	South Africa	KwaZulu-Natal	SA/KwaZulu-Natal
Study design	Cross-sectional survey	Survey	Structured questionnaire and interviews	Survey	Retrospective study	Retrospective cross-sectional study	Retrospective cross-sectional study	Survey	Retrospective cross-sectional study	Survey
Sample size	486	5422	1275	1349 (Massachusetts) 1201 (Arizona)	224	500	580	227	1311	10688 (KwaZulu-Natal)
Gender	Female (67.1%)	Female (57.9%)	Female (61.0%)	Female (60.0%)	Male (52.7%)	Female (61.2%)	Female (57.7%)	Female (62.8%)	Female (50.9%)	Female (51.8% in KwaZulu-Natal)

Age (years)	18-24 (6.0%) 25-45 (32.5%) 45-64 (45.1%) +65 (16.5%)	18-34 (24.2%) 35-49 (30.1%) 50-64 (27.7%) +65 (18.1%) 48.3 (mean)	42 (mean)	45 (mean)	18-30 (29.5%) 31-50 (29.0%) 37.3 (mean)	40-59 (44.2%) 43.4 (mean)	21-40 (majority) 43.0 (mean)	41.8 (mean)	0-10 (0.3%) 11-19 (11.0%) 20-29 (28.9%) 30-39 (16.8%) 40-49 (16.5%) 50-59 (15.8%) +60 (10.7%) 37.03 - 37.8 (mean)	24 years or below (54.2% in KwaZulu-Natal)
Race	No data	White (93.3%)	White (83.0%)	White (94.0%)	White (84.8%)	No data	No data	White (75.7%) Indian (15.9%) Coloured (4.0%) Black (3.5%) Other (0.9%)	White (49.5%) Indian (34.0%) Black (15.8%) Coloured (0.7%)	KwaZulu-Natal: Black/African (88.9%) Indian/Asian (7.3%) White (2.8%) Coloured (1.0%)
Percentage with medical aid subscription	No data	No data	64%	Arizona (26%) Massachusetts (37%)	No data	No data	No data	81.9%	41.6%	KwaZulu-Natal (11.9%)

Occupation/ employment status	"Other" category (51.3%)	Employed full time (59.0%).	No data	No data	No data	Housework (26.8%)	Professionals (24.4%)	Liberal (24.0%)	Students (26.8%)	Un- employed (23.9%)
	Trades (20.4%)	Retired (18.9%)				Professional/ office (24.0%)	Students (16.5%)	Managerial (16.0%)	Clerical (23.0%)	Elementary (23.4%)
	Retired (15.1%)	Employed part time (9.1%)				Shopkeeper (14.8%)	Skilled workers (12.9%)	Skilled workers/ artisans (10.0%)	Sales (11%)	Sales and services (15.5%)
	Administr- ation (13.2%)	Home- makers (6.5%)				Blue collar/ manual (13.2%)	Retired (11.7%)	Housewive s (10.0%)	Housewife (8.2%)	Craft and related trade (12.3%)
		Full time students (3.4%)				Student (11.4%)		Retired (6.0%)	Manual (6.9%)	Teacher (5.2%)
		Un- employed (18.9%)				Other (9.8%)			Retired (6.9%)	Clerk (10.5%)
									Unemployed (4.1%)	Technician (9.2%)
									Executive (3.4%)	Manager (8.8%)
									Medical (2.4%)	Plant and machine operator (8.2%)
									Other (1.7%)	Domestic worker (6.2%)
									Public service (0.3%)	Professional (5.6%)
									Skilled agriculture (0.4%)	

Overall, chiropractic patients tended to be white and female (Coulter and Shekelle 2005; Mootz *et al.* 2005; Mahomed 2007; Martinez, Rupert and Ndetan 2009; Lishchyna and Mior 2012; McDonald 2012; Brown *et al.* 2014; Kaeser, Hawk and Anderson 2014; Weeks *et al.* 2015). The South African and DUT CDC patients differed from the general population of KwaZulu-Natal which was predominantly of the Black/African population group (Mahomed 2007; McDonald 2012; Lehohla 2015).

Studies performed outside of SA formed a range between 35 and 64 years of age (Coulter and Shekelle 2005; Mootz *et al.* 2005; Brown *et al.* 2014; Weeks *et al.* 2015). A slightly younger population tended to present at teaching clinics outside SA with ages ranging between 18 and 59 years (Martinez, Rupert and Ndetan 2009; Lishchyna and Mior 2012; Kaeser, Hawk and Anderson 2014). The mean age of South African chiropractic patients was 41.8 years (Mahomed 2007) which was slightly higher than the DUT CDC patients who had a mean of 37 years with the most frequent age group being 20-29 years (McDonald 2012).

Chiropractic patients of SA tended to have medical aid which differed from those of the DUT CDC and general KwaZulu-Natal and eThekweni populations (Mahomed 2007; McDonald 2012). Those outside of SA predominantly used medical aid (Coulter and Shekelle 2005; Mootz *et al.* 2005).

Occupations of patients' attending teaching clinics outside of SA tended to be professionals, students or housework (Martinez, Rupert and Ndetan 2009; Lishchyna and Mior 2012). Chiropractic patients of SA and the DUT CDC tended to be in liberal professions and students or clerical and sales professions respectively (Mahomed 2007; McDonald 2012). The general South African population were commonly in elementary occupations (Lehohla 2016b).

2.7 CONCLUSION

This chapter provided an overview of the chiropractic profession and chiropractic at the DUT CDC as well as demographic information relating to the study.

Existing literature regarding the perceptions, expectations and experiences of chiropractic patients was discussed. It was noted that the studies were based

outside of SA and the literature lacked data specifically pertaining to new chiropractic patients who lacked any previous personal experience of chiropractic. One study included a chiropractic teaching clinic, however, only assessed the experience of informed consent (Boon, Mior and Caulfield 2014) which comprises merely part of the chiropractic consultation. Some studies included, related to the research topic, were based on alternative manual therapies as literature relating specifically to chiropractic was sparse. The majority of the studies included were quantitative therefore lacked the “depth, openness and detail” (Terre Blanche, Durrheim and Painter 2006) of qualitative research.

There is an evident lack of detailed information specifically relating to first time chiropractic patients’ at teaching clinics and their perceptions, expectations and experiences of their initial chiropractic consultation.

Chapter Three follows with a discussion of the research methodology.

CHAPTER THREE: METHODOLOGY

3.1 INTRODUCTION

This chapter will reveal the methodology chosen for the research. The research design, sampling procedures and qualitative data collection and analysis will be explored. The latter part of this chapter will discuss the researcher positioning, ethical considerations and trustworthiness of the study.

3.2 RESEARCH DESIGN

Terre Blanche, Durrheim and Painter (2006) defined a research design as “a strategic framework for action that serves as a bridge between research questions and the execution or implementation of the research”. It is the ultimate plan for collection and analysis of the data for the chosen topic with the function of maximizing the validity of the study outcomes (Terre Blanche, Durrheim and Painter 2006). This research utilized a qualitative approach with an exploratory and descriptive design.

The qualitative approach was best suited for this research as it allows “the researcher to study selected issues in depth, openness and detail as they attempt to understand the categories of information that emerge from the data” (Terre Blanche, Durrheim and Painter 2006). Interest lies in understanding how people comprehend their realities and experiences of their worlds (Merriam and Tisdell 2016). This approach has the power to reveal an understanding of the fundamentals of chiropractic (Adams, Broom and Jennaway 2008) which is desired as the study aims to determine the perceptions, expectations and experiences of first time chiropractic patients.

Qualitative research methodology is inductive in nature as it is driven by the participants’ experiences rather than a pre-determined hypothesis produced by the researcher (Adams, Broom and Jennaway 2008). It involves collection of subjective written, spoken or observed information taking the way a participant views the world as truth. The stance of qualitative research is that participants’ perceptions are not objectively measurable. Emphasis is not placed on external

measures or generalizability of results as the validity of qualitative study outcomes are seen as superior (Terre Blanche, Durrheim and Painter 2006; Adams, Broom and Jennaway 2008).

An exploratory and descriptive design was utilized for this research. An exploratory design involves a versatile, inductive approach to investigate and gain a greater understanding of a phenomena being studied. The semi-structured interviews allowed versatility when exploring the perceptions, expectations and experiences of first time chiropractic patients. Descriptive research aims to describe a phenomenon. Narrative-type description was used due to collection of information through semi-structured interviews (Terre Blanche, Durrheim and Painter 2006).

Qualitative research has the potential to provide the depth and richness necessary to reveal factors influencing patient utilization and evaluation of chiropractic care (Adams, Broom and Jennaway 2008). It is for this reason that a qualitative, exploratory, descriptive design was chosen to best suit this research.

3.3 KEY RESEARCH QUESTIONS

The key questions used in this study were as follows:

- What are the demographic characteristics of first time chiropractic patients?
- What perceptions do first time chiropractic patients have of chiropractic?
- What expectations do first time chiropractic patients have prior to their chiropractic consultation with a chiropractic student?
- What experiences did first time chiropractic patients have when consulting chiropractic students?

3.4 SAMPLING

3.4.1 Sample Population

Sampling involves selection of research participants to take part in the study (Terre Blanche, Durrheim and Painter 2006). The study population for this research consisted of patients presenting at the Durban University of Technology

(DUT) Chiropractic Day Clinic (CDC) who lacked previous experience of chiropractic treatment.

This sample population would tend to have limited perceptions and expectations of chiropractic due to lack of personal experience (Cross *et al.* 2015). Therefore, it is of great value to understand their perceptions and expectations due to the influence these factors have on the experience and treatment outcomes. The perceptions that patients form of their first experiences of chiropractic would largely influence whether they return, recommend or advise the experience to others (Sigrell 2002; Asadi-Lari, Tamburini and Gray 2004; Jones 2014; MacPherson *et al.* 2015). Emphasis should be placed on this population due to the growing popularity of the chiropractic profession and resultantly the growing population of first time chiropractic patients (Adams, Broom and Jennaway 2008).

3.4.2 Sample Selection and Recruitment

Convenience sampling was used which involves selecting participants who are easily accessible and who suit the inquiry (Denscombe 2007). Sampling for the current study involved approaching new patients at the DUT CDC to determine their suitability and willingness to partake in the study through use of a recruitment form (Appendix D). Successful recruitment commenced on the sixth of March 2017 and the last interview took place on the thirty-first of July 2017.

Convenience sampling is a nonprobability sampling method which implies that the sample was not chosen by random and therefore results cannot be generalized (Terre Blanche, Durrheim and Painter 2006). This is acceptable for qualitative research where generalizability and representativeness is not the aim (Terre Blanche, Durrheim and Painter 2006; Brink, van der Walt and van Rensburg 2012). Importance then is placed on transferability which improves understanding of similar population groups (Terre Blanche, Durrheim and Painter 2006).

The researcher was usually present at the DUT CDC twice or thrice per week in an attempt to collect data. Interviews could only take place on weekdays in the afternoons. This was a result of the DUT CDC being open on weekdays and the sample population being limited to patients of the fifth year students who are only permitted to afternoon shifts (Durban University of Technology 2015b).

New patients at the DUT CDC were approached and given a recruitment form (Appendix D) directly after their chiropractic consultation with the chiropractic student. Patients had to meet the inclusion criteria stated on the recruitment form to qualify for participation in the study. The inclusion criteria were met if they indicated “yes” for the three questions stated on the recruitment form. These patients had the option of completing and signing the recruitment form to indicate that they agreed to participate in the research study.

Challenges were experienced regarding patient recruitment. Interviews could not be organized in advance and it was necessary that they be conducted directly after the first time chiropractic consultations to ensure fresh and in depth responses. This resulted in days where the researcher was present for interviews but eligible or willing participants were lacking. In addition, lengthy initial consultations or later appointments did not allow for the necessary time needed to conduct an interview prior to closing of the DUT CDC which resulted in loss of potential participants. Furthermore, it was necessary that the researcher be available for participant recruitment directly after the new patients' consultations. As a result, potential participants were lost who finished their initial consultations whilst the researcher was busy conducting an interview.

3.4.3 Sample Characteristics

First time chiropractic patients were included in the study if they met the following criteria:

- 18 years of age or older.
- Presentation at the DUT CDC for the first time.
- Fluency in the English language.

Interviews were done in English as this is the spoken language of the researcher and it was necessary that the researcher understand the participants to collect accurate and reliable data for interpretation. Fortunately no potential participants faced exclusion from the study as a result of the inability to speak English.

Patients were excluded from the research if:

- They had previous experience of a chiropractic consultation with a chiropractic student or a qualified chiropractor.
- They had their first chiropractic consultation with the researcher.

3.4.4 Sample Size

A sample size is based on the type of research being performed as well as other factors such as the quantity of participants and amount of money available. Qualitative samples tend to be small and non-random (Terre Blanche, Durrheim and Painter 2006). Baker and Edwards (2012) suggested a sample size of fourteen, however, interviews were to be performed until the same themes and issues were repeated, known as data saturation, whether it was more or less than the suggested fourteen interviews. A maximum sample size was not defined as it was necessary for interviews to continue to data saturation, after which interviewing could cease as no new information would be gained from then onwards (Terre Blanche, Durrheim and Painter 2006). For this research data saturation was reached at fourteen interviews.

The exact number of first time chiropractic patients presenting to the DUT CDC per month was unknown however, Mahomed (2007) conducted a demographic and descriptive profile of chiropractic patients in SA and discovered that 18.1% of his sample had presented to a private chiropractic practice in SA for the first time. Twigg (2015) had recorded the number of fifth year new patients who had presented to the DUT CDC from January to July 2015. These figures were used to calculate a monthly average of forty three fifth year new patients. This information was used to form an estimate of seven to eight first time chiropractic patients per month at the DUT CDC which indicated that the sample size was feasible.

3.5 DATA COLLECTION

To acquire an in-depth understanding of phenomena it is necessary that the researcher make personal contact and engage with the participants during the data collection process (Antwi and Hamza 2015). In healthcare, this is generally accomplished by utilizing interviews or focus groups (Chadwick *et al.* 2008). Interviews are popular as they encourage a natural form of communication

between the interviewer and interviewee and hold high potential to reveal the thought processes and feelings of participants (Terre Blanche, Durrheim and Painter 2006).

There are three types of interviews namely: unstructured, semi-structured and structured. One-to-one semi-structured interviews were best fit for this study to obtain data from participants. Semi-structured interviews are most commonly performed one-to-one between the interviewer and interviewee (Denscombe 2007). This one-to-one method is advantageous in that interviews are easily arranged and controlled and ideas originate from a single source ensuring an easier link between concepts and individual participants. In addition, less room is left for error during the transcription process (Denscombe 2007). One-to-one interviews were the only feasible option for this study as participants needed to be interviewed directly following their first chiropractic consultation and could not be given any prior warning of the interview. These necessities did not allow for focus groups to be an option as they require selection of people to take part in a group discussion (Chadwick *et al.* 2008).

Semi-structured interviews were chosen due to the balance between structure and flexibility that the questions allow. Participants are given direction, yet freedom to express any of their own thoughts or interests (Chadwick *et al.* 2008; De Vos *et al.* 2011). Unstructured interviews were decided against due to the absence of predetermined ideas and therefore lack of direction which would make the process difficult and time-consuming. Time was an important factor considering participants had just experienced a lengthy consultation. Structured interviews were not appropriate as they do not allow participants the freedom to provide the in depth answers to questions necessary for this study (Chadwick *et al.* 2008).

The interview may be perceived as a simple conversation however, the difference lies with the involvement of preconceived understandings and assumptions regarding the circumstances (Denscombe 2007).

“When the researcher needs to gain insights into things like people’s opinions, feelings, emotions and experiences, then interviews will almost

certainly provide a more suitable method – a method that is attuned to the intricacy of the subject matter.” (Denscombe 2007)

The interviews were conducted directly after the first time chiropractic consultations to ensure data collected were fresh and in depth. Interviews were done using the post-pilot questions which consisted of a set of specific questions with additional probes (Appendix G). The probes functioned to encourage the interviewee to elaborate on their answer or to clarify and expand their responses (Brink, van der Walt and van Rensburg 2012).

When arranging the venue, it was important for it to be private, quiet, have quality acoustics and minimal disturbance, therefore, private clinic rooms at the DUT CDC were utilized. Permission to access the site was obtained (Appendix A). A reason for the necessity of these features regarding the venue was the need to voice record the interviews. Permission for the researcher to do this was obtained from the interviewee (De Vos *et al.* 2011). Audio recordings provide a complete record of what was said for interpretation by the researcher as well as assessment by additional researchers if needed. However, non-verbal factors of communication are excluded which is undesirable but more acceptable when compared to the intrusive nature of a video recording (Denscombe 2007).

Brink, van der Walt and van Rensburg (2012) stated that the outcomes of face-to-face interviews can be influenced by the gender, ethnic origin, manner of speaking and clothing of the interviewer. Clothing was kept constant during the interviewing process by the interviewer wearing clinic apparel at all times.

Once the fourteen interviews were completed, the data analysis process began.

3.6 DATA ANALYSIS

To analyse data means to separate it into individual components (Denscombe 2007). The data analysis process commenced with verbatim transcription of the fourteen interviews which were verified against the recordings (Brink, van der Walt and van Rensburg 2012). This was a necessary step as audio data need to be transformed into a state which allows easier analysis (Denscombe 2007).

Whilst analysing qualitative data it is of importance that the researcher meticulously comb through the data and interpret it in the ways that were intended. Conclusions produced should be directly related to the information collected during the interviews and the researcher should avoid preconceptions which may hinder quality data analysis. An iterative process is used for qualitative data analysis which involves a back and forth process between the data and codes to generate concepts (Denscombe 2007).

The researcher immersed herself in the data to increase familiarity by reading the transcribed interviews numerous times and listening to the recorded interviews repeatedly (Terre Blanche, Durrheim and Painter 2006; Denscombe 2007). Thematic data analysis was used to make sense of the data which involved extracting words, phrases and sentences from the 'raw' data to produce codes. This coding process was assisted by using NVivo software (QSR International Ltd 2015). Similar coded data were categorized and from there, relationships were identified which gave rise to themes and subthemes (Denscombe 2007; Grosseohme 2014). Explanations were created for subthemes and comparisons were made with similar data from alternative studies (Denscombe 2007; Brink, van der Walt and van Rensburg 2012).

It was of importance for this study that the data were understood and presented in a way as to portray it from the participants' perspectives (Denscombe 2007).

3.7 RESEARCHER POSITIONING

The qualitative researcher tends to be highly involved in the research process as they play the role of the "instrument of data collection". The researcher both questions participants and interprets their responses in an attempt to understand the perspectives of participants (Antwi and Hamza 2015). As a result of this depth of involvement, researcher interpretations tend to reflect aspects of the researcher due viewing of the situation through their own "lenses" which shape their perceptions. These lenses are formed by personal attributes such as demographic characteristics, culture, class, special interests, expertise, values and past experience (Chaffee 2006; Creswell 2007).

Interviewer personality and skill has also been said to have an effect on interview outcomes. The researcher should make certain that attitudes and behaviours projected onto interviewees ensure that they feel respected and free from judgement and threat (Merriam and Tisdell 2016). It is of importance that qualitative researchers accept, acknowledge and disclose how their involvement may have shaped the emergent writing in their studies (Creswell 2007).

In relation to the current study, the researcher's various personal attributes, such as being a female in her twenties and of the White population group, may have influenced the study outcomes. An important attribute to note is the researcher's involvement in the chiropractic profession. The researcher was a chiropractic student through the duration that of the current study was performed. As a result, the researcher had awareness of many aspects pertaining to the chiropractic profession and was very involved with the DUT CDC, its staff and fellow students. These aspects may have influenced study outcomes due to the effect that these lenses may have had on formation of perceptions regarding the situations. Another possibility is that participants' lenses influenced their perceptions of the researcher which may have impacted on their responses.

Nevertheless, effort was made by the researcher to emphasize a confidential and trusting environment. This was done in an attempt to prevent participants from withholding information and motivate them to speak freely regarding their perceptions, expectations and experiences of their first chiropractic consultation.

3.8 ETHICAL CONSIDERATIONS

The principles of ethics include autonomy, beneficence, non-maleficence and justice. Brink, van der Walt and van Rensburg (2012) stated that autonomous individuals have the right to self-determination. The principle of beneficence ensures that the participant has the right to protection from harm and discomfort (Brink, van der Walt and van Rensburg 2012) and that the study should also aim to benefit participants (Terre Blanche, Durrheim and Painter 2006). Nonmaleficence indicates that the researcher should not harm or wrong the participants (Terre Blanche, Durrheim and Painter 2006; Lawrence 2007) and the principle of justice comprises the participants' rights to fair selection, treatment,

privacy, anonymity and confidentiality (Brink, van der Walt and van Rensburg 2012). Various aspects of this study ensured these principles were maintained.

Prior to initiation of data collection, the Institutional Research Ethics Committee reviewed and approved the questions. The ethical clearance reference number allocated to this study was REC 97/16 (Appendix C).

Autonomy was ensured as participants received a letter of information and informed consent (Appendix E) to sign which allowed voluntary participation in the study. In addition, they were able to withdraw from the study at any time, answer questions within their comfort parameters and request clarification of the purpose of the study. (Terre Blanche, Durrheim and Painter 2006; Brink, van der Walt and van Rensburg 2012).

All aspects of the study relating to the participant were kept confidential to preserve autonomy and justice. Information related to the participant, their identity and their names were not disclosed. To ensure confidentiality, each interview was given a code which matched the code on the demographics sheet (Appendix F). This code was also used along with the clinic file number on the clinicians' signature sheet to link an interview with a patient. Data will be stored in the DUT CDC for five years and then shredded.

Nonmaleficence and beneficence were upheld as the nature of the topic for this study did not pose any risk of psychological harm to the patient. In addition, it lacked the risk of physical harm as interviews were conducted with participants. Participants' knowledge may be improved regarding the topic following completion and release of the research.

3.9 TRUSTWORTHINESS

Trustworthiness of a study is the level of confidence in the quality of the research regarding the data and its interpretation (Connelly 2016). It is a vital aspect of research and, to achieve this, it is essential that there are ways of demonstrating the accuracy of its results (Denscombe 2007). This is done by assessing the credibility, dependability, confirmability, transferability and authenticity of the study as described by Lincoln and Guba (cited in Denscombe 2007; Connelly 2016)

Credibility has been deemed the most significant component of trustworthiness as it refers to the accuracy or truthfulness of the research and its outcomes (Denscombe 2007; Connelly 2016). This was ensured by using the most effective data collection tool for the topic which was semi-structured interviews (Connelly 2016). A pilot study was conducted to assess the quality of the research design. Permission to perform the pilot study was obtained from the IREC (Appendix B). The pilot study functioned to determine if the questions acquired the relevant data from the participants. It allowed testing of questions and identification of areas that were unclear or potential problems which could arise during the final interviews (Terre Blanche, Durrheim and Painter 2006; De Vos *et al.* 2011).

Cawood (2015) performed a qualitative study to gain insight into parents' knowledge, understanding and perceptions regarding paediatric chiropractic. Three pilot interviews were conducted for the aforementioned study therefore this figure was selected for application to the current study. The pilot study was conducted in a private room at the DUT CDC with patients who met the inclusion criteria for the study. Data collected from these interviews were not included in the final data used for the research. However, it was used to assist in editing the questions which gave rise to the final set of interview questions. This ensured that careful attention was given regarding planning of the questions (Denscombe 2007).

In addition to a pilot study, credibility was ensured as sufficient time was spent with participants to warrant collection of quality data. During analysis the data were revisited numerous times by the researcher (Connelly 2016) as well as checked by the supervisor and co-supervisor.

Dependability takes the research instrument into account and whether results obtained from it would be replicable by another researcher (Denscombe 2007). Connelly (2016) described it as the extent of stability maintained by the data as time progresses. With regards to qualitative data this cannot be made certain however, there are manners in which other researchers can evaluate the research decisions and procedures (Denscombe 2007). This research ensured dependability by maintaining an audit trail of the data which involved safe storage of all recorded pilot and final interviews as well as verbatim transcriptions of final

interviews. In addition, a log was taken of each interview and signed by the clinician on duty at the DUT CDC which will remain in storage for five years. Furthermore, research decision processes have been discussed throughout Chapter Three to allow readers of the research to evaluate and understand the reasoning behind decisions (Denscombe 2007; Connelly 2016).

Confirmability relates to the consistency of findings and how neutral or free the study is from the researcher's influence (Denscombe 2007; Connelly 2016). The researcher kept an open mind and endeavoured to exclude any personal bias during data collection and analysis (Denscombe 2007). Additionally, data analysis was assessed by the supervisor and co-supervisor to further prevent the possibility of jeopardizing confirmability.

Transferability refers to the extent which the study can represent similar populations or situations. This study's transferability was supported by the inclusion of the demographic characteristics of the participants which may assist readers in performing a comparison and determining the applicability of the study (Denscombe 2007; Connelly 2016).

Authenticity is exclusive to qualitative research as it bears the advantage of describing phenomena in detail to enhance the understandings of readers. To ensure authenticity, the study sample should be suitable and data must be accurately described to convey the essence of the lives of the participants (Connelly 2016).

3.10 CONCLUSION

This chapter outlined the qualitative, exploratory, descriptive research design which was applied to this study. Convenience sampling was discussed. This method was utilized to obtain the sample population being first time chiropractic patients. The sample size was fourteen. The data collection process was described which took the form of individual semi-structured interviews. The data analysis section provided insight to improve the understanding of the procedure which was followed to obtain the study outcomes. Researcher positioning was discussed. Ethical considerations and trustworthiness of the research were

reviewed to display the ways in which these were ensured during the research process.

Chapter Four follows which presents the results of the study as well as exploring and discussing the results.

CHAPTER FOUR: RESULTS

4.1 INTRODUCTION

The purpose of this chapter is to present the information which was obtained from fourteen individual semi-structured interviews with first time chiropractic patients. The demographic characteristics of these participants have also been presented.

Interviews were voice recorded, transcribed verbatim and analysed thoroughly. This process was performed by the researcher, therefore, effort was made to avoid preconceptions and ensure the information was presented in the way intended by participants. Quotes extracted from the verbatim transcripts have been selected to best support themes as it remains impractical to include the magnitude of responses that were obtained.

The data analysis process gave rise to eight themes and various subthemes which give insight into the perceptions, expectations and experiences of first time chiropractic patients' when consulting chiropractic students at a teaching clinic in KwaZulu-Natal.

4.1.1 Demographic Characteristics

The fourteen participants were asked to provide their demographic information prior to interviews commencing (Appendix F). Table 4.1 below presents the demographic information provided by participants.

Table 4.1: Demographic characteristics of participants

Participant	Age (years)	Gender	Race	Occupation	Medical aid subscription
DC01	42	Male	Coloured	Fundraiser	No
DC02	21	Male	White	Draughtsman	Yes
DC03	52	Male	Coloured	Policeman	Yes
DC04	29	Female	Black/African	Attorney	No

DC05	64	Female	Indian	Unspecified	No
DC06	58	Female	White	Housewife	No
DC07	48	Male	Black/African	Unspecified	Yes
DC08	39	Female	Black/African	Admin clerk	Yes
DC09	38	Male	Coloured	Contracts coordinator	No
DC10	30	Male	Indian	Sales representative	No
DC11	37	Male	Black/African	Accountant	No
DC12	52	Female	Black/African	Self-employed	Yes
DC13	46	Female	Black/African	State advocate	Yes
DC14	39	Male	Indian	Chemical engineer	Yes

It was revealed that eight participants were male and six were female with ages ranging from 21 to 64 years. Five participants were aged in their thirties, three in their forties, three in their fifties, two in their twenties and one in their sixties.

With regards to population group, six participants were Black/African, three were Indian, three were Coloured and two were White. Half of the participants who took part in this study were affiliated with a medical aid scheme.

Occupation categories chosen were in accordance with the International Standard Classification of Occupations version eight with the addition of housewife and other occupations (McDonald 2012; International Labour Organization 2016). Three participants were professionals, two were technicians and associate professionals, two were services and sales workers, two fell into the other category, one was a manager, one was a clerical support worker and one was a housewife. Two participants did not specify their occupations.

4.1.2 Themes and Subthemes

Semi-structured interviews were performed with fourteen first time chiropractic patients. Interview durations ranged from 18 minutes 37 seconds to 44 minutes 27 seconds. The average interview duration was 30 minutes 20 seconds. Table 4.2 below presents the interview durations per participant.

Table 4.2: Interview durations per participant

Participant	Interview duration (minutes:seconds)
DC01	20:12
DC02	28:03
DC03	30:16
DC04	34:51
DC05	31:01
DC06	44:27
DC07	25:45
DC08	40:59
DC09	29:13
DC10	18:37
DC11	27:34
DC12	25:56
DC13	39:25
DC14	28:24

The interviews were transcribed verbatim and analysed which revealed eight themes and numerous subthemes. Table 4.3 below presents the themes and subthemes used to encompass the perceptions, expectations and experiences of first time chiropractic patients.

Table 4.3: Table depicting themes and subthemes

Domain	Themes	Subthemes
Perceptions	1. Understanding of chiropractic and chiropractic care	1.1 Limited awareness and understanding 1.2 Scope of practice 1.3 Special populations
	2. Care-seeking influential factors	2.1 Soreness 2.2 Trusted suggestions 2.3 Unsuitable alternative care options
Expectations	3. Experience anticipations	3.1 Indistinct ideas 3.2 Chiropractic care
	4. Consultation outcomes	4.1 Improved condition 4.2 Adverse reactions
Perceptions and expectations	5. Origins of beliefs	5.1 Accessible information 5.2 Chiropractic consultation experience
Experience	6. First impressions	6.1 Professionalism 6.2 Unprofessional
	7. Chiropractic care experience	7.1 Thorough and detailed 7.2 Fear and apprehension 7.3 Trust and comfort 7.4 Patient centered care 7.5 Effectiveness 7.6 Pain and adverse effects
	8. Experience reflections	8.1 Extent to which expectations were met 8.2 Space for improvement 8.3 Desire to return and spread the word

a. Perceptions Domain

Theme one: Understanding of chiropractic and chiropractic care

Subtheme 1.1: Limited awareness and understanding

Fourteen participants were asked to describe their understanding of chiropractic prior to their first chiropractic consultation. Most participants shared a common basic understanding in that nine of them associated chiropractic with the back and bones and five made reference to the adjustment.

It's more, uh, your loosening of...your muscles and your joints, cracking of your back, that's, I know more or less what about. [DC03]

My understanding was that people specializing in your back, vertebrae basically...Chiropractors and your back or your bones so to speak. [DC09]

I just thought it was about setting of the bones. [DC14]

Eight participants indicated a limited awareness and understanding of chiropractic.

I actually had no idea what chiropractors do...You've got somebody that's totally green to this here...I came in here not knowing, totally blind. [DC01]

My knowledge was limited...I didn't know what a chiropractor was or what he did. [DC10]

I didn't know anything when I came, I came here...I was in the dark. [DC13]

Two participants expressed difficulty differentiating chiropractic from other health care professions.

I actually had no idea what chiropractors do. I thought chiropractors and chiropodists were the same type of thing. [DC01]

Well, for me, I'm not too sure what's the difference is between a chiropractor and a physiotherapist. [DC07]

Subtheme 1.2: Scope of practice

Nine participants indicated either a vague or complete lack of awareness prior to their consultation concerning the diagnostic ability that chiropractors possess.

I had no idea but, erm, going to a medical space I knew that it's possible that it will happen...I've been to, eh, straight medicine, I've been to homeopathy, you know, so, I mean, in all these areas they diagnose, so I expected it, ya. [DC12]

I didn't know what to expect whether...you, were guys going to diagnose, whether I go to, uh, make the pain go away. I didn't know what, what to expect because honestly I didn't know how you guys, you know, work. [DC13]

Only two participants mentioned the utilization of X-rays by chiropractors.

If they see you have lower back pain and that and it's really bad they'll send you for X-rays won't they? [DC02]

I expected, uh, that you would be able to read my X-ray, you know. [DC12]

Other diagnostic methods mentioned by two participants included patient history and a check-up.

Patient history. I mean, I think...I'm answering generally because I don't know much about chiropractic but it's, I think, the history of the patient. [DC04]

Eleven participants felt that chiropractic was an alternative treatment to medication and surgery, however, six participants believed that chiropractors would recommend the surgical route if necessary.

I think it could probably serve as an alternative treatment to medication and surgery. [DC01]

I think they would, maybe they work, they use the, the body of the person to try and...heal him rather than do the surgery. [DC07]

My view was that maybe when you will think that the patient requires surgery you may have to refer, I don't know. [DC12]

Surgery, I think if a chiropractor can't fix you then he's gonna refer you to an orthopaedic surgeon or somebody like that. [DC14]

Eight participants believed chiropractors to prescribe medication of which two mentioned pain relief medication and one mentioned ointment. Only one participant believed chiropractors to prescribe medication for non-neuromusculoskeletal complaints.

I would, I don't know, I think they maybe would prescribe medication but I wouldn't, maybe not oral medication maybe medication that say to yourself 'you need to get some sort of a rubbing ointment to ease the tension of your muscle here' or something, like that type of thing. [DC01]

Ya, I think they can (prescribe medication) because...they are able to, to fix your muscles, maybe, perhaps, they should prescribe something for, for your, to ease your pain or whatever that you feeling at the time. [DC08]

Ya, definitely, yes. I mean, you can't have studied for so many years and you wouldn't know what to give me with my tight chest. [DC12]

Eight participants made reference to the adjustment as a treatment modality. Correct terminology, being adjust and manipulate, was used by three participants.

You can also straighten, try and straighten someone's back using your hands. [DC04]

I thought, well, they just massage you, put your bones into shape again, into place, where it's dislocated and then locate it in... [DC05]

Setting of, not setting, adjustment of, uh, can I say bones? Bones are like, what, that have been misaligned. [DC14]

Seven participants believed chiropractors to massage, five mentioned needles, three mentioned stretches and three mentioned exercises.

I did know that it was manipulation of um, bones, or clicking or and rubbing of muscles and I did know a little bit about dry needling...Manipulating or, uh, your skeletal structure or whatever where it's out of place. [DC06]

I thought just the stretching and massaging only. [DC07]

I think for me it's a kind of exercising then, uh, doing the massaging and injections. [DC11]

Five participants believed chiropractors to give advice. This advice was regarding gait and posture, home care, avoidance measures and lifestyle aspects.

Postures, I guess...Well, maybe to teach them avoidance measures...Take care of it at home, do exercises to prevent or to able it, the intensity of the pain. [DC04]

They advise you about your eating habits, your drinking habits, your smoking habits, you know, all those things. [DC05]

Maybe how you should sit, posture, uh, how you should walk...how you should keep balanced, how you should exercise...or what exercises to do... [DC14]

Participants were asked to state what parts of the body they believed chiropractors to treat. Responses included:

- Back (nine participants)
- Extremities (nine participants)
- Muscles (seven participants)
- Neck (six participants)
- Spine (three participants)
- Bones (three participants)
- Joints (three participants)
- Nerves (three participants)

Well, mainly what I know about a chiropractor is more like your, does your back and your neck. [DC02]

Uh, they can treat...normally it's your spine. They work mostly with your spine...In your joints, your joints. All your joints...Like your pelvis...Your knees...Your legs, your arms... [DC03]

From your toe to your fingers, I mean, these are little things, but they do everything, the whole body. That whole skeletal structure they can sort out. [DC05]

Practically most of the body where there's muscles and nerves and bones. [DC10]

Participants were also asked if they knew of any conditions chiropractors can treat. Headaches and arthritis were each mentioned by five participants. Three participants mentioned chiropractic management for injuries including “spinal injury”, “sports injuries” and walking post-accident and one mentioned “slipped disc”. Five discussed chiropractic management of non-neuromusculoskeletal issues and four discussed stress and depression.

Uh, you know, people that, OK, my situation, feel very down, and in fact, this can actually bring them back to a normal person...What a able body will do...Because, uh, in my situation, a lot of them just say 'eh you know what, I can't do this and I can't do that, this and that' and they just forget about, eh, I'm done, I'm done...I mean, maybe with this here, yes, they feel much better, they start moving around. [DC03]

Well, back pain, headaches and muscle pain, you know, sports injuries, um, stress, depression...Well, from my observation in terms of, you know, obviously I'm aware that sometimes stress can cause back pain...or muscle pain so I'd imagine that it would be part of the treatment, it can be alleviated if someone goes to a chiropractor...I didn't have a headache but I know that that's obviously from, because the headaches can be caused because of other pains in other bodies so definitely that's, they can treat the...headache. [DC04]

You can treat...when you have a pain, one. Two, when you have arthritis and, um, also when you have a, uh, no blood circulation I was told and, uh,

it's no blood circulation, stress and, uh, pain, just any pain...on your organs or on your lungs, I, I don't know. [DC13]

The participants of this study seemed uncertain in their answers regarding non-musculoskeletal conditions indicated by stating “I don't know” and “maybe” during their discussions. Participant DC06 was unsure of chiropractic treatment for the organs, however, felt chiropractors could help a tight chest by advising on breathing and conditioning the rib cage. She also mentioned massage for the stomach. Another participant began by discussing detection of cancer by the chiropractor and added that maybe chiropractors can help cancer in the early stages. Participant DC05 mentioned an effect on the skin, head and hair as a result of chiropractic treatment having a calming effect allowing one to “think straight”. One participant described what is known as the somato-visceral effect which encompasses alterations made in the functioning of viscera as a result of the adjustment (Bolton and Budgell 2012).

I'm pretty sure if it's a physical condition, the simple fact that you work with the spine and the nerves, you can treat just about most things. Physical, not so much your diseases and stuff but ailments, come on, got nerves relating to a lot of things, diarrhoea, eye issues, so ya. [DC09]

Subtheme 1.3: Special populations

Participants were asked who they believe can receive chiropractic care and if there are any groups of persons who they believe should not or are not able to receive chiropractic care. Eight participants had the broad opinion that everyone can receive chiropractic care.

...anybody should have it, everybody should. [DC09]

The paediatric and elderly populations were frequently discussed. Out of the ten participants who discussed chiropractic care for the elderly, only one believed that this population group should not receive chiropractic care. The rest felt the elderly would benefit, however, one participant considered difficulties the elderly may face regarding access to chiropractic care.

I believe anybody can receive chiropractic treatment, uh, and there's nobody that shouldn't get it but I think...it should be prescribed treatment especially among the elderly where the lifestyles have changed from since they were working and things like that. They become more, um, not restless but, um, less exposed to the environment than what they were when they were working people. [DC01]

Some people are unable because of their mobility issues, ya, the elderly who suffer from knee problems and the hip problems. They...need it but they don't have access. Obviously if the department or the government can assist and subsidize it you can reach out to the old people as well but they can't afford it, I'm sure, in terms of transportation...especially. [DC04]

...the older you are I think the bone density drops so...maybe...anybody older than sixty or maybe seventy shouldn't. [DC14]

Six participants raised the topic of chiropractic care for the paediatric population. Three believed they should not receive chiropractic care, two participants believed paediatrics could receive chiropractic care and one admitted she was unsure due to lack of knowledge regarding the chiropractic curriculum.

I think maybe young infants, they should fully develop before they start seeing a chiro...Or, I don't know how gentle you would be with the young age but, ya, from a certain age up, anyone. [DC02]

No, I don't think a child or someone of that could benefit from using a chiropractor because of the stretching of muscles, I think it's a bit extreme, especially the needles and things like that but I think any young adult or elderly person would benefit. [DC10]

I don't perceive any group should not cause even babies depending on their conditions, yeah. [DC11]

Other groups of people who participants believed should receive chiropractic care were the sporting population and those working in stressful and sedentary professions. These were each mentioned once.

...sports events...treat you there, loosen you up. If you have some problem they can help you. Let's say your, before you go for the swim your leg's not feeling hundred per cent. They can probably check you, adjust you and loosen those bones. [DC02]

I'm sure lawyers (laughs), stress and the more stress professions, um, basically, I mean we work, we don't pick up heavy things, heavy stuff but we suffer from bone issues so I don't believe that anyone shouldn't, no, because it's very important. I'm coming from a law firm practice, I know that my previous firm had thousands of secretaries. I'm talking about secretaries more than us because they sit and type long hours. [DC04]

Regarding those who cannot receive chiropractic care, the mentally challenged who cannot communicate effectively, those with paraplegia and lunatics were each mentioned once.

Maybe, I don't know, paraplegic people who, who wouldn't be able to tell you 'I can feel' or the pressure points or something like that. I could see maybe that but other than that...people...that are mentally challenged, so mentally challenged that they won't be able to say 'um, OK, well, that's sore' or 'stop here'. [DC06]

Theme Two: Care-seeking influential factors

Subtheme 2.1: Soreness

All fourteen of the participants sought chiropractic care for various types of pain and discomfort that they were experiencing. Eleven participants presented for pain in the back and neck and four complained of pain felt in the extremities.

I had this pain in the neck but it was shooting from the eye into the neck...but overall I came to see to my old body, my knees and my legs and everything... [DC05]

Well it's actually my pain that...influenced me to come here. Same back pain for a couple of years... [DC09]

OK. I've been bothered by my left wrist, eh, following an injury that I sustained, eh, from a, an armed robbery so as much as I went to the doctor to check if there was anything wrong, uh, I had a swollen hand but that subsided but over time I've been, eh, getting this pain. I went for X-ray and X-ray cleared me, erm, but the pain continued. That is why I decided to come here.

[DC12]

Subtheme 2.2: Trusted suggestions

The choice to seek chiropractic care for all participants was largely influenced by recommendations received from others. Frequently these recommendations came from friends, family or colleagues who had previously experienced the benefits of chiropractic treatment, some of who received care at the Durban University of Technology Chiropractic Day Clinic.

I was actually, uh, referred through by my cousin because he told me 'you know what, you, you've been to a general practitioner and there's no real, like, improvement in pain so maybe try a chiropractor'...He actually had a friend who had severe back problems. He tried a lot of different avenues and nothing worked so he went to this chiropractor and it helped him quite a bit.

[DC10]

My aunty was in the hospital for more than a week...she's been taking treatment, she's not been receiving treatment, she's gone bad there up until she received, um, referral from one of her colleagues to come here. It's then that, eh, when I ask her 'haibo, what happened to the pain that you were feeling?' because she was lying at home, she wasn't doing anything, she wasn't going to work for about a month and then she told me about the clinic. It's only then I knew about the clinic. It's only then that I decided to come as well.

[DC13]

Well, I tell you what helped me...to seek it. My wife came here about three weeks back and that she said and then...I had a discussion with one of my

colleagues who said he would choose chiropractic over physiotherapy so that's the reason I decided...to come here. [DC14]

Three participants sought chiropractic care as a result of encounters with DUT chiropractic students.

I was with a colleague and a waiter told us about it. When, uh, we just joking, I said 'ah I have a back problem' and he said 'oh. How come? I'm studying toward chiropract-, eh, chiropractic thing, chiropractic'...and he said 'ya, there's the DUT Clinic here' and I could Google it. That, I, I, found the number. I was totally unaware. [DC04]

Another participant knew a DUT staff member who informed them of the DUT CDC.

I heard about it because one of the lecturers that attended, he's a lecturer at DUT and he spoke about it but a lot of people said to me 'you must go'. [DC05]

Subtheme 2.3: Unsuitable alternative care options

Eight participants mentioned they had failed to gain relief from previous attempts at treatment, which included physiotherapy, massage and orthodox medicine, as a reason for seeking chiropractic care. One participant highlighted the perception of 57% of the 182 participants from the Australian public population who were involved in the study by Wilson, Swincer and Vemulpad (2007). This perception was that the main function of chiropractic care is treatment of the cause of the problems.

I went to somebody to do body massage and, uh, OK, for that moment it was fine but I needed to go to somebody that could explain to me what is really wrong...A lot of people say 'OK. The pain is here' and they'll massage you. That's where it is but the pain is actually not there, it's somewhere else that leads to there and that's what made me seek (chiropractic). [DC05].

I actually went to, to my GP, my GP referred me to a physician but I couldn't get any help from them. They've done tests, different types of tests from, from, from X-rays to bloods...they've done those tests from the hospital and they couldn't detect anything. [DC08]

My previous experience with, uh, physiotherapy is that I felt very sore after, after the session and I'm not sure whether it helped or not because the pain simulated is...the pain that you probably felt when you went in there so I wanted to try something different...I needed something else besides physiotherapy...I've been for about ten physiotherapy sessions before, I'm not sure that it helped me...Last week I got admitted for pain, um, emanating from my neck which the doctors couldn't find anything wrong with me. [DC14]

Taking into account that half the participants had prior contact with other health care providers, none mentioned receiving a recommendation from them to seek chiropractic care. This point was raised by one participant.

I should say, cause I've been to a lot of doctors, they couldn't detect or even suggest that I should go to a chiropractor. [DC08]

An aversion to orthodox medicine was another reason that five participants sought chiropractic care.

Well, I said I didn't wanna go for an operation. You normally know medical doctors? If you're sick you get an operation. So that's why I decided, let me come here. [DC04]

...one fear that I've always had is that when I go to the orthopedic surgeon I might go through a, they might take me through surgery...my view was that if I come here I will get assistance that does not necessarily need, eh, surgery...I've moved away from mainstream (medicine). [DC12]

...beside taking pain medication I wanted to see whether I could get relief...out of chiropractic. [DC14]

b. Expectations Domain

Theme three: Experience anticipations

Subtheme 3.1: Indistinct ideas

The participants were asked the general question of what they expected to happen during the chiropractic consultation. Four participants indicated that they lacked expectations.

Didn't expect anything. For me it was like basically you come in here, you laying on this bed and that's that, they do what they gotta do to make you feel better. [DC09]

...I didn't know what to expect. Each and every...time when he was doing something I was asking myself 'what he's gonna do next?' (laughs)...I, like I said, I didn't understand. I don't know, I don't, I didn't even know what to expect when I was coming here. [DC13]

Four participants indicated vague expectations for the consultation.

Because the lady that I came with told me 'they going to do this, press this and press that and you gotta lay here'...I thought you just gotta get onto this bed, lay down, and this person gets busy with you. [DC01]

Seriously, I just expected to walk in here, fill a whole lot of paperwork out which would have taken an hour and tell him what the problem was and for him to get on with...His magic, whatever his magic was (laughs). [DC14]

The remaining six participants had expectations relating to the chiropractic care which leads onto the next subtheme.

Subtheme 3.2: Chiropractic care

Participants were asked what they expected to happen during the examination. Two participants admitted to not expecting an examination at all.

I wasn't even aware that there was going to be an examination. [DC07]

Six participants expected to be questioned about the presenting complaint of which only two mentioned expectations for medical and family history taking.

...I did expect questions because, I mean, how will he know what he's going to do... [DC06]

Uh, obviously being my first time I expected them to ask a lot of questions pertaining to my medical history, my family and things like that. [DC10]

Five participants mentioned an examination of the area of complaint.

I did expect a physical examination, um, but I didn't expect it to be, um, just to feel, you know, if I said to him 'OK. The pain was there', I did expect him to feel and find out exactly where it, where it was sore, I expect, that I expected. [DC06]

Three participants considered the possibility of a basic general examination consisting of vitals, blood sugar reading and postural assessment.

That he was gonna check all my signs, all my vitals, everything, which he did do, and then I would, he would just go more into depth where it's sore and that. He did, uh, check everything, how my posture is and everything...I sort of knew it was gonna be like that. [DC02]

All participants had expectations which fell within the chiropractic scope as discussed in Chapter 2.2.4a except one participant.

I was expecting somebody, I don't know whether they gonna scan it or how they gonna know that this one's not right or gonna cut it or, ya, something like that. [DC11]

Expectations regarding the examination may be due to comparisons to other health care providers.

I thought maybe perhaps the session would be exactly like the physician. Physician don't ask a lot of questions, it's...not a lot of patience, it's only the blood pressure, body mass and then they start their thing. [DC08]

Participants were asked what they expected to happen during the chiropractic treatment. Nine participants expected some form of soft tissue therapy. Six participants expected a massage, four expected needles, two expected stretches and one expected compression of “pressure points”. One participant expected exercises.

But it was the massage that was most dominant on my mind, that, what, that something was going to take place more than anything else...I thought just the stretching and massaging only. [DC07]

One, definitely I expected that a needle was going to come through my body...and that I was gonna do some exercises...I didn't know what they would be...I donno cause, whether is acupuncture the same thing as chiropractor? Is it the same thing or is it different thing? But I donno cause I was expecting that somebody's gonna be pinching me with something. [DC11]

I expected to get a massage (laughs)...my wife explained that there will be, OK, that, the needles that you guys use to stimulate, uh, muscles or blood flow so she explained that and I expected that. Uh, she explained that, uh, there were pressure points, that you guys apply pressure to pressure points, I expected that. [DC14]

Six participants implied expectations for the adjustment. Only one participant utilized the term “adjust” to describe his expectation. It was assumed that others were referring to the adjustment based on their descriptions.

Ya, I did expect them to adjust me, that was one of the main things and maybe needle. [DC02]

...I knew that their hands were going to be used...to actually touch, I mean, the bones cause they know their bones, what kind of bone is here so I think they were gonna identify the bone and move it...I expected someone who come and touch where I say there's a pain and they'll (claps) fix... [DC04]

I heard about, you know, maybe ruk-en-pluk here and there. [DC06]

I was thinking about the breaking. Breaking, breaking, breaking. I was wondering what is going to happen to me. [DC08]

I expected him to crack some bones and whatever. [DC14]

Two participants indicated misunderstanding of how the adjustment is performed.

I had heard once someone going to a chiropractor and they just sat on this bed and they just drop the neck and (click sound) (laughs), you know, and then everything is clicked into alignment so one, one hears on those, um, hear says but, so I thought, you know, I had an expectation that...something like that was going to happen. [DC06]

Psh, I thought he was gonna jump on my back (laughs), seriously. Walk on your back and crack you. [DC09]

Three participants expected the involvement of medication and two did not know what treatment to expect.

Possibly, maybe like medication to deflame the muscles and things like that. [DC10]

I didn't know what to expect. I had no idea what was going to do. [DC13]

Theme four: Consultation outcomes

Subtheme 4.1: Improved condition

Participants were asked what their expectations were for the treatment outcome. Eleven participants expected to gain an improvement in their presenting complaints which were mostly pain related.

That I will feel better once I'm done...I'm hoping that my back is, uh, more loose...not tense anymore. [DC02]

I just expected to feel, it was basically not to feel that pain. I was really hoping to have relief. [DC06]

Three participants discussed expectations outside of symptomatic relief.

Fully cured. Oh, I thought we were gonna have a miracle of sorts...Well, after today I told her I want to put my Batman suit back on...My treatment outcome, I expected to be hopping and skipping and jumping and doing all sorts of things. [DC01]

I think a bone moved because of long distance driving, so it's actually, it came out, so...I thought it would go back today. [DC04]

I really, so badly wanted to just feel like a human being again. [DC06]

Two participants felt doubtful regarding the improvement in their conditions from chiropractic care.

I have good expectations from my aunt but I didn't know, to be honest, I didn't know whether I was going to be helped as well. I didn't know what to expect, whether it was gonna help me or whether it's not gonna help me but was on the negative side because this pain has always been there. [DC13]

I was gonna do the session and I was gonna see what's gonna happen...because when I came in I didn't expect, I came in to basically pay the hundred and thirty bucks because it's so cheap...and let's see what happens...I hoped that it would help. Uh, did I know that it'll help? No... [DC14]

Ten participants expected gradual improvement in their conditions with multiple treatments. Nine of these participants expected within the range of two to five consultations and only one participant gave a vague answer of less than a dozen. Three expected complete relief after one treatment and one participant had no expectations.

It's probably gonna take a few, if you really wanna get it done properly, you probably gonna have to come in for a few check-ups but in my case it's minor so I'm sure in, like, the third check-up it should be fine. [DC02]

Oh, I'm expecting one (treatment) should be enough...I expected that within a few days this thing should, uh, whatever I'm getting, given or advice on what to do it get better within a few days. [DC11]

Subtheme 4.2: Adverse reactions

Five participants expected to experience pain and discomfort during the chiropractic treatment.

I was scared that I was...gonna be, maybe everything, the procedure would be painful from the beginning to the end. [DC08]

I was actually quite worried about the treatment itself...Well my previous perception was, well from what I was told, it would have been some painful bone breaking experience that leaves you in more pain before you feel better...I was actually thought I'm, I'm gonna suffer... [DC09]

Pressure points I know, pressure points are sore...so I was expecting that...Because of the physiotherapy, yes, I expected pain...Uh, it's not negative...Not everything that's good for you is flowers and, uh, candy, you know. [DC14]

Two participants expected adverse effects after the chiropractic treatment.

Oh, um, one or two people just...said that...there would be some, you would feel some effects afterwards like a few, couple of days afterwards, you know, you will feel that you've been worked over...like sore muscles or, um, a little bit of discomfort...I expected to know that, you know, there would be, umm, where I would feel some discomfort somewhere. [DC06]

I was led to believe that it's this painful thing, that you gonna lay stiff afterwards, you're not gonna be able to move for a couple of minutes before you can lift your arm and you gonna, so I'm like OK fine...I'm going to call a driver cause I'm parked outside here...I expected a lot of anguish, you know, and suffering afterwards. [DC09]

c. Perceptions and Expectations

Theme five: Origins of beliefs

Subtheme 5.1: Accessible information

All participants stated that they had gained information and formed expectations following discussions with other people. These people were most frequently friends, family and colleagues of the participants.

I came here with a friend...and she said she's coming to DUT for chiropractor so I asked 'what's it, what does chiropractors do'. She gave me a brief explanation... [DC01]

(It) was my friend who told me she came twice for her back problem. [DC04]

You know, people at the work place mostly. [DC08]

Word-of-mouth. You hear what people gotta say... [DC09]

Some discussions with others revealed information that did not convey chiropractic in a positive light.

To tell you the truth because even though (my friend) was trying to explain to me but she said 'I don't want to scare you' and then some other lady from some other business area said 'they going to break you' and then I ask her 'have you ever done this before?' she said 'no, but my aunt told me that they break you, especially your neck' and then I was scared cause I've never experienced something like this before. [DC08]

Well from what I was told, it would have been some painful bone breaking experience that leaves you in more pain before you feel better. I just thought that, from what I was told 'it's going to be a very painful thing, you're gonna break and'...said 'no some of your joints, you have to pull them apart and put them back, you have to dislocate and relocate', I'm like 'eish'. [DC09]

Six participants indicated forming beliefs from their own general knowledge.

It's just my idea of, these expectations came from, physio-, chiro-, that's what they do. [DC02]

Um, basic knowledge I guess...you learn about certain things growing up, you learn different professions... [DC09]

Two participants gained information from the internet.

I was with a colleague and a waiter told us about it and he said 'ya, there's the DUT Clinic here' and I could Google it...I just put it in Google and it led me to the website of the DUT, erm, Chiropractic Clinic...It said something about headaches which I wasn't aware of. [DC04]

Subtheme 5.2: Chiropractic consultation experience

Following their first experience of a chiropractic consultation ten participants indicated that their perceptions had broadened regarding the diagnostic ability of chiropractors. As previously discussed in Subtheme 1.2 participants had a vague or complete lack of awareness of the diagnostic abilities of chiropractors prior to the consult. Eleven participants mentioned that they gained confidence in the chiropractic diagnostic ability and realized the extent to which chiropractors can diagnose.

Having the knowledge of doing that thorough medic-, um, medical examination, I'm sure that they are able to diagnose other conditions that aren't, not even related to chiropractic things. Um, so if a patient came...often you'll have a referral pain and it can have nothing to do with chiropractic, um, I can see that they could pick up underlying things and say 'OK. No, no, no, I think you need to, if I were you I would rather go here to go make sure that you've, um, just go and say, um, to some other specialist to check that this and this is not wrong'. [DC06]

Participants mentioned improvement in their understanding of methods chiropractors use to diagnose. In Subtheme 1.2 only three participants mentioned diagnostic methods. Following the experience four mentioned the examination,

four mentioned manual palpation, one mentioned questions and one indicated a new awareness regarding blood tests and X-rays.

Then she said to me 'no, you got to go do your bloods and you gotta do your X-rays' which I didn't think that was gonna happen because in previous, this, in January this year, I did a blood test and the year before I had blood tests done so I didn't think it was gonna take place with a chiropractor, I didn't think they do blood tests and X-rays. [DC05]

I think that you, they can diagnose something cause with the, with the checks that they go through it's possible that somebody can diagnose something is wrong in this area, uh, cause they do, they do different test in your body parts and in different areas...My understanding is...that you guys diagnose areas which might not be responding normally to the touches. [DC11]

It was noticed that the term diagnosis was poorly understood by two participants even though simplification of the term was provided by the researcher. This was indicated by mention of treatment methods during discussion of diagnostic methods.

I'd say it can (diagnose) with, you know, technology of today. Uh, ah (laughs), the, I, I mean, the needle things, and, uh, ya, by penetrating my, oh, OK, I don't know, I would say my spots where the pain was. The way they, they handle it, the way that they pressed it. [DC03]

In Subtheme 1.2 five participants believed chiropractors to give advice which included gait and posture, home care, avoidance measures and lifestyle aspects. Nine participants indicated a new awareness of the ability of chiropractors to provide advice following their first consultation. This advice mostly related to posture, exercises and stretches. Two participants mentioned advice relating to internal organs, one mentioned diet and another mentioned medication side effects. Two believed chiropractors could advise patients to seek further medical care.

I think, I would imagine that if you have regular chiropractic visits that you would be seeking advice from them as well. Well, I would imagine do, things to do with your body...skeletal system, your posture, all those type of things...to keep you aligned and upright. [DC01]

Maybe perhaps if there's something wrong with you, seriously, maybe a terminal illness, maybe they can advise them like sometimes when you have lumps, it can be something serious, it can detect too something like cancer or perhaps maybe you need to undergo a...intense treatment, maybe, perhaps, they can advise you as to what you can do, maybe refer you to another specialist to treat you for whatever illness you have at the time. [DC08]

I think...somebody who's taught in the, in the issues of...medicine they can give you an advice. Let's say if my heart is not beating normally they can give advice maybe what I should try in terms of my diet, in terms of the exercises for example. I believe, as well, in many parts of the body that...they do the tests they can be able to give medical advice. [DC11]

Eight participants learnt more about chiropractic treatment modalities during their consultation. Three were interested that the treatment did not include medication. Five participants were previously unaware of the adjustment, four did not think chiropractors used needles during the treatment and two experienced treatment with an electromodality which was unexpected.

I didn't expect my bones to crack. It was amazing to hear the way, to hear these things crack, just shocking (laughs)...No, no, I didn't see it. It was just like a surprise. [DC03]

That, uh, there are other ways of treating muscle and nerve problems other than oral medication like needles, things like that...Ya I didn't, I didn't expect the needles to come into play so (laughs). [DC10]

Six participants formed broader perceptions regarding the disorders and bodily structures chiropractors can treat.

Well, I definitely know they don't work with feet, they work with the whole body. I think all sorts of conditions: sports injuries, maybe car accidents if you've got a bit of whiplash and things like that, general everyday stresses, stresses of the body from work, especially people like us that work on telephones and we sit and hold the telephone like this. That was just judging from today, my first visit and taking note of what the lady was doing and the sort of questions that she was asking, so I was formulating my own (ideas). [DC01]

Before today I thought they were just dealing with bones and things like that but now I know that they...more detailed like they, they also will, with problems related to pain like muscles, nerves, things like that. [DC10]

Not necessarily that you cannot go beyond the orthopaedic space, I think you can. I think if I have a headache you can assist me. I think even eye related, uh, ailments you can be able to prescribe, it was my observation. I could have even come here for, for some terrible headache. Uh, I, I could have come here for a problem with my sight. I could have come here because of my lymph drainage that is not functioning properly. I have hypoactive thyroid and I think you can prescribe, not only medication. I think even skin. I'm sure you can even advise on skin related ailments...you can do an investigation and then prescribe or maybe refer. [DC12]

Five participants formed new perceptions regarding the level of knowledge chiropractors possess.

They ask lots of questions so I think there's a lot of in depth knowledge. Um, it seems that the chiropractor does more or less what a general practitioner does but more in depth. [DC01]

Chiropractors are quacks, OK, and I think when I was younger I did, I had that same perception and it's, like, a quack or an alternative medicine, something that you just go do a two year course and, you know, like reflexologists, to be honest. I'm not insulting them but the perception is that. Not really realizing that it's a complete medical, that you're doing a medical

degree and kin to that of...a doctor. Ya, I didn't, I didn't understand but I saw that today, definitely I did. [DC06]

Firstly you getting questioned and all that and then having a chiropractor check your blood pressure and all that you like 'OK. You know what you doing' (laughs). So I think I learnt a new found respect for chiropractors today. [DC09]

d. Experience Domain

Theme six: First impressions

Subtheme 6.1: Professionalism

Nine participants discussed positive experiences relating to the reception services. It was implied that it was an easy process with efficient and professional service and a helpful, friendly and warm receptionist.

Went to reception, OK, we sat, they helped us, very polite...and I was happy with their services...didn't wait too long. Thought we would wait very long...it was good. Service was well. [DC03]

Well, when I walked in I was quite impressed because I was expecting to go into like a public clinic type of chaotic scenario there. It was quite professional, I mean, you'll had all my details, everyone was on time and everyone was kept to date and it was efficient and a friendly, good service so I was actually quite impressed. [DC10]

Four participants discussed positive interactions with various staff and students.

Um, I just think having walked right in here, the professionalism from, um, the guard standing and telling me to sign the thing and where to go and it was just (claps hands) so professional, everything was professional. [DC06]

But from the time I came in...the environment was so pleasant and you could see that people who are, that are here are very professional from the receptionist to...you guys and even the cleaners too were very helpful. [DC08]

Three discussed the professional environment.

Ya, I could see people wearing white gowns and I was like 'oh my goodness' (laughs)...I must admit I have a thing about hospitals (laughs)...I am aware of this chronic thing, clinics and, ah, that's the last thing I want, I wanna, I wanna see (laughs). But anyway, it also gives an indication that this is a formal working environment and as much as my other self find it scared but I mean I'm, I'm in the right place. [DC04]

I was really impressed with the professional way...going into, seeing all the cubicles, all the equipment, you know, that there's, it's like going to a proper doctor or a, you know, place like that. [DC06]

Subtheme 6.2: Unprofessional

One participant was critical of the reception environment and two discussed the substandard external environment of the DUT CDC.

...It's quite dodge outside (laughs)...Uh, well, it's, like, the area...Um, well, to find the place, I thought it was this building cause it's the nicest building...It's just in this parking area...I was just, uh, I didn't, uh, like, you know, like, hospitals? They in more, in a, like, a quieter place...Here at DUT it's just like students and cars and I had to even dodge cars... [DC02]

I mean it's, outside's sometimes unpleasant...cause you got student riff-raffs around, you got that dilapidated building that's opposite you but I guess...it is what it is and inside's a lot different than the outside. I would have preferred (the reception area) to be not so open...You had people that were around you talking about, I meant, fellow students coming back from their consults and just chatting, you got patients there...and I'm not sure about that filing system you'll have in the front. What's that about? Why does it need to happen there? You guys come and fill something in and leave that file there... [DC14]

Two mentioned negative experiences regarding the security guard.

I looked down to the right I saw the reception there, Chiropractic Clinic, 'I must go there'...I turn to go down, security call me back, I actually felt like slapping him. No, just the way he called me like 'eh, hello, come here' (laughs), God you don't call me like that. No. I'm the type of person, I demand respect in my circle of friends, my family, wherever I go, respect me but OK fine 'what must I do?', 'no, sign here first', 'OK', signed first. I saw the humour in it all, no he's doing his job, you getting paid for that so ya. [DC09]

Theme seven: Chiropractic care experience

Subtheme 7.1: Thorough and detailed

Ten participants mentioned that they did not expect the examination to be as detailed and thorough as was experienced.

It's been very long but what I'm really impressed with is the thoroughness of the consultation in compared to a general medical consultation, you go, they just ask you a couple questions, this was, like, really, really very thorough...He explained to me why it's necessary and I can see because, you know, if, if you, if you have an underlying heart problem or a blood pressure problem and you, you know how you been jerked around and things, it could cause serious things so I understand why the, um, and I think that's absolutely excellent to, to have that, um, you know, some people I think would, um, think 'well, why's is this all necessary, you know, you're just going to pull me around' but I could see that and I really appreciated that as a patient, the thoroughness of it all, ya. [DC06]

I thought that I was gonna get in there, tell him my problem and start working on me, but, eh, obviously there's a lot more information required before even the treatment can start taking place so that was new to me...I think I was just amazed at the information that is required from me before actually doing treatment, shows that, shows that the doctor wants an in depth (understanding) of the person he's gonna deal with before he tackles him. So it gave me confidence to, where I am, I mean, even the person with whom I'm dealing with, he knows what he's doing and before even he

attends to me, at least he needs to know the condition that I'm in before he even start doing any treatment to me. [DC07]

Four participants felt that the examination was beneficial. Reasons provided were that it prevented the practitioner from guessing, improved patient health consciousness and enhanced patient confidence in the skills of the chiropractic student. One participant felt that the examination added value to patients' pain as some may experience difficulty in verbalizing their symptoms.

I was impressed...with the assessment. I mean, if you guys are gonna assess each of your patients the same way that's gonna benefit both you and, and the patient that you see because not everybody's able to explain what they're feeling...and your assessment is probably gonna add more value to their pain than them telling you. [DC14]

Three participants likened the examination to a doctor/medical check-up.

I think that might be the deceptions, muscles and bones but this was, um, to see, you know, like a doctor, normal doctor would do, you know, if you've got thrush, have you got this, plus all the questionnaires, check your blood pressure, then the, whatever they were checking for the nails, I presume there's something in the eyes, the colour of the eyes, how you focus, um, everything, so, ya, no, I was actually, now that I'm thinking about it, it's actually amazing. [DC06]

Subtheme 7.2: Fear and apprehension

Three participants felt nervous on arrival at the DUT CDC.

Well, um, I was a bit nervous, when I came, when I walked in I thought 'oh my goodness maybe these people are gonna refer me, refer me to a doctor or hospital' (laughs)...You know, I think that's normal for a patient and ya. [DC04]

A bit scared because I did not know what to expect. [DC13]

Two participants felt apprehensive regarding treatment provided by students.

When I arrived here I, I was a bit nervous because I didn't know what was gonna...happen to me...what treatment I was gonna get...You know, the experiments, experimenting, (the students) experimenting on people, yes, yes I was (nervous about that), doing something wrong, doing something wrong and then without telling if they did something wrong. [DC03]

Ya I had those reservations eh...because when you go to a clinic you don't expect to be treated by a nurse, you always want to go straight to the doctor if it's a clinic, if it's a normal clinic, so here I was told student. Asked myself 'student?' but then what else was I going to do?...I was worried that the student's going to treat me but I said 'no, doesn't matter, its one thirty, I won't cry that much'. [DC13]

A supervising clinician is available throughout the consultation as mentioned in Chapter 2.2.2. Patients may not have been aware of this prior to the consultation as only one participant discussed it.

Obviously, uh, when I went onto the website, uh, I was more confident because you'll overseen by experienced doctors and things like that so I didn't have problems. [DC10]

Three participants felt scared as a result of the click sound associated with the adjustment.

The clicking was, at first I was a bit afraid...but afterwards when she explained 'no, those are just things realigning themselves' said 'ah, no, cool, let's go, I don't mind'...(I was scared because) we don't hear our bones click and rattle and roll and do all those sorts of things. [DC01]

I was a bit scared in terms of I could hear (the click) but it wasn't painful. [DC04]

No, the scary part is when you, your neck is being pulled (click sound). (Click sound) do like that, not that it's painful but when you hear that noise you wonder 'what is happening in my neck?' [DC11]

Four participants were apprehensive regarding the use of needles for treatment.

I had needles. Oh (laughs), I was scared because I'm used to an injection, you know, so I had to relax. Well, she was...reassuring me that it's not gonna to be painful. Well, that made me calm down but I think because we, in society, are used to needles, I mean, as an injection, which is very sore, you can be a bit scared. [DC04]

Subtheme 7.3: Trust and comfort

Twelve participants commented favourably on the demeanours of the chiropractic students. Two participants highlighted the impact that the chiropractic student's demeanour had on their experience. Words used to describe the demeanours of the chiropractic students have been presented in Figure 4.1 below.



Figure 4.1: Demeanours of chiropractic students

And, uh, (chiropractic student's name), um, introduced herself with a big smile and said 'come, let's go' and then she sat me down and explained everything. She's a lovely somebody, worth her doing this job. Before she can even start the actual thing she'll make people feel better. [DC05]

I was completely at ease...Just him as a person. Also he was very professional and he was, um, one thing I noticed with him particularly, he's passionate about what he's doing and the passion I could see...you could

actually see this person was just living to do what he's doing and that I sensed immediately when I started relating with him and I liked that.

[DC06]

Ya, what I got was only excellent plus...when you're getting treatment from somebody that's got a kind manner, the way the physiotherapist's approach is makes you want to go for it again, you know, it's not like rude, it's how it's spoken...

[DC09]

Prior to the consultation, one participant felt that a student would be less confident and two mentioned an understanding that a student would possess limited knowledge. Nevertheless, following the experience, seven participants perceived that the chiropractic students who conducted the consultations were competent.

I was surprised also with students, I'm going to be honest with you, having that professionalism, um, because...one thought well a student will be, sort of, a little less confident or maybe, and I didn't, that wouldn't have worried me in the least bit but I did not...I'm very pleasantly surprised at how confident, relaxed and knowledgeable and I mean it's, to me, I was treated by a fully qualified professional. That's what it felt like.

[DC06]

I think the treatment was conducted with a professional...he knew what he was talking about...I thought it was very professionally done. I thought he knew exactly what he needed to do.

[DC14]

In Subtheme 7.2 it was noted that two participants were apprehensive regarding treatment provided by students, however, both had confidence in the care provided by the students following the consultation.

He knew exactly what he was doing...I think he did the best to his ability.

[DC03]

And remember...first time that I came here I had reservations about the clinic using students. In my mind was saying 'why can't they use the, you know, the qualified people for the clinic?' but right now I'm saying 'go on, you doing the best'.

[DC13]

Ten participants indicated the trust and comfort they felt with the chiropractic students and the care they provided.

I didn't have any doubts. [DC07]

...and then she'll tell me not to be scared and she, she, she'll show me that she's going to help me and I first, when I heard that, those words coming from her, I knew she was going to help me and I was happy. [DC08]

Eh, there's so much that I like about him. One, the manner of approach. Two, the way he does, the way, uh, medically I'd say the manner in which he does treat or the manner in which he does his examination...At some stage while I was lying there, there was aircon, it was cold then I had to cough, just one cough and then he said 'no, cough, cough'. I'm trying to explain how he is...He's understanding, he's, I don't know, it's just that...I felt very comfortable, very comfortable. I'll say whatever that I want to say. [DC13]

The manner in which he conducted, I mean...if he didn't tell me that he was going to get signed off and...just excused himself twice I wouldn't know that he's going for it because I felt very confident in his, in his care...I was comfortable, I was very comfortable in the fact that he was doing, um, uh, I was confident that he was doing exactly what he needed to do to fix me.. [DC14]

Although the chiropractic students themselves managed to obtain a trusting patient-practitioner relationship, four participants appreciated the presence of a supervising clinician.

I liked the fact that when he had to or when he felt the need to, he got a second opinion, ya, not just taking it upon himself to act...so he actually went, he got a doctor to come through, someone who is, um, specializing, said "ok, you can go ahead" some issue with my spine... [DC09]

We had a fully qualified doctor come in and ask some questions...I really liked his manner and I could see that, um, I understood that he would

oversee this whole thing and that my, the chiropractor that I would see would consult with them which I also thought was very good, um, and I didn't mind that at all, it actually made me feel better....not that I didn't have confidence, ya, um, the confidence in (chiropractic student's name) himself, um, but to actually see the person who was in charge, that was good. It was good. If I hadn't, I wouldn't, I can honestly say I wouldn't have gone away feeling, um, hard done by in any way, no, but the fact that he did come in was a good thing [DC06]

Participant DC06 also felt that it was important that the supervising clinician discussed with and was confident with the chiropractic student's choice of treatment plan.

Subtheme 7.4: Patient centered care

Three participants emphasized the importance of patient centered care. One of which highlighted the psychological benefit that it possesses.

She had me as important as if I paid a thousand rands (laughs) instead of the one thirty I paid so I didn't feel untreated in any way, I felt important... [DC04]

It's not, uh, like where a doctor gives you medicine and says you'll heal internally, no. It's actually a mental thing and that, the mental, is the stress and this is where the chiropractor comes in because they sit, they talk to you and they explain everything to you, they check you thoroughly and they tell you exactly what is what so you're aware...you get a personal attention with this, it's not something that we...going, sheep like a slaughter house, no, it's very good...sitting and talking to hear what the, the patient wants, it's not what she can give, it's what the patient wants and then she'll deliver and that's the best of it...and when you get that personal attention then you must know you gonna heal very fast before the actual thing happens. [DC05]

...the student wanted to have a complete understanding of myself. I felt it, it also include building a relationship with your, with your patient...for me it's, it's very important, it's very very important, ya. [DC12]

Ten participants mentioned that the chiropractic students answered questions that were asked and provided education regarding various aspects of the consultation.

She was very informative...very informative, answered questions that I asked and that type of thing. [DC01]

Ten participants described how the chiropractic students informed expectations throughout regarding the consultation procedures, adverse effects and the treatment plan.

(chiropractic student's name) was awesome too in her own way cause she explained what she's going to do to me...she explained to me thoroughly that after this procedure, tomorrow, I will, I will experience some pains but I shouldn't be scared of something wrong but I should just continue my stretching and doing the exercises she, she taught me. [DC08]

I was kept informed of the procedures or whatever he did I was comfortable...it's how it's spoken, tells you what's going on, you well informed, you know what to expect so it makes it all so much easier, no surprises. [DC09]

Was to tell me what to do at home and what's, what's likely to happen in the next three days where she was touching, ya. All those things that expected is gonna happen, this is how it's gonna feel...and then, uh, should come back just for the checkup and see if, uh, if it's getting better or, or not. [DC11]

Twelve participants were educated regarding home care programs which were well received.

He was, um, able to answer questions...I found that very, very profitable as a patient, if I want to know something that someone can tell me and take the time to do that, ya...I think chiropractors, that's wonderful because, um,

you actually understanding what's happening in your physical, in the, physiologically what's happening to you...Practical exercises that I could do at home so that I can help myself and also, um, I could see that if I'm going to be diligent with them, with doing those exercises, the treatment that I'm going to receive the next, in the next consultation is going to be that much more progressive cause you've got a strategy and...I think that's very important. [DC06]

Two participants enjoyed learning about the treatment techniques that they were experiencing.

...everything was explained without me asking for an explanation...I did feel the muscle movement when I, when the needle was put in there and everything was explained to me in terms of that the reason why the muscle was moving was because she got it in the right muscle that had an issue so you learn as well as, as a patient that they are more aware of why bodies react the way they react. [DC04]

Participant DC05 expressed gratitude for simple explanations which she could understand.

No, they actually putting their all out there to sacrifice their own being to explain to you what it's all about so you can heal up...They can and I asked a lot of questions while (chiropractic student's name) was doing it with me and she explained it very diligently which I understood. Simple English for a simple person to understand and um, that's what it's all about...she explained it like she would explain to a child to understand. No, she was good. [DC05]

On the contrary, participant DC02 mentioned that he did not understand what was being said.

Now and then I would ask a question...like 'why would you do that?' then he would explain...but not too, not that I know really what he's saying to me, everything...like, sometimes they'll say stuff, which I don't know, I

wouldn't even ask...ah, I was alright with it, cause, like, it's their work, their line of work, so I was pretty chilled...I was just here to get fixed. [DC02]

The descriptions given by participant DC05 regarding her treatment experience may indicate that although she felt well informed, she may have misunderstood aspects of the consultation. Participant DC05 understood chiropractors to “locate” bones into their normal position, however, she initially indicated that she did not experience this and that she only experienced a neck massage. She then continued to explain that the chiropractor did indeed put the bones back in place for her neck with a gentle oil massage. These inconsistencies may indicate that this participant experienced some confusion regarding the treatment regardless of her belief that everything was well explained to her.

Subtheme 7.5: Effectiveness

Nine participants experienced a degree of relief from their presenting complaints following the treatment. Seven participants felt a reduction in pain, four experienced reduced stiffness, two had improved range of motion, two experienced improved comfort when sitting, one participant felt lighter and another felt more calm and relaxed.

I'm feeling good...I actually feel different...I'm actually amazed and shocked...for the treatment...I can actually feel that, that difference in my body...I've been helped...I'm happy with that...I'm impressed...pain wise, it's, it actually reduced the pain...I'm actually sitting like this which I, I normally sit with my legs on top...I can have my legs down. I, and because normally I sit down like this here and it won't be two minutes and the pain will be, I can sit here like this in his room and ya. Shoo it's, it's amazing.

[DC03]

Good, relaxed, more calm...No (I didn't expect that)...but I'm feeling very calm and the pain is not there, like, you know, the tension and stress, no.

[DC05]

I won't say it, it, it is gone hundred per cent but I can feel some difference. There is a lot of difference...I could look this side but when I had to come I

had to be careful when I'm turning right hand side. I have to be careful to turn but sometimes I will use the whole posture of mine to, to actually look at the other side...I can actually say that I'm feeling much better than what I was in the morning, I was so stiff. My neck was so stiff when I came in here but now it's, like, I can even turn it this side without worrying to, without worrying about pain. [DC08]

As it stands, I'm relieved...She's relieved my pain...The upper body was heavy on me but right now I feel I can jump, I can do anything. It was so heavy. [DC13]

One participant experienced optimism for a pain-free future in which he could take part in activities that had previously been hindered by pain.

(The treatment) was quick, painless and damn good (laughs). I'm actually sit here and smile. Damn I'm just, I'm a bit ecstatic. I think everybody would perceive it differently but for me I think, as a first timer and the way I feel right now, still a bit excited, I don't know the right words to say or how much praise to give but there's everything right in what I went through. For me, I tell you, from what I was going through for so long and the things that I never did because of this pain, it's actually, like, life changing and it's not even, it's only my first day. But, like, it's, for me, an experience, makes me feel like going rock climbing. Seriously, you know I've contemplated so much...some days the pain was so bad you actually feel like shooting yourself in the knee. Now, contemplating swimming, cycling (laughs), things I enjoy, used to enjoy. I never did it for eight years, seven years suffering, it's bad. Being the first time, I can't say what could be better but me being here, the way I feel now, nothing could be better than this. [DC09]

Some patients may have experienced the euphoric effects that result from the chiropractic adjustment which is an aspect of care patients enjoy. Another is the physical contact involved in chiropractic treatment (Hennius 2013).

I'm feeling more happier than ever (laughs). Inside I'm smiling, I'm laughing, I'm jumping. I'm being honest with you. I'm overwhelmed. I can't explain the feeling that I'm feeling right now. I can't explain. [DC13]

You come in direct contact with the body of that patient and, and that's where, um, one feels accommodated because now you're taking the body of that person as your own and you nurturing it. [DC05]

Subtheme 7.6: Pain and adverse effects

Five experienced pain during the treatment which did not seem to negatively impact on their experiences.

...they can hurt you...they press all those muscles and she said 'just tell me when it eases'...but in a good way, in a good way...It was fine, just a bit painful, like I said, but fine...I realize no pain no gain. [DC01]

As I said earlier, I was scared but I ended up enjoying even though it wasn't a smooth ride but I ended up enjoying it. I didn't want her to stop (laughs)...It wasn't just pain. It was fixable pain...and relaxing too...[DC08]

...the needles going in were sore, um, pressure points were sore...not everything that's candies and flowers and sunshine is, is good for you so I know that [DC14]

Five participants experienced adverse effects following the treatment.

...I'm leaving a little more sore than I came in but that's because the muscles have been worked on...It's positive in the sense that, like I said, there were muscle groups that were worked on that I forgot existed. [DC01]

There was just one where, um, (chiropractic student's name) had to do one big, one click and it was, he did it so quickly...just for a minute I was completely dizzy but the straight effect of that, just the relief of that. [DC06]

The only problem that I'm experiencing now is that I'm tired. I wish I can just jump in bed and sleep for perhaps two hours or so. [DC08]

Theme eight: Experience reflections

Subtheme 8.1: Extent to which expectations were met

Ten participants implied that the consultation met or exceeded their expectations.

...I came here and I got what I expected...I got everything I expected...I expected just a little bit, not much...So I expected just a little bit of, and, ya...it's more, it was actually more than what I expected hey. [DC03]

Um, I think my expectations in terms of the mode of treatment were met...Um, like I said, I expect, eh, some hands would be on my part of the bone, of, of the, of my body or, I mean, where my bone, my problematic bones would be...I did expect that and, ya, it did happen...it was more than what I expected...I expected just treatment but I had to, I learnt more about the issues and the reasons why we suffer like this and the health problems that are associated with it. [DC04]

It was more than what I expected. I can say...apart from everything that I was led to believe, what I experienced was a well-informed, basically I was guided through my own treatment, you know, taken through it nicely, treated respectfully, everything was, sheesh, I didn't even know doctors could do that anymore. [DC09]

Five participants mentioned that their experiences differed to their expectations for various reasons.

Alright. When I, when I booked the appointment I told her I need to book a back problem, back pain, but it's because of, I think a bone moved...because of long distance driving...so it's actually, it came out...I thought it would go back today but obviously things happen slowly. [DC04]

I wanted everything to be done in one go...I actually came for my legs and so forth but because they were full I have to book another day but she said she'll do the ones for the neck and the headache which was fulfilled today. [DC05]

Participant DC01 and DC11 did not expect that a follow up consultation would be needed. In addition, participant DC11 did not expect to be required to change clothing. Participant DC14 expected a massage which did not take place. Although these patients' expectations were not met, they did not express any dissatisfaction as a result.

My expectation's changed in the sense that I have to come back here...I realize it's not a once off hit, you gotta be treated, the muscles have got to relax and get used to being put back where they belong, you gotta be treated again...it is positive. [DC01]

Five participants did not expect the prolonged consultation time. Three of these participants expressed gratitude as it allowed for a diagnosis and correct treatment plan to be determined. One participant felt that the consultation was too long as time is precious.

Hmm, I didn't expect that the consult to be two to three hours. Well I thought maybe in one hours' time...I wasn't given any indication at all...But thank god I had time... [DC04]

Well, it's a long process because...it's the first time I came here. It's the long questions and answers that the practitioner wanted to get more information about myself before actually tackling my problems. I thought I would spend an hour...it's OK because there's no need to rush because I think the...doctor wanted to spend more time with me so that I can get a good remedy so there shouldn't be an issue about rushing through.

[DC07]

Yes, I wasn't expecting to spend three hours...I was expecting to spend less, however, if it, if it's what it takes to, to go through but I think that the time is a bit long. I'm not sure if there is a way to improve considering time is very precious...

[DC11]

Subtheme 8.2: Space for improvement

Six participants identified aspects of their experience which could have been improved.

...saying to a person, maybe on the skeleton, 'this is these and these vertebra and this is what you, you know, this is where the, the thing is' and maybe, you know, maybe in further consultations, 'these are the actual muscles that you hurting'... [DC06]

I'm coming with my own shorts next time, ai, those things feel like canvas on you (laughs). [DC09]

What I request though is that in your rooms you put some hangers for the clothes...I think what you can also do, erm, maybe at least have a blanket...because we, we experience cold and heat differently...Oh and then another thing. I came with a, a CD with my, um, X-ray results and I'm not sure whether they were able to check with them. I think if, eh, students can be provided with all the necessary tools. [DC12]

Participant DC07 also found the room temperature to be cold. As mentioned in Subtheme 8.1, participant DC11 felt that, if possible, the consultation time should be shortened. In Subtheme 6.2 participant DC14 was critical of the reception area and “would have preferred it not to be not so open”.

Subtheme 8.3: Desire to return and spread the word

All participants felt that they would return to the DUT CDC for follow up consultations. Twelve participants attributed their desire to return to confidence in successful treatment outcomes.

Yes, I will (return) and I am on Friday...I think I'm, I'm gaining confidence in this, in this type of treatment and it's new to me and I'd like to see how will it help me versus the, the, the GP route... [DC07]

Yes (I will return) because I'm leaving here a lot better than when I came in so I have faith that, in time, uh, they will be able to put me right. [DC10]

...I'm positive that it will help so that changed because when I came in I didn't expect, I came in to basically pay the hundred and thirty bucks because it's so cheap and let's see what happens...so now that I've done the session, uh, I think I'll, well, I'll definitely come in for the second one because, like I said, he's isolated and he's stimulated the pain, um, so coming into it I was hopeful that it would help me and leaving here I'm positive that it will help me...(It was a) very surprising experience because there are no health care facilities in this country that gives you that amount of care for that little money. [DC14]

An additional two participants mentioned the affordability of the consultations.

DUT is good. They, they actually accommodate, uh, the community and the people because of the financial crisis in this country...Their pricing is good for the person in the street cause we can't afford to go to those people with their exorbitant prices and you just lay and become cripple and you die. So DUT is doing a good job, DUT is doing something good. [DC05]

...like for me, you know, we came here because obviously having no medical aid it's, it's a nice way that we could get treatment and it's not gonna cost us that much. [DC06]

All participants admitted to positive experiences of their first chiropractic consultation.

Well, as I've indicated, this is my first experience and I was really impressed and in my mind I was thinking 'if doctors, eh, do all these things during your first visit I think, erm, a lot of people would get better care than', cause you know, most doctors, in my view, I think they're just making money, you know? There's no real care. You know the oath that doctors took? I think it has vanished...as far as I'm concerned I was very impressed, I mean, for me, everything's positive. In a score of ten I would give you a ten. [DC12]

However, four of these participants felt that their overall positive experiences were reason to return in the future.

Yes I would (return)...because of the experience I had today and the person who treated me today. It was a lovely, pleasant experience. [DC01]

Uh, besides the personal attention I had...there's no long wait, um, everyone's on the ball, the moment you fill your form your, next thing, you not even sitting there for about five to ten minutes and there's someone come to take you so, which is very good. Service wise it's good, attention wise, very good, excellent. Um, uh, the contact with your body is excellent, they do a thorough job so I can't default nobody, no, no. [DC05]

Participant DC11, who would return in future, indicated that this decision was based on the attitude of the practitioner, atmosphere and the manner in which the consultation was performed which resulted in a positive experience.

Six participants expressed desire to recommend the DUT CDC to others.

Well, um, I would, um, in fact I would refer other people here, um, because I could see the benefits already in one, in a few hours time. [DC04]

I can obviously refer other people to chiropractors cause I have a better understanding of what the chiropractor can do to help them. [DC10]

4.2 CONCLUSION

This Chapter presented the results of the study. The demographic characteristics of participants were presented and following on, the themes and subthemes, which were generated from participant responses, were presented. Each theme was supported with quotes that had been extracted from verbatim transcriptions of interviews with fourteen first time chiropractic patients.

Chapter Five is to follow which will discuss the results in relation to existing literature and provide the limitations of the study.

CHAPTER FIVE: DISCUSSION AND STUDY LIMITATIONS

5.1 INTRODUCTION

The purpose of this Chapter is to discuss the results which were presented in the previous Chapter. The demographic characteristics as well as responses of the participants relating to their perceptions, expectations and experiences of their first chiropractic consultation will be explored in relation to existing literature. This Chapter ends by providing the limitations of the study.

5.2 DISCUSSION

5.2.1 Demographic Characteristics

a. Gender

The prevalence of males for the current study was only comparable to one study by Kaeser, Hawk and Anderson (2014) which involved new patients at a chiropractic teaching clinic in the US. Majority of studies showed females to dominate the chiropractic patient population within and outside of SA (Coulter and Shekelle 2005; Mootz *et al.* 2005; Mahomed 2007; Martinez, Rupert and Ndetan 2009; Lishchyna and Mior 2012; McDonald 2012; Brown *et al.* 2014; Weeks *et al.* 2015) as well as the KwaZulu-Natal population (Lehohla 2015).

b. Age

The demographics of populations that correspond to the current study participants were presented in Chapter 2.6.2. The ages of these populations were compared to those of the current study participants. Chiropractic patients outside of SA had similar ages to participants of the current study. The studies that showed similarities were a chiropractic Australian based perceptions study (Brown *et al.* 2014), a perceptions study involving US adults (Weeks *et al.* 2015) and studies that determined the demographic characteristics of chiropractic patients in North (Coulter and Shekelle 2005) and Arizona and Massachusetts (Mootz *et al.* 2005)

The ages of participants of the current study also showed similarities to studies which determined the demographic characteristics of patients at chiropractic

teaching clinics outside of SA, namely Mexico (Martinez, Rupert and Ndetan 2009) and Canada (Lishchyna and Mior 2012). On the contrary, patients of a US chiropractic teaching clinic were younger in age than the current study participants (Kaeser, Hawk and Anderson 2014).

Fair comparisons cannot be drawn between the ages of the current study participants and the KwaZulu-Natal population as those younger than 18 years of age were excluded from the study. As a result, only one participant was within the predominant age category of the KwaZulu-Natal population (Lehohla 2016a). Similarities were present between the ages of participants of the current study and chiropractic patients of SA (Mahomed 2007). However, patients of the DUT CDC were slightly younger than those of the current study (McDonald 2012).

c. Population Group

The White population group was predominant in chiropractic patients within and outside of SA whereas participants of this population group formed the minority in the current study (Coulter and Shekelle 2005; Mootz *et al.* 2005; Mahomed 2007; McDonald 2012; Whedon and Song 2012; Brown *et al.* 2014; Kaeser, Hawk and Anderson 2014; Weeks *et al.* 2015).

The prevalence of the Black/African population group in the current study may be a result of the KwaZulu-Natal population consisting predominantly of this population group. The difference was that the Coloured population group preceded the White population group and equalled the Indian population group in the current study participants compared to the KwaZulu-Natal population (Lehohla 2015).

Chapter 2.6.1.c discussed a lack of medical aid as a reason why the Black/African population group may present more frequently to the DUT CDC due to lower fees. Four of the six Black/African participants had medical aid, however, it remained undetermined whether their medical aid plans covered chiropractic care (Durban University of Technology 2015b; Lehohla 2015).

d. Medical Aid Subscription

Participants' medical aid subscriptions are slightly less than those of North American chiropractic patients as determined by Coulter and Shekelle (2005). Drawing comparisons with the results of Mootz et al. (2005) would be imprecise as these results reflect method of payment for chiropractic consultations. It was not determined whether participants of the current study would utilize their medical aid for payment of the consultation as was determined in the aforementioned study.

Medical aid subscription of the current study exceeded that of the KwaZulu-Natal population (Lehohla 2015) but was inferior to that of chiropractic patients of SA (Mahomed 2007). Results were most comparable to medical aid subscription of DUT CDC patients as determined by McDonald (2012) and, therefore, reasons provided for these results in Chapter 2.6.1.d may be applicable to the current study.

e. Occupation

Occupations of the current study participants were only similar to those of chiropractic patients of a chiropractic teaching clinic in Canada (Lishchyna and Mior 2012) and US adults who received chiropractic care (Weeks et al. 2015).

Occupations of the current study participants differed from the South African population as the latter exhibits professionals as the minority and elementary occupations form the majority. None of the current study participants were in elementary occupations. However, the prevalence of services and sales workers was comparable (Lehohla 2016b).

Occupations were comparable to those of chiropractic patients in SA as determined by Mahomed (2007). However, differed slightly to patients of the DUT CDC as professionals were more prevalent in the current study population and clerical and sales professions were not well represented as was determined for the DUT CDC patients (McDonald 2012).

5.2.2 Themes and Subthemes

a. Perceptions Domain

Theme one: Understanding of chiropractic and chiropractic care

Subtheme 1.1: Limited awareness and understanding

Participants' responses indicated a limited awareness and understanding of chiropractic, however, common associations were made between chiropractic and the back and bones and the adjustment.

The responses regarding their understanding of chiropractic were similar to those found by Wilson, Swincer and Vemulpad (2007) from a survey involving 182 participants consisting of the Australian public population. They admitted to a lack in education (56%) and knowledge (40%) regarding chiropractic. The perceptions revealed in the current study differed to those determined by Wilson, Swincer and Vemulpad (2007) who found that treatment of joints was the predominant perception among participants (28.1%) followed by bones (24.4%). Additionally, 10.1% believed chiropractors to only treat the back (Wilson, Swincer and Vemulpad 2007).

Two participants had difficulty differentiating chiropractic from other health care professions namely chiropody and physiotherapy. Collin (2008) defined a chiropodist as "a person who specializes in minor disorders of the feet". The confusion may lie in the similarities between the beginning of the two words being "chiro" which simply refers to the hand (Collin 2008).

Physiotherapy has been defined as "the treatment of a disorder or condition by exercise, massage, heat treatment, infrared lamps or other external means, e.g. to restore strength or function after a disease or injury". Comparison of the chiropractic scope of practice, as stated in Chapters 2.2.3 and 2.2.4, with the description of physiotherapy indicates similarities between the two health care professions.

Chiropractic is set apart from other manual therapists because a chiropractor is "a person who treats musculoskeletal disorders by making adjustments primarily to

the bones of the spine” (Collin 2008). As stated previously, the adjustment is the most significant component of chiropractic treatment and a distinguishing feature of the profession (Hawk 2017). These last two points were understood by some participants as they commonly associated chiropractic with the back and bones and made reference to the adjustment.

Limited awareness and understanding of chiropractic is worrisome for the profession as deficient knowledge pertaining to complementary and alternative medicine negatively affects its utilization (Burke, Nahin and Stussman 2015).

Subtheme 1.2: Scope of practice

Nine participants indicated either a vague or complete lack of awareness prior to their consultation concerning the diagnostic ability that chiropractors possess. This differs from Sigrell (2001) who determined that one of the main expectations of chiropractic patients was to receive an accurate diagnosis and an explanation of their condition.

Chapters 2.2.3 and 2.2.4 highlighted the emphasis placed on diagnosis and the diagnostic methods included in the chiropractic scope of practice. Only two participants indicated awareness of the involvement of X-rays in the chiropractic scope and no participants mentioned any additional imaging procedures or urine and blood tests. This indicates a limited understanding of the chiropractic diagnostic training prior to experiencing chiropractic.

A study by Brown *et al.* (2014) found that 44% of the 486 Australian chiropractic patients who participated chose chiropractic care as their first choice for management of their health conditions. Cambron, Cramer and Winterstein (2007) determined that only 19% of their sample, which was 163 patients attending a US chiropractic teaching clinic, considered their chiropractor to be their primary health care practitioner. It was stated that population receptivity toward chiropractors as primary health care practitioners may improve if diagnostic testing is utilized and the level of diagnostic ability is displayed in chiropractic practice (Cambron, Cramer and Winterstein 2007).

Eleven participants felt that chiropractic was an alternative treatment to medication and surgery. The results of the current study are comparable with those of a study by Brown *et al.* (2014) in which majority of the participants (42.7%), who consisted of Australian chiropractic patients, believed chiropractic to fall into the complementary and alternative medicine category. As discussed in Chapter 2.2.4.b chiropractors use a non-invasive, holistic approach to treatment consisting of various manual therapies. Focus is placed on exclusion of systemic disease during the diagnostic process which does not fall within the chiropractic scope of care (Durban University of Technology 2015a; CASA 2017b).

Six participants believed that chiropractors would recommend the surgical route if necessary. Eight believed chiropractors to prescribe medication of which two mentioned pain relief medication and one mentioned ointment. Only one participant believed chiropractors to prescribe medication for non-neuromusculoskeletal complaints.

Prescription medication is not included in the chiropractic scope of practice as was previously determined in Chapter 2.2.3. Chiropractors may only prescribe or supply patients with vitamins and minerals, topical substances for the skin and nutritional supplements (Mullinder 2010). These deficiencies in the chiropractic scope of practice may be the reason why 64.2% of the 486 participants in the study by Brown *et al.* (2014) answered that they utilize chiropractic care in conjunction with orthodox medicine or general practitioner consultation. Only 30.3% disagreed with concurrent use of orthodox medicine (Brown *et al.* 2014).

Those for whom chiropractic is indicated benefit greatly with regards to fewer hospital admissions and days spent in hospital, less surgeries and other such procedures and reduced spending on pharmaceuticals (Sarnat, Winterstein and Cambron 2007). Patients for which chiropractic care is not indicated and the chiropractor feels medication or surgery is necessary should be referred on to the appropriate medical practitioner (Gaumer, Koren and Gemmen 2002; Meeker and Haldeman 2002; Durban University of Technology 2015a; CASA 2017b).

Eight participants made reference to the adjustment as a treatment modality. Correct terminology, being adjust and manipulate, was used by three participants.

It is of interest that six participants failed to discuss the adjustment considering it is the main treatment modality utilized by chiropractors (Hawk 2017). These results are comparable to Cross *et al.* (2015) who determined that some participants from UK private osteopathic practices were unaware or unsure of the osteopathic intervention which also involves manipulative therapies (Andrews and Faulkner 2004).

Descriptions of the chiropractic adjustment indicated that there was a limited of understanding surrounding the technique. Participant DC05 implied that bones are dislocated, or displaced from their usual position at a joint (Collin 2008), and have changed shape prior to chiropractic treatment. It was added that the outcome of chiropractic treatment is reduction of the dislocation and return of the bone to its correct shape. A further four participants indicated that bones have moved from their original position and that the chiropractor assists to restore the normal positioning. Two of these aforementioned participants used the terms “manipulating” and “adjustment” to describe this phenomenon which demonstrates that use of correct terminology does not necessarily indicate a complete understanding.

This misconception of the “vertebral misalignment” was explored by Hennius (2013). It was described as the “traditional chiropractic” concept which was deemed in the nineteen seventies, however, participants of the study continued to believe there to be “right places and wrong places for bones to be”. The chiropractor, whose practice the study was based within the UK, felt that this concept was a “lovely metaphor” hence its persistence, however, attempted to instil the correct understanding in patients which few comprehended (Hennius 2013). The adjustment functions to restore normal range of motion to a hypomobile joint rather than restore the normal positioning of bones as was believed by participants (Hennius 2013; Hawk 2017).

Another three participants used the words “clicking” and “break” when discussing the adjustment. It is questionable whether the patients using the term “break” believe the bones to be fractured as the definition entails (Collin 2008). Another possibility is that these words describe the sound produced as a result of the adjustment due to the release of nitrogen gas from the joint (Durban University of

Technology 2015a; Hawk 2017). All previously discussed descriptions used by patients indicate awareness, however, very limited understanding of the adjustment.

Seven participants believed chiropractors to massage, five mentioned needles, three mentioned stretches and three mentioned exercises. These perceptions are in line with the chiropractic scope of practice discussed in Chapter 2.2.3 and Chapter 2.2.4. However, comparison of the results with the chiropractic scope of practice still shows evidence of limited awareness regarding chiropractic treatment techniques.

Wilson, Swincer and Vemulpad (2007) questioned 182 members of the Australian public population on their perceptions of the primary chiropractic treatment modalities. Outcomes revealed that 27% believed chiropractic care to consist mainly of massage and 22% believed it to consist of the adjustment. Chiropractors spend many years practicing the adjustment to perfect the art which makes these responses of interest. Reasons provided for this were that either chiropractors are not performing the adjustment as commonly and replacing it with soft tissue therapy or the public perception of the chiropractic scope is misinformed. The results of the current study differed from those produced by Wilson, Swincer and Vemulpad (2007) as more participants discussed the adjustment than massage. This may indicate an improvement in the public perception of chiropractic treatment in the past ten years.

When referring to needles, some participants made special reference to dry needling, acupuncture and injections, however, it remained undetermined whether they were aware of the differences between these techniques. Dry needling and acupuncture are similar in that the same solid filiform needle may be used. They differ in that dry needling involves intramuscular insertion of the needle for the treatment of myofascial trigger points and acupuncture involves needle insertion into points based on the body meridians to balance Yin and Yang for health restoration (Zhou, Ma and Brogan 2015). Both techniques are included in the chiropractic scope of practice. Injections, however, are not and involve use of a hollow needle to introduce a substance into the bodily tissues (Collin 2008).

Perceptions of chiropractic treatment revealed that they were limited as no reference was made to various other manual therapies and physical modalities utilized by chiropractors. These results are comparable to MacPherson *et al.* (2015) who determined that 58% of the sample, consisting of 544 UK chiropractic patients, had limited knowledge of what chiropractic treatment consisted of and its possible benefits prior to the chiropractic consultation.

Five participants believed chiropractors to give advice. This advice was regarding gait and posture, home care, avoidance measures and lifestyle aspects. These examples of advice given by participants are comparable to those discussed in Chapter 2.2.4.b. Advice forms an important aspect of chiropractic care where the aim is to manage patients in a holistic manner (Hawk 2017). Sigrell (2001) determined that advice was one of the main expectations that patients attending a private chiropractic practice in Sweden had for chiropractic treatment. The responses of this study oppose the results of the aforementioned study as they show that advice was not foremost in the minds of most participants. This may indicate narrow perceptions of chiropractic management of conditions.

Participants were asked to state what parts of the body they believed chiropractors to treat. Seven participants mentioned muscles, three mentioned nerves and three mentioned joints. These responses differed to a study by Wilson, Swincer and Vemulpad (2007) who asked 182 members of the Australian public population which parts of the body chiropractors treat. Majority of their sample answered joints (28.1%), bones (24.4%) and muscles (23.6%) followed by the nervous system (10.2%), only the back (10.1%), arteries, veins and lymphatic system (1.5%) and other (2.0%) (Wilson, Swincer and Vemulpad 2007).

The results of the current study differed in that muscles were mentioned more frequently than joints and bones and there was no mention of arteries, veins and the lymphatic system. These outcomes indicate that participants may perceive chiropractic treatment to focus more on muscles than joints and nerves. This is of interest as although the treatment of muscles is involved in chiropractic care, the most emphasis is placed on improving joint mobility and neurophysical function as a result of the adjustment (Hawk 2017).

As discussed in subtheme 1.1, patients initially associated chiropractic with the back and bones when asked about their understanding of chiropractic. Nine participants went on to specifically mention the back as a part of the body that chiropractors treat. The chiropractic profession frequently emphasizes the term “spine specialists” (McHardy *et al.* 2008) which makes these results of interest as only three participants specifically mentioned the spine. However, the back was mentioned by nine participants. Collin (2008) stated that the back “is made up of the spine and bones attached to it” therefore, patients may be indicating an understanding of spinal involvement by using this term.

Nine of the participants believed chiropractors to treat extremities, however, two of these participants mentioned the neck and shoulders without mentioning any additional parts of the extremities. This may indicate that they are referring to the lower neck as the shoulder rather than the shoulder joint which is where the arm connects to the body (Collin 2008).

A lack of perceptions of chiropractic treatment of extremities may result from the perception that chiropractors specialize in the back/spine. This may lead to the assumption that chiropractors lack expertise regarding treatment of peripheral conditions. This perception may negatively impact the chiropractic profession in that people may opt to seek care from other forms of physical therapy for extremity disorders rather than utilize chiropractic services (McHardy *et al.* 2008).

Participants were also asked if they knew of any conditions chiropractors can treat. Headaches and arthritis were each mentioned by five participants. Three participants mentioned chiropractic management for injuries including “spinal injury”, “sports injuries” and walking post-accident and one mentioned “slipped disc”.

Comparably, a survey study of 182 participants by Wilson, Swincer and Vemulpad (2007) revealed that headaches (9%) and sports injuries (10%) were common reasons that people within Australia consulted with a chiropractor. Similarly to the current study, headaches and arthritis were two conditions that received high affirmative responses in the study performed by Cambron, Cramer and Winterstein (2007) which aimed to determine the perceptions that patients of a US chiropractic

teaching clinic had of chiropractic care for primary conditions. Arthritis, joint sprains, muscle strains and intervertebral disc bulge were listed among the conditions most commonly treated by chiropractors (Hawk 2017).

Tension headaches originating from myofascial pain as well as cervicogenic headaches resulting from neck dysfunction are within the chiropractic scope (Atarodi and Hosier 2011; Bryans *et al.* 2011). Bryans *et al.* (2011) performed a systematic review of chiropractic treatment for headaches and found the adjustment to be effective for relief of migraine and cervicogenic headaches. Participant DC04 indicated an awareness of pain referral causing headaches.

Five participants discussed chiropractic management of non-neuromusculoskeletal issues, however, uncertainty was displayed in their responses indicated by the use of “I don’t know” and “maybe”. These results differed from Cambron, Cramer and Winterstein (2007) who found that majority of the primary care disorders provided got affirmative responses of over 50%. These primary care disorders included various musculoskeletal conditions as well as non-musculoskeletal conditions including EENT (eye, ear, nose and throat) conditions, major organ conditions and other conditions including abdominal pain, depression and anxiety, cuts and bruises and non-fungal skin infection (Cambron, Cramer and Winterstein 2007).

Participant DC09 reasoned that if chiropractors treat the spine and nerves and that nerves innervate body parts then treatments of ailments relating to such body parts are possible. Examples provided were diarrhoea and eye issues. This reasoning relates to what is known as the somato-visceral effect. The somato-visceral effect encompasses alterations made in the functioning of viscera as a result of the adjustment for the purpose of influencing visceral disease. There are few non-musculoskeletal disorders which have been said to respond to the somato-visceral effect, the underlying mechanisms of which remain uncertain (Bolton and Budgell 2012).

There is a lack of substantial evidence regarding the benefits for non-musculoskeletal disorders from chiropractic treatment (Hawk 2017). However, a minority of chiropractors remain who treat disease by removal of the subluxation (McGregor *et al.* 2014). McGregor *et al.* (2014) determined that 18.8% of 740

Canadian chiropractors identified themselves as following this school of thought. The result of the aforementioned study was comparable to other studies involving various countries, including SA and the US, where results ranged between 17.2% and 19.3% (McGregor *et al.* 2014).

Four participants of the current study discussed stress and depression as disorders which can be assisted by chiropractic care. Cambron, Cramer and Winterstein (2007) got affirmative responses from a sample of 163 US chiropractic patients ranging from 45.8% to 76.0% for chiropractic management of depression and anxiety.

Participant DC03 expressed that conditions people suffer with have a negative effect on their abilities and as a result, lowers mood. He went on to reason that if chiropractic is able to improve the condition, quality of life will improve and therefore mood will be uplifted. Participant DC04 discussed that stress may cause pain and that relief of the pain by chiropractic care may assist to relieve the stress.

A connection between chronic pain and depression has been made, however, the cause-and-effect relationship remains a controversy (Tsai and Cho 2009). Atarodi and Hosier (2011) stated that patients suffering with psychogenic pain are candidates for successful chiropractic treatment outcomes. This may be attributable to the holistic approach which considers both the physiological and psychological contributions to the pain (Tsai and Cho 2009).

Subtheme 1.3: Special populations

Participants were asked who they believe can receive chiropractic care and if there are any groups of persons who they believe should not or are not able to receive chiropractic care.

Nine participants of the current study felt that the elderly would benefit. In a survey study involving 182 participants, by Wilson, Swincer and Vemulpad (2007), the elderly were the third most common perception of the Australian public population regarding the type of people chiropractors treat (15.5%) following adults (19.3%) and middle aged people (17.8%). As discussed in Chapter 2.2.6.d,

musculoskeletal conditions are rife in the elderly population for which chiropractic care is often utilized.

Participant DC04 considered difficulties the elderly may face regarding access to chiropractic care. These involved mobility and cost constraints. Mobility issues of the elderly and transport costs may influence their access to healthcare when considering distance lived away and reliance on walking or public transport (Makiwane and Kwizera 2006; Rabie, Klopper and Watson 2016). Additionally, the elderly population obtain a limited income of which most is used for household necessities leaving a minimal amount for use on healthcare (Makiwane and Kwizera 2006; Johnson and Green 2009).

Participant DC14 felt that the elderly population should not receive chiropractic care due to the decrease in bone density with age. Osteoporosis is a condition consisting of “thin, porous and brittle” bones (Collin 2008). This participant’s concern is pertinent as the elderly do suffer increased risk of osteoporosis and fractures (Johnson and Green 2009). However, chiropractors perform modified techniques to take frailty and osteoporosis into account (Hawk *et al.* 2010; Hawk 2017).

Two participants believed paediatrics could receive chiropractic care and one admitted she was unsure due to lack of knowledge regarding the chiropractic curriculum. In the survey study of 182 participants, by Wilson, Swincer and Vemulpad (2007), adolescents were the fourth most common perception of the Australian public population regarding the type of people chiropractors treat (13.8%) followed by children (11.9%) and babies (7.8%) respectfully.

Three participants believed that paediatrics should not receive chiropractic care due to concerns regarding their development and lack of gentleness. These responses may indicate that participants believe chiropractic care of paediatrics to be equivalent to that of an adult. As previously discussed in Chapter 2.2.6.c, chiropractic techniques are modified for this population to ensure safety. The adjustment is different for infants in that the thrust is short using minimal force, however, as the child ages, these techniques evolve to suit the size and

developmental stage of the child. If necessary, soft tissue techniques including gentle massage or myofascial release is used (Hawk 2017).

Chiropractic care for the athletic and working populations was each discussed by one participant. This is of interest as these are common populations who utilize chiropractic care as discussed in Chapter 2.2.6.a and 2.2.6.b. However, other participants may have felt it unnecessary to mention specific groups if they felt that everyone can receive chiropractic care. The search for literature relating to chiropractic treatment for the mentally challenged, those with paraplegia and lunatics were unsuccessful.

Theme two: Care-seeking influential factors

Subtheme 2.1: Soreness

All fourteen of the participants sought chiropractic care for various types of pain and discomfort that they were experiencing. These responses differed slightly from Brown *et al.* (2014), Meeker and Haldeman (2002), Strutt, Shaw and Leach (2008) and Wilson, Swincer and Vemulpad (2007) as none of the participants of the current study presented for general health and well-being maintenance, disease prevention or non-musculoskeletal complaints.

The current study responses are comparable to Sigrell (2001), who conducted the study at a private practice in Sweden, and determined that all who took part in the fourth and fifth aspects of the study were experiencing pain on presentation to the chiropractor and none attended for pain prevention. Similarly, Hennius (2013) discovered that those who were interviewed, who were attending a private chiropractic practice in the UK, all experienced musculoskeletal pain which hindered activities of daily living. It was noted that the UK trained chiropractor, whose practice the study was based on, felt that most patients were motivated by pain to seek his care (Hennius 2013).

Eleven of the current study participants presented for pain in the back and neck and four complained of pain felt in the extremities. These results were comparable to the outcomes of a study performed by Wilson, Swincer and Vemulpad (2007) which found the most frequent complaints of Australians to be back and neck pain.

Similarly, Strutt, Shaw and Leach (2008) determined the most frequent complaint at a UK osteopathic training college to be back, neck and shoulder pain followed by extremity related disorders. The responses of this study were also in accordance with McHardy *et al.* (2008) who stated that low back/pelvic and neck pain preceded extremity complaints with regards to frequency. In addition, Stevens *et al.* (2016) determined that patients at a university chiropractic clinic located in New York presented for lumbar, cervical and thoracic pain respectively followed by the extremities and headaches.

Subtheme 2.2: Trusted suggestions

The choice to seek chiropractic care for all participants was largely influenced by recommendations received from others. Frequently these recommendations came from friends, family or colleagues who had previously experienced the benefits of chiropractic treatment, some of whom received care at the Durban University of Technology Chiropractic Day Clinic. Additionally, some encountered DUT chiropractic students and DUT staff.

Brown *et al.* (2014) , Hennius (2013) and Strutt, Shaw and Leach (2008) had corresponding results in that referral by friends and family was the most common influential factor in choosing chiropractic care. Generally, verbal communications are known to be the principal reason that new customers present to various organizations (Brown *et al.* 2014). Word-of-mouth advice holds high credibility and power amongst those involved as a result of the level of trust that is frequently present between those who converse. This is especially true if conversational partners are friends, family or colleagues (Keller 2007).

These types of conversations may benefit the chiropractic profession by spreading the word of chiropractic. Additionally, it highlights the importance of ensuring that experiences of chiropractic are optimal.

Subtheme 2.3: Unsuitable alternative care options

Eight participants mentioned they had failed to gain relief from previous attempts at treatment, which included physiotherapy, massage and orthodox medicine, as a reason for seeking chiropractic care. The above responses support the statement made by Wilson, Swincer and Vemulpad (2007) which suggested that chiropractic

treatment was often used as a last resort. This is a major concern as the chiropractor should be the “first-contact gatekeeper for neuromusculoskeletal conditions” in primary care, therefore, patients should be seeking chiropractic care initially and not as a last resort (Gaumer, Koren and Gemmen 2002).

In a study by Brown *et al.* (2014) involving 486 Australian chiropractic patients it was found that majority of the participants (81.7%) disagreed or strongly disagreed that chiropractic care is used as a last resort and 44.0% responded that chiropractic care is their first choice for management of their health conditions. However, these participants all had prior experience of chiropractic treatment which may result in different perceptions to those who are new to chiropractic (Brown *et al.* 2014).

Coulter and Shekelle (2005) determined that the minority (42%) of 1275 chiropractic patients in North America who participated in the study had sought previous care for their complaints. This included surgery, medical care, physical therapy and other alternative therapies (Coulter and Shekelle 2005).

These results are comparable to Sigrell (2001) who asked twenty new patients, who presented to a private chiropractic practice in Sweden, about their history of treatment for their presenting complaint. Medical doctor, physiotherapist and naprapath were each mentioned by four participants, massage therapist was mentioned by three and acupuncture was mentioned by one participant (Sigrell 2001).

Strutt, Shaw and Leach (2008) found that six per cent of their participants sought care at a chosen osteopathic training college in the UK as a result of unsatisfactory prior treatment. A study by Cross *et al.* (2015) revealed that osteopathic private practice patients within the UK expected the osteopath to diagnose the condition and provide an explanation where alternative health care providers were previously unsuccessful (Cross *et al.* 2015).

Wilson, Swincer and Vemulpad (2007) conducted a study involving 182 questionnaires on the Australian public perception of chiropractic and found that 55% of their sample had never been for chiropractic treatment. When it was suggested to the participants that they seek chiropractic care, it was found that

18% needed convincing, 56% felt the need for education about chiropractic, 11% felt it was unnecessary as they did not have pain, 8% responded that they lacked problems that can be treated by chiropractic care and 6% stated they did not feel the need as they were fit and healthy. Concerns about chiropractic were also revealed which included a lack of knowledge about chiropractic treatment (40%), the cost of treatment (20%) and that chiropractic is dangerous (9%) (Wilson, Swincer and Vemulpad 2007). These reasons may be applicable to the current study as to why chiropractic was not initially sought for the complaints of the participants of this study.

It must also be taken into account that chiropractic is excluded from the South African public health care system and receives minimal reimbursement from medical aid schemes for its services. This may contribute to limited perceptions and utilization of chiropractic as the public are, in effect, confined to orthodox medicine within SA (AHPCSA 2014).

Taking into account that half the participants of the current study had prior contact with other health care providers, none mentioned receiving a recommendation from them to seek chiropractic care. This differs from Brown *et al.* (2014) who noted that 5.2% of the 486 Australian chiropractic patients who participated in the study were referred from medical doctors. Slabbert (2014) performed an eThekweni based study which determined that 46% of physiotherapists had referred patients to chiropractors. A study involving general practitioners from five metropolitan areas in SA determined that 46% of them had previously referred patients to chiropractors (Louw 2005).

An aversion to orthodox medicine, including medication and surgery, was another reason that five participants of the current study sought chiropractic care. Brown *et al.* (2014) stated that the increase in utilization of CAM was a result of the negative perceptions of orthodox health care such as medication adverse effects. These results are also in accordance with the Durban University of Technology (2015a) who suggested that chiropractic is often helpful for those who experience limited relief from other therapies and those who are against or do not respond to surgery or analgesic medication.

b. Expectations Domain

Theme three: Experience anticipations

Subtheme 3.1: Indistinct ideas

Eight participants indicated either a lack of or vague expectations for the chiropractic consultation. These results are comparable to Sigrell (2001) who conducted interviews with new patients at a private chiropractic practice in Sweden to determine their expectations of the consultation. It must be noted that it remained undetermined whether these patients had previously sought chiropractic care elsewhere. Patients in the aforementioned study sample admitted to a lack of expectations during these interviews. The results from the interviews were then used to form a questionnaire consisting of closed questions of which none of the participants selected "I do not have any expectations" (Sigrell 2001). This may indicate that patients are aware of their expectations when suggestions are provided. Probing questions were used in the current study in order to motivate participants to re-evaluate and expand on their expectations.

The results of the current study differed to MacPherson *et al.* (2015) who performed a cross-sectional survey involving 544 UK chiropractic patients to determine what the high expectations are for chiropractic care prior to the first consultation. Results were education about chiropractic treatment (91%), what the first consultation will consist of (91%), treatment cost (97%) and time taken for the first consultation (90%). High expectations regarding the chiropractic consultation were that the chiropractor inform them about their condition (99%), allow them to change clothes in private (90%), provide a diagnosis or explanation about the care (93%), provide an explanation about the treatment plan (97%), discuss the chances of success of the treatment (93%) and allow time for enquiries about the treatment plan (96%) (MacPherson *et al.* 2015). None of these detailed expectations were mentioned by the participants of the current study, however, the aforementioned study was a survey which differed to the current study as participants were not provided with a list of expectations.

Subtheme 3.2: Chiropractic care

Participants were asked what they expected to happen during the examination. Six participants expected to be questioned about the presenting complaint of which only two mentioned expectations for medical and family history taking. This differed to MacPherson *et al.* (2015) who found that 96% of 544 chiropractic patients in the UK who participated in the study expected an in depth case history to be recorded. Five participants mentioned a specific examination of the area of complaint and only three considered the possibility of a basic general examination consisting of vitals, blood sugar reading and postural assessment. Two participants admitted to not expecting an examination at all.

One participant discussed the possibility of the chiropractor scanning or cutting during the examination. The chiropractic scope allows for X-ray of patients, however, other imaging procedures necessitate referral. The chiropractic scope does not permit cutting of patients (AHPCSA 1982).

Participants expected an examination as did UK osteopathic patients in a study by Cross *et al.* (2015). The examination is a pivotal aspect of the chiropractic consultation. It is necessary for diagnostic purposes, formation of an appropriate treatment plan and to determine the need for referral or further investigations. Mohammed (2016) wrote that the history and physical examination are imperative to a diagnosis and added that the history reveals the diagnosis in majority of cases.

Vague examination expectations may have been related to the limited understanding of the chiropractic diagnostic training, as discussed in Subtheme 1.2, considering an important function of the examination is formation of a diagnosis (Redwood 1997; Mohammed 2016).

Expectations regarding the examination may be due to comparisons to other health care providers as was done by one participant who expected few questions, blood pressure and body mass readings. Doctors tend to take a short history and perform a brief physical examination, if any, before sending for many unnecessary investigations (Mohammed 2016). The DUT CDC differs considering that the consultations are executed by chiropractic students for whom a thorough history

and physical examination is vital for development of clinical competence (Hecimovich and Volet 2009).

Participants were asked what they expected to happen during the chiropractic treatment. Nine participants expected some form of soft tissue therapy. Six participants expected a massage, four expected needles, two expected stretches and one expected compression of “pressure points”. Although these soft tissue therapies do fall within the chiropractic scope, participants tended to focus soft tissue therapy when the emphasis of chiropractic treatment is to restore joint mobility (Hawk 2017).

In Subtheme 1.2 it was noted that eight participants made reference to the adjustment as a chiropractic treatment modality, however, only six expected it to happen during their treatment. Comparisons of answers from participants indicate misunderstandings of chiropractic. Participant DC03, as discussed in Subtheme 1.1, understood chiropractors to loosen muscles and joints and “crack” the back, however, only expected a “rub” for treatment. Participant DC05 implied that chiropractors massage to put bones back in place and only expected to receive a massage. Participant DC12 understood chiropractors to straighten the back using their hands, however, only expected a massage and needles for treatment. Participant DC04 understood chiropractors to induce bone movement using exercises.

A massage is performed to treat muscular disorders and exercise involves specific movements with the intent to strengthen muscles, therefore, use of these words does not correctly encompass the adjustment (Collin 2008). This may imply that participants have an idea of the effects that chiropractic treatment aim to produce, however, lack understanding as to how this is achieved.

Participant DC06 used the word “drop” to describe the adjustment to the neck which implies that the chiropractor allowed the neck to “fall by accident” (Oxford University Press 2000). This choice of word fails to encompass the adjustment as the technique is applied with purpose using “controlled force, leverage, direction, amplitude and velocity” (Hawk 2017). Participant DC09 expected the chiropractor to jump or walk on his back. This implies use of the feet, however, the chiropractic

adjustment is performed manually which involves use of the hands (Oxford University Press 2000; Hawk 2017).

These responses reveal that although participants implied an expectation for the adjustment, they did not fully understand how the adjustment was executed. In Subtheme 1.2 it was stated that patient perceptions of chiropractic treatment differed from those revealed by Wilson, Swincer and Vemulpad (2007) as more participants discussed the adjustment than massage. However, following discussion of patient expectations for treatment, it may be said that results are comparable to the aforementioned study.

Three participants expected to be prescribed medication. One expected medication for muscle inflammation and another for pain control. Prescription medication is not included in the chiropractic scope of practice and chiropractors may only prescribe or supply patients with vitamins and minerals, topical substances for the skin and nutritional supplements (Mullinder 2010).

Two participants appeared to lack expectations regarding chiropractic treatment. Cross *et al.* (2015) stated that the lack of previous exposure to an intervention can limit the clarity of patient expectations which was evident from these responses.

Theme four: Consultation outcomes

Subtheme 4.1: Improved condition

Eleven participants expected to gain an improvement in their presenting complaints. These results are comparable to Sigrell (2001) who conducted interviews to determine the expectations of new patients at a chiropractic clinic in Sweden. These interviews were followed by closed questions which were deduced from the outcomes of the interviews. Seventeen patients completed the questionnaire. The most frequent expectation was “that I will feel better” which was selected by thirteen participants. Seven selected “that I will be free of symptoms”. Participants were then asked an open question which involved writing down their expectations of the chiropractic treatment of which “to get better” was, again, the most frequent response (Sigrell 2001). Similarly, “symptom relief” was an expectation of CAM determined by Ernst and Hung (2011). Sigrell (2002)

compared the expectations of both chiropractors and patients of various chiropractic clinics in Sweden and found that they both expected the patient to feel an improvement and have removal of symptoms.

The results of this study had comparable aspects to Ernst and Hung (2011) who conducted a study which involved summarizing existing literature which related to the expectations patients had of CAM. In addition to chiropractic, other modalities which fell into this category included, but were not limited to, acupuncture, aromatherapy, herbal medicine, homeopathy, hypnotherapy, massage, osteopathy, reflexology, tai chi and yoga. Expectations for care included symptomatic relief, fewer adverse effects, improved functioning of the immune system, control over one's own health and to impact the natural course of disease. It was noted that many of the utilized studies involved cancer patients. This may have affected the results as expectations are influenced by factors including the type and severity of the patient's condition as well as their age and country of origin, the type and definition of CAM and the research methodology (Ernst and Hung 2011).

Three participants of the current study discussed expectations outside of symptomatic relief. Brown *et al.* (2014) found that when it came to symptomatic relief from chiropractic care, only the minority of Australian chiropractic patients expected this whereas most expected more than solely symptomatic relief. Similarly, only 18% of 182 participants from the Australian public population, who took part in a study by Wilson, Swincer and Vemulpad (2007), perceived the main function of chiropractic care to be solely symptomatic relief.

Participant DC01 implied an expectation to be "fully cured" of his complaint and used the words "hop", "skip" and "jump" which all imply a desire to move quickly and lightly (Oxford University Press 2000). In addition, he wanted to put his "Batman suit back on". Batman is a superhero which suggests that he expected "unusual strength and power" following the treatment (Oxford University Press 2000; Yockey 2014).

Participant DC04 implied an expectation for a visible deformity to be corrected following the chiropractic treatment. This expectation may relate to the perceptions

discussed in Subtheme 1.2 being that bones have moved from their original position and that the chiropractor assists to restore the normal positioning. This treatment outcome is improbable as this is not the function of the adjustment (Hawk 2017). Patient-practitioner communication is a necessity with regards to these types of expectations as to inform realistic expectations to avoid negative treatment outcomes (Sigrell 2002; MacPherson *et al.* 2015).

Participant DC06 expressed that she wanted to feel like a human being again. This description links with quality of life which may have been reduced for this participant as a result of her presenting complaint (Bourland, Neville and Pickens 2011). The above participants encompass what was determined by Strutt, Shaw and Leach (2008) being that patients' aims of osteopathic care at a training college in the UK were to "regain control of their life", receive assistance for symptomatic control, feel healthy and youthful and gain improved ability to perform activities of daily living.

Two participants experienced doubt regarding their treatment outcomes. These results are comparable to those of Sigrell (2001) who found that some patients of a private chiropractic practice in Sweden did not think that the chiropractor could assist with their complaints. Both of these participants mentioned suffering for years with their presenting complaints for which previous attempts at treatment failed to provide relief. These factors may have dampened the hope for successful treatment outcomes. This was highlighted by Constantino *et al.* (2011) who mentioned that although patients may be enthusiastic about the treatment, they may still form negative outcome expectations as a result of distress regarding their situation.

Ten participants expected gradual improvement in their conditions with multiple treatments. Nine of these participants expected within the range of two to five consultations and one mentioned less than a dozen. Three expected complete relief after one treatment and one participant had no expectations.

These responses differed from a study based in a private chiropractic practice in Sweden by Sigrell (2001) which found that eight participants were unsure of the number of consultations to expect, six expected one to two treatments, four

expected three to five, one expected six to nine and none expected more than ten treatments. In addition, Sigrell (2002) involved various chiropractic clinics in Sweden and determined that patients expected to get well rapidly whereas chiropractors expected improvement in symptoms after three to five treatments.

These expectations for the number of consultations are realistic when compared to the outcome of Stevens *et al.* (2016) who determined that the average number of consults for patients attending a chiropractic teaching clinic in New York was six and that half of the patients attended one to three consultations.

Subtheme 4.2: Adverse reactions

Five participants expected to experience pain and discomfort during the chiropractic treatment. Chapter 2.2.5 discussed the adverse effects of chiropractic treatment. MacPherson *et al.* (2015) determined that 71% of 544 chiropractic patients in the UK who participated in the study had minimal knowledge about the potential adverse effects of chiropractic treatment. It is unknown whether the remaining participants of the current study were unaware of adverse effects or if they merely failed to mention them.

Adverse effects may be experienced as the initial consultation consists of pain provocative tests which function to provide diagnostic clues. In addition, the chiropractor lacks familiarity regarding treatment techniques the patient best responds to as well as the level of sensitivity of the patient's tissues (Hawk 2017). Ernst (2008) wrote that the fear of adverse effects may prevent the public from consulting chiropractors as primary health care practitioners. Although, commonly the adverse effect is a temporary and mild exacerbation of pain after manipulation which does not last or affect long-term outcomes (Breen 2009)

Participant DC06 mentioned mild muscular discomfort for a couple of days following treatment. Muscular discomfort is included in possible adverse effects of chiropractic treatment, however, adverse effects do not usually continue past one day following treatment (Hurwitz *et al.* 2004). Participant DC09 expected to experience the inability to move directly following chiropractic treatment which implies paralysis (Oxford University Press 2000). This has not been listed as an adverse effect in any of the referenced sources in Chapter 2.2.5.

Psychological factors, such as expectations regarding the treatment and intensity of the pain, influence pain perceptions. Nocebo hyperalgesia refers to the exacerbation of pain as a result of its anticipation which is often associated with greater anxiety (Atlas and Wager 2012). As a result, these participants may have experienced increased pain during the chiropractic treatment.

c. Perceptions and Expectations

Theme five: Origins of beliefs

Subtheme 5.1: Accessible information

All participants stated that they had gained information and formed expectations following discussions with other people who were often friends, family and colleagues of the participants. This supports a statement made by Keller (2007) which expresses that word-of-mouth is “the most important and effective communications channel”. The level of trust that is frequently present between conversational groups may have resulted in the information received having high credibility (Keller 2007).

Word-of-mouth can be unfavourable if harsh descriptions are used. Participant DC08 conversed with a colleague who mentioned that the chiropractor would “break” her, especially her neck. Participant DC09 was told that the chiropractic experience would be “painful” and “bone breaking” and that his joints would be dislocated.

To break means “to be damaged and separated into two or more parts, as a result of force” (Oxford University Press 2000). Medically, a broken bone means the bone is fractured. Dislocate means to “displace a bone from its usual position at a joint” (Collin 2008). Descriptions of chiropractic involving the words “break” and “dislocate” imply that chiropractic treatment is traumatic resulting in fractures and complete displacement of bones.

The force used during a chiropractic adjustment is described as “low-amplitude, high-velocity” which functions to move the joint beyond the point that is voluntarily possible but no further than what is anatomically allowed. Thus, it produces joint movement without inflicting injury (Hawk 2017). It remains undetermined whether

those using the above mentioned terms are aware of the implications that the definitions hold, however, it is evident that these words have the ability to generate fear in others.

It is evident from responses that there are incomplete perceptions of chiropractic prior to the first consultation which may stem from a general misunderstanding of the population. This is comparable to the study by Wilson, Swincer and Vemulpad (2007) in which 84% of 182 members of the Australian public population who participated perceived that they knew the chiropractic scope, however, it was evident from their responses that knowledge was deficient and assumptions were made as a result of inadequate education.

MacPherson *et al.* (2015) determined that chiropractic patients in the UK expect an explanation about the treatment plan, discussions concerning the chances of successful treatment outcome and time for enquiries about the treatment plan. These are important to consider especially if patients are forming their expectations from hearsays or their own ideas which are subjective in nature. It is important that chiropractors communicate effectively with patients to bridge the gap between expectations and care delivery to prevent possible negative treatment outcomes (Sigrell 2002; MacPherson *et al.* 2015).

Most participants admitted a lack of understanding of chiropractic, however, only two participants sought further information from the internet, a source which provides an abundance of easily accessible information (Ekström *et al.* 2015). These results are comparable to Brown *et al.* (2014) who determined that only 6.9% of their sample consisting of 486 Australian chiropractic patients chose their current chiropractic practice from the Yellow pages or website advertisements. It is of interest that participants did not utilize the internet to broaden their perceptions of chiropractic prior to the consult rather than base most of their initial perceptions on the perceptions of others.

Subtheme 5.2: Chiropractic consultation experience

Participants had an improved understanding in the chiropractic diagnostic abilities following their consultations although some did experience confusion between what was considered diagnostic methods and what was considered treatment

methods. In comparison to the chiropractic diagnostic abilities outlined in Chapters 2.2.3 and 2.2.4.a, there is still room for expansion in their understandings, however, it is beneficial that perceptions evolved regarding diagnostic abilities.

Advice mentioned by patients is within the chiropractic scope as previously discussed in Chapters 2.2.3 and 2.2.4b, however, it was mostly limited to musculoskeletal advice which indicates a need for making chiropractic patients aware of the lifestyle advice component of chiropractic care which is of importance for the holistic approach of chiropractic care (Hawk 2017).

It is favourable that the experience of the chiropractic treatment broadened the perceived scope of chiropractic care. However, considering participants had experienced the adjustment they still made use of the words “break”, “click”, “crack” and “realignment”. These terms are comparable to those used by patients who were aware of the adjustment prior to their first chiropractic consultations. This indicates a necessity for emphasis to be placed on patient education by the practitioner to inform them of more fitting terminology to use when describing the adjustment for reasons discussed in subtheme 1.2 and 5.1. This may be challenging regarding the outcomes of a study by Hennius (2013). This study showed that some patients attending a UK chiropractic practice were not interested in understanding chiropractic and that most answers provided regarding their understanding were rudimentary or inaccurate despite explanations provided by the chiropractor (Hennius 2013).

It seemed that participants took note of what was happening during the examination and made assumptions regarding what chiropractors can treat. Majority of these assumptions did fall into the chiropractic scope as discussed in Chapter 2.2.4, however, others did not. Participant DC12 believed chiropractors to prescribe treatments for eye related ailments and hypothyroidism. As was previously discussed, chiropractic treatment for non-musculoskeletal disorders lacks substantial evidence and only a few non-musculoskeletal disorders have supposedly responded to the somato-visceral effect (Bolton and Budgell 2012; Hawk 2017). However, chiropractors are permitted to refer for investigations for conditions that fall outside of the chiropractic scope. Chiropractic management for

these types of diagnoses may involve referral to a suitable health care practitioner (Redwood 1997; Durban University of Technology 2015a; CASA 2017b).

It appears that prior to the chiropractic consultation participants underestimated the level of education that the chiropractic degree entails. Participant DC06 felt that the common perceptions of chiropractors, which she previously had, are that they are quacks. A quack is “a person who dishonestly claims to have medical knowledge or skills” (Oxford University Press 2000).

The chiropractic programs available within SA consist of six years of study which adhere to international standards of chiropractic education resulting in a Masters Degree in Chiropractic (Lawson 2017). Chiropractors are primary health care practitioners as are dentists and general practitioners. The standards for the primary health care function of chiropractic are maintained by the Allied Health Professions Council of South Africa (Collin 2008; AHPCSA 2017).

This lack of understanding regarding the chiropractic qualification as primary health care providers may result in underutilization of chiropractors as such (Cambron, Cramer and Winterstein 2007). Perceptions of chiropractors as quacks may have a negative effect on the utilization of chiropractic services. It is positive to note that participants’ perceptions evolved regarding chiropractic education which may be another step in the right direction for chiropractors as primary health care providers.

d. Experience Domain

Theme six: First impressions

Subtheme 6.1: Professionalism

Nine participants of the current study discussed positive experiences relating to the reception services describing it as an easy process with efficient and professional service and a helpful, friendly and warm receptionist. Most participants formed positive perceptions of the DUT CDC environment and staff. This is favourable as the reception area has the ability to induce comfort, promote calmness and lessen anxiety in patients prior to the consultation which assists to enhance the experience (Lachter, Raldow and Molin 2012; Hennius 2013).

Satisfactory reception area experiences aid to ensure that expectations are met and exceeded which is desired (Lachter, Raldow and Molin 2012).

It was suggested that environmental factors may have a placebo effect on CAM patients to enhance clinical outcomes. This may involve aspects such as staff attitudes and the environment which have been said to possess non-verbal abilities of conveying health, healing and holism to patients (Turner, Leach and Robinson 2007).

Turner, Leach and Robinson (2007) conducted a survey of 219 CAM patients to determine the importance that they place on first impressions relating to CAM healthcare settings and organization. Responses indicated that both the organization of the external environment and the reception area were of importance, however, a neat, clean and comfortable reception was of greater significance (Turner, Leach and Robinson 2007).

Wearing of the white coat by practitioners was preferred by most (65%) participants in the aforementioned study. The white coats worn by chiropractic students at the DUT CDC were mentioned by one participant of the current study. These coats induced fear due to the association with hospitals but on the contrary they improved confidence in her choice to seek care at the DUT CDC and gave the perception of a “formal working environment”. The white coat has been said to generate trust in patients and imply practitioner openness and authority (Turner, Leach and Robinson 2007).

Subtheme 6.2: Unprofessional

One participant was critical of the reception environment, two discussed the substandard external environment of the DUT CDC and two mentioned negative experiences regarding the security guard.

The external environment of the DUT CDC is the first aspect of the DUT CDC that patients experience and form perceptions of followed by the security guard who is often the first person a patient interacts with on arrival. Participant DC02 implied that the external environment was dodgy which signifies involvement of “risk, danger or difficulty” (Oxford University Press 2000). This perception may have

resulted from him needing to dodge cars in the parking area. Participant DC14 referred to “student riff-raffs” outside the DUT CDC and perceived the reception area to be a “student lounge”. The above factors may have had an undesirable effect on patients’ initial perceptions of the competence of student chiropractors as patients have been known to relate the physical environment to practitioner competence (Lachter, Raldow and Molin 2012).

As discussed in subtheme 6.1, the environmental factors may have a placebo effect on CAM patients to enhance clinical outcomes (Turner, Leach and Robinson 2007). Participants’ negative experiences of the DUT CDC external environment, security guards and reception area may therefore prevent the beneficial placebo effect (Turner, Leach and Robinson 2007) and expectations may not be met (Lachter, Raldow and Molin 2012). Both of which are desired due to their positive effects on clinical outcomes (Sigrell 2002; Turner, Leach and Robinson 2007; Lachter, Raldow and Molin 2012; MacPherson *et al.* 2015).

Confidentiality and privacy of patient information are important factors for a reception area to consider as these aspects have the ability to enhance patient experiences (Lachter, Raldow and Molin 2012). These may have been compromised for participant DC14 as he perceived the filing process to take place in an “open” reception area.

These initial perceptions may have shed a negative light on the experience before commencement of the consultation which is undesirable.

Theme seven: Chiropractic care experience

Subtheme 7.1: Thorough and detailed

Ten participants of the current study mentioned that they did not expect the thoroughness and detail of the examination as was experienced. Previously in Subtheme 3.2, expectations for the examination were discussed and it is evident that the experienced examination was more in depth in comparison. These expectations may be due to experiences with other health care practitioners as doctors tend to perform a brief history taking and physical examinations (Mohammed 2016). The thoroughness and detail experienced by participants is

due to the necessity for development of clinical competence within the chiropractic students (Hecimovich and Volet 2009).

It is positive that four participants felt that the examination was beneficial to them. Reasons provided were that it prevented the practitioner from guessing, improved patient health consciousness and enhanced patient confidence in the skills of the chiropractic student. One participant felt that the examination added value to patients' pain as some may experience difficulty in verbalizing their symptoms.

Three participants likened the examination to a doctor/medical check-up which expands on what was discussed in Subtheme 5.2 that participants' perceptions broadened regarding the diagnostic ability and knowledge of chiropractors.

Subtheme 7.2: Fear and apprehension

Three participants were nervous on arrival at the DUT CDC for their consultations. For participant DC03 and DC08 this was because they did not know what to expect from the treatment. This may be due to the lack of previous exposure to chiropractic which can limit the clarity of patient expectations (Cross *et al.* 2015)

Participant DC04 was nervous on arrival due to the possibility of referral to a doctor or hospital as her fear was an operation. This fear may result from the necessity for chiropractors to refer patients to appropriate medical practitioners if chiropractic care is unsuitable for the complaint (Gaumer, Koren and Gemmen 2002; Meeker and Haldeman 2002; Durban University of Technology 2015a; CASA 2017b).

Two participants were apprehensive prior to the consult regarding treatment provided by students. Participant DC03 was concerned with the possibility of mistakes being made and participant DC13 was worried about treatment from students being a waste of money. Students are likely to be less competent in comparison to qualified chiropractors (Strutt, Shaw and Leach 2008). For this reason, a supervising clinician is available throughout the consultation as mentioned in Chapter 2.2.2. Some participants may not have been aware of this prior to their consultation as awareness of supervising clinicians was only indicated by one participant. This information is stated on the website for the public

to refer to, however, only two participants browsed it beforehand (Durban University of Technology 2015b). Additional methods of informing patients of the supervising clinicians may assist to ease anxiety prior to the consultation.

Three participants felt scared as a result of the click sound associated with the adjustment. Often the adjustment results in an audible pop, click or crack resulting from a release of nitrogen gas from the joint (Durban University of Technology 2015a; Hawk 2017). This sound may induce fear in patients if they associate the click sound with bones breaking or dislocating which was previously discussed in subtheme 1.2. Four participants were apprehensive regarding the use of needles for treatment due to their association of needles with pain.

Two participants mentioned that an explanation and reassurance from the chiropractic student helped to reduce their anxiety associated with the chiropractic treatment. Comparably, a minority of patients who participated in the study by Hennis (2013) who presented to a UK chiropractic practice, experienced concerns regarding the treatment which were put at ease following the workings of the chiropractor and the acquired familiarity regarding the clinic routines. Patient-practitioner communication has been said to be the greatest contributor to healing and provides opportunities to realize what is valuable to ensure humanity during care (Duffy 2014).

Subtheme 7.3: Trust and comfort

Twelve participants commented favourably on the demeanours of the chiropractic students and two highlighted the impact that these demeanours had on their experiences. It is evident from these responses that the chiropractic students' approaches had the ability to make a substantial impact on patient experiences. Participant DC05 experienced the power that the student's demeanour had on improving how she felt and participant DC06 felt at ease as a result of the student's professionalism and passion. The chiropractic student made the experience worthwhile for participant DC09 and induced desire to continue care as a result of the way the consultation was conducted.

Prior to the consultation, one participant felt that a student would be less confident and two mentioned an understanding that a student would possess limited

knowledge. Nevertheless, following the experience, seven participants perceived that the chiropractic students who conducted the consultations were competent. In Subtheme 7.2 it was noted that two participants were apprehensive regarding treatment provided by students, however, these participants indicated a dissipation of this concern following the consultation.

Ten participants indicated the trust and comfort they felt with the chiropractic students and the care they provided. This trust and comfort was a result of relaxed and confident practitioners who reassured, engaged with patients and continuously reassessed their levels of comfort.

Cross *et al.* (2015) performed a qualitative study based in the UK to determine osteopathic patients' expectations of care. Those involved in the study were current patients at either a private osteopathic practice or teaching clinic. The current study is comparable to this study as a "professional expertise" theme emerged which related to the knowledge and expertise of the osteopath (Cross *et al.* 2015).

The results of the current study are also similar to Strutt, Shaw and Leach (2008) who determined competence to be a dominant theme regarding a UK osteopathic teaching clinic. Patients were cognizant of the therapists being students and were aware of resultant limited competence, however, this was generally well accepted, as was in the current study. It was of importance that there was empathy, "respect, care and sensitivity" associated with the consultation and that attention was paid to patients' concerns and understandings regarding their conditions. Patients desired to perceive the therapist to be trustworthy and competent and the treatment to be effective (Strutt, Shaw and Leach 2008). A perceived competent practitioner has been known to generate a sense of safety within a patient (Boon, Mior and Caulfield 2014).

In a study by Potter, Gordon and Hamer (2003) physiotherapy patients within Australia felt that, among other qualities, listening to the patient, demonstrating empathy and trustworthiness, having a friendly and caring manner and displaying professionalism were all important aspects in a good physiotherapist. Hennius (2013) wrote that a therapeutic effect is produced by, among others, "positive

verbal reinforcement”, “developing of trust”, “reassurance” and “development of a practitioner-patient relationship” which were demonstrated by the chiropractic students of the current study. The level of practitioner expertise in combination with the quality of practitioner-patient interaction was said to effect treatment outcomes. If chiropractic students continue these approaches it will positively influence their patients’ treatment outcomes (Hennius 2013).

Although the chiropractic students themselves managed to obtain a trusting practitioner-patient relationship, four participants were comforted by the presence of a supervising clinician. Participant DC06 added that she appreciated the supervising clinician’s presence, however, wouldn’t have felt “hard done by” without it as she was confident in the chiropractic student’s skills. She also felt that it was important that the supervising clinician discussed with and was confident with the chiropractic student’s treatment plan.

Patients of a UK osteopathic training college who participated in a study by Strutt, Shaw and Leach (2008) felt that supervisors should support, add benefit to and respect the students’ care which seemed to have been fulfilled according to participant responses.

Subtheme 7.4: Patient centered care

Patient centered care was emphasized by three participants as well as evident from responses indicating time taken for patient enlightenment regarding aspects of chiropractic care. Participant DC05 highlighted the psychological benefit that it possesses as she believed that the “personal attention” assisted with the “mental” aspects and the “stress” and gave rise to optimism regarding healing prior to receiving any treatment. Additionally, participant DC12 implied that care centered on understanding the patient as a whole is important for development of quality patient-practitioner relationships.

Potter, Gordon and Hamer (2003) determined that physiotherapy patients within Australia felt the foremost quality of a good physiotherapist was “communication ability” which consisted of listening to the patient, demonstrating empathy and trustworthiness, having a friendly and caring manner, providing appropriate patient education and displaying professionalism and punctuality. Similarly, participants of

an osteopathic based study within the UK placed emphasis on patient education, personal communication, and a feeling of being heard (Cross *et al.* 2015).

The responses from the current study are comparable to those discovered by Boon, Mior and Caulfield (2014) in which participants, who consisted of new chiropractic patients in Canada, appreciated constant communication especially regarding risks of chiropractic care and experienced discomfort. Potter, Gordon and Hamer (2003) concluded that a lack of sufficient communication and substandard service can lead to negative physiotherapy experiences. On the contrary, however, involving patients in their own care by ensuring effective communication could positively affect health outcomes (Hennius 2013).

Participant responses of the current study indicated that chiropractic students informed expectations throughout regarding the consultation procedures, adverse effects and the treatment plan. One participant felt that being kept informed was beneficial as it made the process easier and prevented surprises. Informing expectations is advantageous as it allows the practitioner to appropriately deal with patients and form deeper therapeutic relationships (Ernst and Hung 2011). These types of communication approaches assist to bridge the gap between expectations and care delivery to prevent negative treatment outcomes and ensure positive experiences (Sigrell 2002; Potter, Gordon and Hamer 2003; MacPherson *et al.* 2015)

Participant DC02 mentioned that he did not understand what was being said, however, he was unconcerned and did not ask for clarity as his only focus was on receiving treatment. Participant DC05 expressed gratitude for simple explanations which she could understand, however, inconsistencies in her descriptions may indicate possible confusion regarding treatment. Despite patient education efforts by practitioners, Hennius (2013) found that few chiropractic patients comprehended the information and therefore efforts should be made to ascertain understanding. Patient misunderstandings are usually a result of the use of health terms by practitioners which they should be mindful of during the consultation to avoid misunderstandings (Hennius 2013).

Subtheme 7.5: Effectiveness

Nine participants experienced a degree of relief from their presenting complaints following the treatment which they were enthusiastic about. Treatment outcomes mentioned included decreased pain and stiffness, improved range of motion and posture related comfort and feeling lighter, calm and relaxed. Some patients may have experienced the euphoric effects that result from the chiropractic adjustment which is an aspect of care patients enjoy. Another is the physical contact involved in chiropractic treatment which participant DC05 mentioned makes one feel accommodated (Hennius 2013).

This “hands-on treatment” as well as resultant pain relief was expected by participants in a study by Cross *et al.* (2015) based in UK osteopathic practices. Physical contact has been shown to form a significant component of the experience between each patient and the chiropractor (Hennius 2013).

Some participants of the current study encompassed the influence that chiropractic can have on the lives of those who seek care. Not only did they gain pain relief, which was all that majority expected, some gained improved function and a new outlook on life. These results are similar to MacPherson *et al.* (2015) who found chiropractic treatment outcomes to commonly be decreased pain (92%) and improved mobility (80%).

Additionally, they compare to the aims of patients of a UK osteopathic teaching clinic as determined by Strutt, Shaw and Leach (2008). These aims of were to “regain control of their life”, receive assistance for symptomatic control, feel healthy and youthful and gain improved ability to perform activities of daily living.

Potter, Gordon and Hamer (2003) determined that effective treatment is an important factor for patients when forming perceptions of the skill of a physiotherapist. Positive perceptions of the experience are likely to result from these patients enjoying and noticing the effectiveness of the treatment (Hennius 2013).

Weeks *et al.* (2016) conducted a survey in the US to determine participants’ perceptions of chiropractors and chiropractic care. It was concluded that positive

perceptions of chiropractic care increase chiropractic utilization more than positive perceptions of chiropractors. On the contrary, negative perceptions of chiropractors decrease chiropractic utilization more than negative perceptions of chiropractic care (Weeks *et al.* 2016). This may indicate that the effectiveness and enjoyable experiences of participants regarding the treatment may increase chiropractic utilization in general and at the DUT CDC.

Subtheme 7.6: Pain and adverse effects

Nine participants expressed that they enjoyed the treatment experience, however, five experienced pain during the treatment which did not seem to negatively impact on their experiences. Participant DC03 described the pain as “fixable pain” which indicates that she connected experiencing pain with improvement in her complaint. This was encompassed by participant DC01 who used the saying “no pain no gain” and participant DC14 who stated that “not everything that’s candies and flowers and sunshine is good for you”.

Adverse effects may occur as a response to treatment as was previously discussed in Chapter 2.2.5. Five participants experienced adverse effects following the treatment. Two experienced increased pain. This worried participant DC02 as he could already feel increased pain in the needled areas and was anticipating it for the following day as a result of the warning from the chiropractic student. On the contrary, participant DC01 felt his pain was positive as it indicated that “there were muscle groups that were worked on that [he] forgot existed”. Two participants experienced tiredness. Participant DC06 felt dizzy as a result of the adjustment which lasted a minute, however, it was associated with an immediate feeling of relief. Increased pain and fatigue are common adverse effects of chiropractic treatment, however, dizziness is rare (Hurwitz *et al.* 2004).

Similarly, it was determined that 20% of 544 UK chiropractic patients who took part in a study by MacPherson *et al.* (2015) experienced adverse effects from the treatment. Of this, 45% experienced a single reaction, 34% experienced two and the remaining patients experienced three or more. The most common adverse effects were extra or radiating pain (26.1%), tiredness or fatigue (22.9%) and headache (15.0%) (MacPherson *et al.* 2015).

A study performed by Hurwitz *et al.* (2004) aimed to determine if adverse effects of chiropractic treatment had an influence on patient satisfaction and clinical outcomes in patients with neck pain. Those who experienced adverse effects tended to have lower levels of satisfaction and improvement in their complaints and reported more pain and disability at follow up consultations. Four of those who experienced adverse effects in the current study also experienced a degree of relief from their complaint which conflicts with the results of the aforementioned study. Only participant DC01 did not mention any improvement in his complaint, however, did not see the adverse effect as a negative. The current study differs to Hurwitz *et al.* (2004) in that participants were questioned directly after their consultation rather than at follow up consultations. It remains a possibility that participants of the current study may experience similar outcomes to what was determined by Hurwitz *et al.* (2004).

Theme eight: Experience reflections

Subtheme 8.1: Extent to which expectations were met

Ten participants implied that the consultation met or exceeded their expectations. Exceeded expectations were mainly a result of the limited expectations that patients had on arrival for the consultation which was discussed in theme three. The examination was more detailed than expected, various treatment techniques were unexpected and efficacy of the treatment outcome exceeded expectations.

These results are comparable to a UK based study by MacPherson *et al.* (2015) with a sample size of 544 chiropractic patients in which 80% of participants felt their expectations were met. Fulfilling patient expectations may be beneficial with regards to improving clinical practice (MacPherson *et al.* 2015) and patients' desires to return to and recommend the DUT CDC (Jones 2014).

Five participants mentioned that their experiences differed to their expectations for various reasons. These reasons related to treatment plan, treatment outcome and necessity for appropriate dress. Although these patients' expectations were not met they did not express dissatisfaction as a result. Nevertheless, this highlights the necessity for effective patient-practitioner communication which assists to

bridge the gap between expectations and care delivery to avoid negative treatment outcomes (Sigrell 2002; MacPherson *et al.* 2015).

Five participants did not expect the prolonged consultation time. Three of these participants expressed gratitude as it allowed for a diagnosis and correct treatment plan to be determined. One participant felt that the consultation was too long as time is precious.

These results are comparable to a study involving patients of UK osteopathic practices by Cross *et al.* (2015). In the aforementioned study consultation duration was important to some with regards to value for money and patient education whereas others felt that this extended depth of involvement and self-management was unnecessary (Cross *et al.* 2015).

The prolonged consultation time at the DUT CDC is due to the necessity for a comprehensive examination, treatment and the need for discussions between students and supervising clinicians (Durban University of Technology 2015b, 2016; Korporaal 2017). All steps are of importance for development of clinical competence within the chiropractic students (Hecimovich and Volet 2009).

Subtheme 8.2: Space for improvement

Six participants identified aspects of their experience which could have been improved. Participant DC06 suggested the use of a skeleton and demonstration of involved anatomy for patient education. Two participants found the room temperature cold, one of which recommended providing blankets. Participant DC09 mentioned that the provided shorts were uncomfortable and participant DC12 thought hangers for clothes would be useful.

These responses correspond with results from a study by Potter, Gordon and Hamer (2003) which was conducted in Australia. The aforementioned study discovered that positive experiences with physiotherapists involved, but were not limited to, appropriate patient education and treatment within a pleasant environment (Potter, Gordon and Hamer 2003). Being cognisant of these recommendations from patients may allow humanity to be ensured during care (Duffy 2014).

Participant DC11 felt that time is precious and, if possible, the consultation time should be improved. As previously discussed in subtheme 8.1, the duration of the consultation is necessary to follow the correct procedures of the DUT CDC (Durban University of Technology 2015b, 2016; Korporaal 2017). However, if patients lack time for the full initial consultation at the first visit they are permitted to complete the remainder of the consultation on another day (Twiggs 2018).

Participant DC12 was unsure if the necessary equipment was available for students to view X-rays off CDs. Computers are available within the DUT CDC for students to use for this purpose provided they log on using their DUT4Life email addresses (Twiggs 2018).

Participant DC14 was critical of the reception area and believed that it should be more private, filing should take place elsewhere and students should not congregate in the area. As discussed in Subtheme 6.2, these recommendations should be considered to avoid undesirable perceptions of practitioner competence and negative effects on clinical outcomes. Improvements regarding these aspects may enhance experiences and improve the possibilities of expectations being met (Lachter, Raldow and Molin 2012).

Subtheme 8.3: Desire to return and spread the word

All participants felt that they would return to the DUT CDC for follow up consultations. Twelve participants attributed this desire to confidence in successful treatment outcomes and four felt that the overall positive experience was reason to return. Six participants expressed desire to recommend the DUT CDC to others. Reasons provided were effectiveness of the treatment and improved understanding of chiropractic.

Whether a person returns, recommends or advises against a business is highly dependent on the extent to which expectations were met and the positive or negative perceptions that were formed regarding the experience of the service received (Jones 2014).

Subtheme 8.1 revealed that ten participants implied that the consultation met or exceeded their expectations. Additionally, all participants admitted to positive

experiences of their first chiropractic consultation. This being said, it may be possible that some of the remaining participants, who failed to mention a desire to recommend the DUT CDC to others, may do so if presented with the opportunity.

Three participants mentioned the affordability of the consultations. Participant DC05 felt that, generally, the cost of chiropractic consultations is high, therefore, the DUT CDC accommodates the community who cannot afford the “exorbitant prices” of private practice. Participant DC06 found the cost beneficial due to her lack of medical aid. Participant DC14 felt that the care received was considerable and value for money. The affordability may enable participants to return for future consultations if cost is a barrier to care for them.

Comparably, Strutt, Shaw and Leach (2008) discovered that gratitude was felt for the lower cost of treatment of the UK osteopathic teaching clinic by those who lacked the means to afford consultations at a private practice and those who suffered chronic conditions. Additionally, obtaining value for money from the consultation was deemed important for participants in a study by Cross *et al.* (2015) based in private UK osteopathic practices.

5.3 LIMITATIONS OF THE STUDY

Aspects of the study have been identified which may have limited the outcome of the study. Firstly, the interviewer was inexperienced in the skill of interviewing which may have limited the depth of information gained from participants. Furthermore, the interviewer was English speaking resulting in exclusion of patients who were not fluent in English which limited the study population. However, it should be mentioned that no possible participants were excluded during the data collection process for this reason.

A small study sample was used which is the nature of qualitative research, however, it does not ensure generalizable findings. None of the participants reported having a negative experience so, as a result, none of the like could be discussed. It must be considered that participants may have withheld negative information due to their awareness of the interviewer being a chiropractic student of the DUT CDC.

Participants who were interviewed were only patients of fifth year chiropractic students at the DUT CDC which further limited the sample of first time chiropractic patients. It is unknown whether responses may have differed for patients of the senior students. In addition, participants were not selected from each chiropractic student so it is unknown whether experiences of patients seeing other chiropractic students may have differed.

Participants were interviewed following their first consultations and asked to recall the perceptions and expectations they had prior to their experience. Participants may have had difficulty differentiating between thoughts they had prior to and following the consultation which increases risk of inaccuracy of responses. Participants were interviewed directly after their chiropractic treatment which may have allowed the euphoric effects of the adjustment to influence their responses.

5.4 CONCLUSION

This Chapter discussed the results of the study. The demographic characteristics of participants were comparable to those of the South African population and chiropractic patients within and outside of SA. Responses obtained from participants were compared with existing literature.

It was evident that there remained room for improvement in patient understanding of the chiropractic scope of practice. Additionally, participants had limited expectations for chiropractic care which, for some, induced feelings of fear and apprehension. This indicates a necessity for patient-practitioner communication which may allow expectations to be informed and for deeper therapeutic relationships to be developed.

Experiences and recommendations from participants indicated that importance should be placed on the DUT CDC environment and provided care. Ensuring all of the above occur may positively affect treatment outcomes, perceptions of clinical competence and assist to ensure quality experiences (Sigrell 2002; Potter, Gordon and Hamer 2003; Ernst and Hung 2011; Lachter, Raldow and Molin 2012; Hennius 2013; MacPherson *et al.* 2015). These outcomes are desired due to their effects

on clinical practice and patients' desires to return for future consultations (Jones 2014; MacPherson *et al.* 2015)

Chapter Five is to follow which will provide a more detailed conclusion to the results discussed in this Chapter as well as recommendations for future studies.

CHAPTER SIX: CONCLUSION AND RECOMMENDATIONS

6.1 INTRODUCTION

The chiropractic profession was founded in the late 1800's (Hawk 2017). In SA chiropractors were legally allowed to practice since 1971 and the first chiropractic course which was developed in SA commenced in 1989 (Parkin-Smith 1993). These timelines emphasize the youthfulness of the chiropractic profession in SA.

Public perceptions of chiropractic have evolved over the last few decades. The profession continues to gain popularity among contemporary societies (Adams, Broom and Jennaway 2008) and, as a result, it dominates the complementary and alternative medicine category of medical care (Meeker and Haldeman 2002).

This qualitative study utilized an exploratory and descriptive design. The data collection tool chosen was individual semi-structured interviews. Fourteen chiropractic patients who selected the DUT CDC to experience their first chiropractic consultations took part in the study. Discussions with participants functioned to fulfil the objectives of the study:

- Determine the demographics (age, gender, ethnicity, occupation, medical aid subscription) of the first time chiropractic patients.
- Explore the perceptions that first time chiropractic patients have of chiropractic.
- Explore the expectations that first time chiropractic patients have prior to their chiropractic consultation with the chiropractic student.
- Describe patients' first time experiences of a chiropractic consultation with a chiropractic student.

The previous Chapter discussed the results obtained from the interviews as well as limitations of the study. This Chapter will function to conclude the outcomes of each objective. Following the concluding discussion, recommendations will be provided for future research, the chiropractic profession and the DUT CDC.

6.2 CONCLUDING DISCUSSION

6.2.1 Demographic characteristics

The first objective aimed to determine the demographic characteristics of the first time chiropractic patients. The male sex was prevalent in participants which was incomparable to majority of other studies and the South African population (Coulter and Shekelle 2005; Mootz *et al.* 2005; Mahomed 2007; McDonald 2012; Brown *et al.* 2014; Kaeser, Hawk and Anderson 2014; Lehohla 2015; Weeks *et al.* 2015).

Most participants were aged in their thirties, forties or fifties and the mean age was 42.5 years which was slightly older than the previously determined age of patients of the DUT CDC (McDonald 2012). However, ages of participants were comparable to chiropractic patients of SA and outside of SA (Coulter and Shekelle 2005; Mootz *et al.* 2005; Mahomed 2007; Martinez, Rupert and Ndetan 2009; Lishchyna and Mior 2012; Brown *et al.* 2014; Kaeser, Hawk and Anderson 2014; Weeks *et al.* 2015). Ages of the current study participants were not representative of the KwaZulu-Natal population as a result of exclusion of those younger than 18 years of age from the current study.

The participants of this study were representative of the KwaZulu-Natal population with regards to the Black/African population group, however, dissimilar to chiropractic patients of SA and the DUT CDC (Mahomed 2007; McDonald 2012; Lehohla 2015). It was thought that the tendency for the Black/African population group to lack medical aid may make them more inclined to seek chiropractic care from the DUT CDC due to lower fees. This may be inaccurate as only two of the six Black/African participants did not have medical aid, however, it remained undetermined whether their medical aid plans covered chiropractic care (Durban University of Technology 2015b; Lehohla 2015). These results may indicate improved awareness of the DUT CDC in the Black/African population groups since McDonald (2012) performed his study.

Half of the participants were affiliated with medical aid which was comparable to the DUT CDC patients, inferior to chiropractic patients of SA and North America

and superior to the KwaZulu-Natal population (Coulter and Shekelle 2005; Mahomed 2007; McDonald 2012; Lehohla 2015).

Lastly, professional occupations, technicians and associate professionals and services and sales workers were most common among participants. Occupations of participants were comparable to chiropractic patients of SA (Mahomed 2007) and some outside of SA (Lishchyna and Mior 2012; Weeks et al. 2015).

These results indicate that the participants of the current study are comparable to other chiropractic patients within and outside of SA and the KwaZulu-Natal population. However, the small sample of fourteen participants does not allow for formulation of generalizations regarding demographic data of first time chiropractic patients at the DUT CDC.

6.2.2 Perceptions that first time chiropractic patients had of chiropractic

The second objective aimed to explore the perceptions that first time chiropractic patients had of chiropractic.

During discussion of participants' perceptions two techniques of forming perceptions were evident, namely, stereotyping and the halo-effect which were discussed in Chapter 2.3.2. These techniques may be detrimental to the chiropractic profession as distorted perceptions may result and become widespread as word-of-mouth advice was rife within participants (Robbins 2005). This highlights the necessity for patient education as majority of the participants admitted to a limited understanding of chiropractic which, when compared to their responses to further questioning, was evident, particularly pertaining to chiropractic treatment. This should be of concern for the chiropractic profession as deficient knowledge pertaining to complementary and alternative medicine negatively affects its utilization (Burke, Nahin and Stussman 2015).

Most participants sought chiropractic care as a result of recommendations from others. Frequently these recommendations came from people who had previously experienced the benefits of chiropractic treatment, some of whom received care at the DUT CDC, which indicates positive word-of-mouth advice which is desirable. On the contrary, some participants were involved in discussions in which the

terminology used did not display chiropractic in a positive light for them. This indicates the necessity for public and patient education regarding chiropractic care to ensure positive and accurate word-of-mouth advice.

Another reason chiropractic care was chosen was the failure of previous treatment efforts with alternative health care practitioners. Those who lack accurate perceptions of chiropractic care may be deprived of its benefits as a result of delayed treatment. This may lead to unnecessary hospital admissions and days spent in hospital, surgeries and other procedures and use of pharmaceuticals (Sarnat, Winterstein and Cambron 2007). Therefore, it should be of importance to the chiropractic profession to broaden the public perception to prevent such outcomes.

The delayed decisions to seek chiropractic care may be the result of exclusion of allied health professionals from the public health care system. It is understandable that chiropractic may not be the public's first choice of care due to its lack of representation at the Departments of Health and the absence of internship programmes for graduates. As a result, knowledge of CAM is limited and its role in primary health care remains under-utilized. If the chiropractic profession could succeed in gaining state and medical aid provider support there may be improved utilization and perceptions of chiropractic by the public which could positively affect the healthcare system of SA (AHPCSA 2014).

Chiropractic was also chosen due to participants' aversion to orthodox medicine. This mindset may benefit the popularity of the chiropractic profession as it functions as an alternative form of care (Ernst 2008). Most participants believed chiropractic to function as an alternative to medication and surgery although some perceived chiropractors to prescribe medication. Patients should be informed of the chiropractic scope of practice to ensure understanding of its limitations which may prevent unrealistic expectations. Chiropractic is used in conjunction with orthodox medicine when necessary which should be explained to patients (Ernst 2008).

Participants were unaware of the extent of knowledge regarding diagnosis and management of neuromusculoskeletal conditions that chiropractors possess.

Some lacked or had limited understanding regarding the adjustment which is the main treatment modality of chiropractic. In addition, some participants utilized atypical terminology and misunderstood the execution of the adjustment and its outcome effects. Perceptions were also limited regarding other treatment modalities within the chiropractic scope of practice. This may negatively affect the utilization of chiropractors as “first-contact gatekeepers for neuromusculoskeletal conditions” which is the primary care role of chiropractors (Gaumer, Koren and Gemmen 2002; Wilson, Swincer and Vemulpad 2007).

Participants frequently believed chiropractors to treat the neuromusculoskeletal system and its related disorders. Participants generally associated chiropractic with the back which is often emphasized in the chiropractic profession by use of the term “spine specialists” (McHardy *et al.* 2008). Care must be taken to ensure understanding of chiropractic treatment for extremity disorders to prevent people seeking care from other forms of physical therapy as a result of misconceptions (McHardy *et al.* 2008). Some participants discussed chiropractic treatment for non-neuromusculoskeletal complaints. This perception should be handled with caution as, although some chiropractors exist who treat disease by removal of the subluxation (McGregor *et al.* 2014), there is a lack of substantial evidence regarding this theory (Hawk 2017).

Participants had conflicting perceptions regarding chiropractic care for the elderly and paediatric populations. Some did not understand the utilization of adapted, gentler techniques for these special populations (Hawk *et al.* 2010; Hawk 2017). Chiropractic patients and the public should be enlightened regarding chiropractic treatment of special populations to improve their utilization of chiropractic.

Following participants’ first experiences of a chiropractic consultation, perceptions had expanded, however, there remained room for improvement. Chiropractors should ensure that diagnostic testing is utilized and the level of diagnostic ability is displayed to improve population receptivity toward chiropractors as primary health care practitioners (Cambron, Cramer and Winterstein 2007). Patients should be educated to ensure formation of well-informed perceptions regarding chiropractic and its scope of practice to allow for valuable word-of-mouth. Ensuring the public

are well-informed could positively affect the utilization of chiropractic care allowing those who could benefit to seek care timeously.

6.2.3 Expectations that first time chiropractic patients had prior to their chiropractic consultation

The third objective aimed to explore the expectations that first time chiropractic patients had prior to their chiropractic consultation.

Participants had basic expectations for the examination which may have been related to the limited understanding of chiropractic diagnostic training and comparisons to other qualified health care practitioners. Soft tissue therapy was expected more frequently with less than half the participants expecting the adjustment. Further probing revealed that those who expected the adjustment misunderstood its execution. These aspects show room for improvement in the understanding of the chiropractic scope of practice among first time chiropractic patients. This brings into question the number of members of the public who have not sought chiropractic care due to limited understanding of the chiropractic scope of practice.

Most participants had realistic treatment outcome expectations which could positively affect experiences due to prevention of disappointment associated with the treatment. Some participants doubted the possibility of a positive treatment outcome and some had unrealistic expectations. Adverse effects were also expected. These expectations highlight the necessity for effective patient-practitioner communication. Understanding and communicating with patients regarding their expectations for treatment is necessary as inconsistencies between patient expectations and care delivery may negatively affect treatment outcomes and the formation of patient-practitioner therapeutic relationships (Sigrell 2002; Ernst and Hung 2011; MacPherson *et al.* 2015). Informing expectations may result in desired outcomes such as improved patient compliance and participation in their own care which could result in increased frequency of positive treatment outcomes (Asadi-Lari, Tamburini and Gray 2004). This could prove beneficial to the patients as well as the chiropractor and the chiropractic profession (MacPherson *et al.* 2015)

6.2.4 Patients' first time experiences of a chiropractic consultation

The fourth objective was to describe patients' first experiences of a chiropractic consultation.

Participants described their experiences of the DUT CDC reception and staff. Most responses displayed these aspects in a positive light and the enhancing effect they had on the experience was evident. On the contrary, it was brought to light by few participants that the external environment of the DUT CDC was undesirable, the reception area lacked privacy and the security guard's manner was unappealing. Emphasis should be placed on improving these aspects to enhance first impressions which could assist in expectations being met or exceeded and improve formation of positive perceptions regarding the experience to follow (Lachter, Raldow and Molin 2012).

Participants did not expect the thorough examination, however, the experience was appreciated and benefits were identified. In addition, it assisted to display the diagnostic ability and knowledge that chiropractors possess which is a desirable outcome as it may facilitate formation of perceptions of chiropractors as primary contact practitioners rather than a last resort.

It was evident that the chiropractic students' demeanours and willingness to inform and reassure patients assisted to produce perceptions of competence regarding the chiropractic students' abilities. This induced feelings of trust and comfort toward the chiropractic students and lessened anxiety. Development of patient-practitioner relationships with effective communication channels helped ensure patient-centered care. This has been said to be the greatest contributor to healing (Duffy 2014) and its psychological effects on healing were evident in this study. Chiropractors who practice in this manner have the ability to positively influence patient treatment outcomes (Hennius 2013).

It was expressed that communication was not always clear. In addition, some possible confusion relating to aspects of the consultation was displayed. Patients should be provided with explanations and care must be taken to ensure that they comprehend these explanations. Misunderstandings could inhibit beneficial outcomes of patient education. Bridging the gap between expectations and care

delivery possess the power to prevent negative treatment outcomes and ensure positive experiences (Sigrell 2002; Potter, Gordon and Hamer 2003; MacPherson *et al.* 2015).

The chiropractic treatment was enjoyable and effective. Some experienced pain associated with it but this did not negatively affect experiences as it was seen as a sign of healing. The euphoric effects of the chiropractic adjustment were evident and the hands-on approach of chiropractic was appreciated. Not only did participants feel improvement in their presenting complaints but gained improved function and a new outlook on life. These positive treatment outcomes have the ability to improve utilization of chiropractic care and, therefore, effort should be placed on producing these desirable results. Adverse effects were experienced by some but did not shed a negative light on the experience. Nevertheless, chiropractors must inform expectations of adverse effects which may prevent negative treatment outcomes.

Most experiences met or exceeded expectations which is beneficial as the decision to return, recommend or advise against a business depends on the extent to which the persons expectations were met and the positive or negative perceptions that were formed regarding the experience of the service received (Jones 2014). Aspects with areas for improvement were identified which should be taken into account to enhance experiences. Some participants discussed aspects of the experience in which expectations were not met, however, they were understanding and did not express dissatisfaction. This, again, highlights the necessity for effective patient-practitioner communication.

Participants felt that they would return to the DUT CDC in the future due to confidence in the treatment outcomes, affordability of the consultations and their overall positive experiences. Additionally, some expressed the desire to recommend the DUT CDC to others. These outcomes display the positive impact that the DUT CDC may be having on patients, the chiropractic students and the chiropractic profession as a whole.

6.3 RECOMMENDATIONS

6.3.1 Recommendations for Further Research

This study highlighted the inconsistencies present between perceptions and expectations of chiropractic treatment. Further studies could explore these differences to determine the reasoning behind the confusion. Additionally, participants used terminology to describe the chiropractic adjustment such as “break”. It remained undetermined what exactly participants were implying by using these words. It would be beneficial to gain deeper understanding of patients’ perceptions of the adjustment.

Word-of-mouth advice was prevalent amongst these participants. It was evident that this was not always positive, however, participants still chose to seek chiropractic care. A deeper insight into the types of word-of-mouth advice that circulate and the effects on the public’s choices to seek chiropractic care would be of interest.

Perceptions and expectations could be re-evaluated after a set number of years to determine if they have evolved in comparison to this study. However, participants should be interviewed regarding their perceptions and expectations prior to their first chiropractic consultation. This would ensure that data collected are not tainted by the experience. Furthermore, this study could be repeated for those patients who are not fluent in English to broaden responses.

Further studies could expand on the demographic characteristics. It may be beneficial to determine if English is the participants’ first or second language, their level of education, marital status, full-time or part-time employment and medical aid compensation for chiropractic care. It may also assist to include whether the presenting complaint is acute or chronic and whether alternative healthcare options were previously sought for it.

These recommendations would suit qualitative methodology which highlights the need for more qualitative research in the field of chiropractic.

6.3.2 Recommendations for the DUT CDC

Recommendations for the DUT CDC have been determined from participants' responses. It was recommended that the reception area should be more private, filing should take place elsewhere and students should not congregate in the area.

It was noted that the room temperatures were cold and that the availability of blankets would have been appreciated. Hangers for clothes were also recommended. It was implied that the provided shorts for patients to wear were uncomfortable, therefore, replacement of these shorts would improve patient comfort.

Improved availability of models for demonstration purposes to improve patient education would enhance patient experiences. The DUT CDC should determine methods to improve efficiency as the extended consultation times were mentioned as being unfavourable to some.

6.3.3 Recommendations for the Chiropractic Profession

Chiropractors need to ensure that effort is made to increase awareness and educate patients and the public about chiropractic. Participants of this study mentioned that many people are unaware of chiropractic and that there is a need for them to be informed. Two participants mentioned involving the government in increasing awareness and access to chiropractic care. Efforts regarding integration of chiropractic into the public health care system of SA would be of benefit to the South African public and the chiropractic profession.

Word-of-mouth advice was prevalent amongst these participants and it was evident that this was not always beneficial to the chiropractic profession and those receiving the advice. Improved education as well as positive experiences of chiropractic can assist in portraying chiropractic in a positive and accurate light during conversations. This would improve the likelihood of patients returning for chiropractic care and recommending it to others.

Chiropractors should ensure they practice as primary care providers for neuromusculoskeletal conditions which means ensuring diagnostic testing is

utilized and the level of diagnostic ability is displayed in chiropractic practice (Gaumer, Koren and Gemmen 2002; Cambron, Cramer and Winterstein 2007). Understanding of this chiropractic scope of practice could assist people to seek chiropractic care when it is indicated rather than as a last resort which could benefit the chiropractic profession by increasing its popularity. More importantly, patients may benefit with fewer hospital admissions and days spent in hospital, less surgeries and other such procedures and reduced spending on pharmaceuticals (Sarnat, Winterstein and Cambron 2007).

Most participants had sought help from alternative health care practitioners for their presenting complaints, however, none of them recommended chiropractic care to the participants of this study. Efforts should be made to educate such practitioners about chiropractic and the factors which indicate necessity for referral to a chiropractor.

Chiropractors should practice effective patient-practitioner communication to ensure an understanding of patients' expectations. This will allow the practitioner to provide required information to the patient to assist development of deeper therapeutic patient-practitioner relationships and prevent negative treatment outcomes (Sigrell 2002; Ernst and Hung 2011; MacPherson *et al.* 2015).

6.4 CONCLUSION

This final Chapter provided a concluding discussion of the results obtained from the research in relation to each objective fulfilled. The study outcomes allowed formation of recommendations for further research, the DUT CDC and the chiropractic profession which were discussed.

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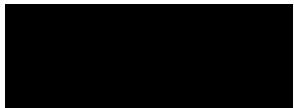
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Widanarko, B., Legg, S., Stevenson, M., Devereux, J., Eng, A., 't Mannetje, A., Cheng, S., Douwes, J., Ellison-Loschmann, L., McLean, D. and Pearce, N. 2011. Prevalence of musculoskeletal symptoms in relation to gender, age, and occupational/industrial group. *International Journal of Industrial Ergonomics*, 41 (5): 561-572.

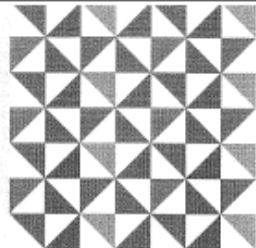

Xue, C. C. L., Zhang, A. L., Lin, V., Myers, R., Polus, B. and Story, D. F. 2008. Acupuncture, chiropractic and osteopathy use in Australia: a national population survey. *BMC Public Health*, 8 (1): 105-105.

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Appendix B: IREC permission to commence with the pilot study



Institutional Research Ethics Committee
Faculty of Health Sciences
Room MS 49, Mansfield School Site
Gate 8, Risson Campus
Durban University of Technology
P O Box 1334, Durban, South Africa, 4001
Tel: 031 373 2900
Fax: 031 373 2407
Email: lvishod@dut.ac.za
http://www.dut.ac.za/research/institutional_research_ethics
www.dut.ac.za

1 September 2016

IREC Reference Number: **REC 97/16**

Ms J S Robbertze
30 Ronald Place
Westville

Dear Ms Robbertze

Perceptions, expectations and experiences of first time chiropractic patients' when consulting chiropractic students at a teaching clinic in KwaZulu-Natal

I am pleased to inform you that Provisional Approval has been granted to your proposal REC 97/16 subject to:

- Piloting of the data collection tool

Full approval is subject to meeting the above condition.

The Proposal has been allocated the following Ethical Clearance number **IREC 092/16**. Please use this number in all communication with this office.

Approval has been granted for a period of two years, before the expiry of which you are required to apply for safety monitoring and annual recertification. Please use the Safety Monitoring and Annual Recertification Report form which can be found in the Standard Operating Procedures [SOP's] of the IREC. This form must be submitted to the IREC at least 3 months before the ethics approval for the study expires.

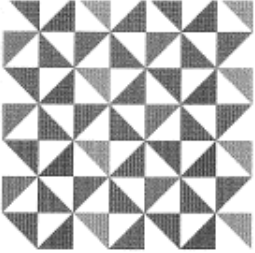

Any adverse events [serious or minor] which occur in connection with this study and/or which may alter its ethical consideration must be reported to the IREC according to the IREC SOP's.

Please note that any deviations from the approved proposal require the approval of the IREC as outlined in the IREC SOP's.

Please note that you may continue with validity testing and piloting of the data collection tool. Research on the proposed project may not proceed until IREC reviews and approves the final document. If there are no changes to the data collection tool, kindly notify the IREC in writing.



Appendix C: IREC permission to commence with data collection



Institutional Research Ethics Committee
Research and Postgraduate Support Directorate
2nd Floor, Berwyn Court
Gate 1, Steve Biko Campus
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P O Box 1334, Durban, South Africa, 4001

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www.dut.ac.za

10 February 2017

IREC Reference Number: **REC 97/16**

Ms J S Robbertze
30 Ronald Place
Westville

Dear Ms Robbertze

Perceptions, expectations and experiences of first time chiropractic patients' when consulting chiropractic students at a teaching clinic in KwaZulu-Natal


The Institutional Research Ethics Committee acknowledges receipt of your final data collection tool for review.

We are pleased to inform you that the questionnaire has been APPROVED; you may now proceed with data collection on the proposed project.

Kindly ensure that participants used for the pilot study are not part of the main study.

Yours Sincerely

Professor J K Adam
Chairperson: IREC



2017-02-10

INSTITUTIONAL RESEARCH ETHICS COMMITTEE
P O BOX 1334 DURBAN 4000 SOUTH AFRICA

Appendix D: Recruitment form



Dear Sir/Madam

I am currently registered for a Master's degree at the Durban University of Technology (DUT) in the Department of Chiropractic and Somatology.

In order to complete this degree I am required to complete a research study. I have chosen to conduct my research on patients presenting to the Durban University of Technology Chiropractic Day Clinic for their first time chiropractic consultation. The purpose of this study is to gain an understanding of patients' perceptions, expectations and experiences of their first time chiropractic consultation at the DUT Chiropractic Day Clinic.

Title of the research study: Perceptions, expectations and experiences of first time chiropractic patients' when consulting chiropractic students at a teaching clinic in KwaZulu-Natal

	Yes	No
Are you 18 years or older?		
Are you fluent in English?		
Is this the first time that you have consulted a chiropractor or chiropractic student?		

If you answered no to any of the above questions then there is no need for you to continue. Thank you for your time.

If you answered yes to all the above questions you qualify to take part in the research study.

Should you be willing to participate, you will be interviewed by the researcher at the DUT Chiropractic Clinic about your first time experience of a chiropractic consultation. The estimate time taken for the interview is 30 minutes and it will take place immediately following your first time

chiropractic consultation. Please fill in your name and sign in the spaces provided if you agree to participate in the study.

Name: _____ Sign: _____

Principal Researcher: Jamie Robbertze

Supervisors: Dr H Kretzmann (M.Dip Chiropractic), DA Skea (M-Tech Dental Technology)

Yours in anticipation,

Jamie Robbertze

(Chiropractic student)

Appendix E: Letter of information and informed consent



Letter of Information

Title of the Research Study: Perceptions, expectations and experiences of first time chiropractic patients' when consulting chiropractic students at a teaching clinic in KwaZulu-Natal

Principal researcher: Jamie Robbertze

Supervisors: Dr H Kretzmann (M.Dip Chiropractic)

DA Skea (M-Tech Dental Technology)

Brief Introduction and Purpose of the Study: I am a chiropractic student studying toward my Master's degree which requires that I complete a research study. I have chosen to conduct my research on the perceptions, expectations and experiences of patients' first time chiropractic consultations with chiropractic students at the Durban University of Technology (DUT) Chiropractic Day Clinic. The purpose of this study is to gain an understanding of first time patients' perceptions, expectations and experiences of their chiropractic consultation at the DUT Chiropractic Day Clinic and to identify ways in which these experiences can be improved.

Procedure: The study will include patients who are 18 years of age or older, fluent in English, and have never experienced a chiropractic consultation. If you agree to participate, you will be interviewed by the researcher at the DUT Chiropractic Day Clinic immediately following your initial experience of a chiropractic consultation. The estimate time taken for the interview is 30 minutes. The interview will be voice recorded.

Benefits: Understanding the patient's perceptions of chiropractic and expectations of their initial chiropractic treatment will enable clinicians to inform patients and may thereby enhance patient experiences. Deeper therapeutic relationships may be formed between the chiropractor and patient. Furthermore, more effective communication and understanding of patient expectations may facilitate a decreased risk of negative treatment outcomes. Chiropractic students, chiropractors and the DUT Chiropractic Day Clinic may benefit by applying the research to improve patients' first time chiropractic consultations. Information may assist with education of first time chiropractic patients about the perceptions and expectations of chiropractic.

Reason/s why the Participant May Be Withdrawn from the Study: You may withdraw from the study at any point with no adverse consequences to you.

Remuneration: There will be no remuneration for participation in this study.

Cost: There is no cost involved to participate in the study.

Confidentiality: All the information that you supply will be kept confidential and used for research purposes only.

Research-related Injury: The research involves interviews therefore there is no possibility for injury.

Persons to Contact in the Event of Any Problems or Queries:

Researcher:

Jamie Robbertze

(031) 373 2205

Supervisors:

DA Skea

082 922 7071

Dr H Kretzmann

(031) 205 5520

Institutional Research Ethics:

Administrator

031 373 2900.



CONSENT

Statement of Agreement to Participate in the Research Study:

- I hereby confirm that I have been informed by the researcher, _____ (name of researcher), about the nature, conduct, benefits and risks of this study - Research Ethics Clearance Number: _____,
- I have also received, read and understood the above written information (Participant Letter of Information) regarding the study.
- I am aware that the results of the study, including personal details regarding my sex, age, date of birth, initials and diagnosis will be anonymously processed into a study report.
- In view of the requirements of research, I agree that the data collected during this study can be processed in a computerised system by the researcher.
- I may, at any stage, without prejudice, withdraw my consent and participation in the study.
- I have had sufficient opportunity to ask questions and (of my own free will) declare myself prepared to participate in the study.
- I understand that significant new findings developed during the course of this research which may relate to my participation will be made available to me.

Full Name of Participant

Date

Time

Signature / Right Thumbprint

I, _____ (name of researcher) herewith confirm that the above participant has been fully informed about the nature, conduct and risks of the above study.

Full Name of Researcher _____ Date: _____ Signature: _____

Full Name of Witness _____ Date: _____ Signature: _____

Appendix F: Recording of demographics

Code:



Dear sir/madam

Please answer all of the following questions.

1. Age?
2. Gender? Female Male
3. Race? (for statistical and research purposes only)
White Black
Indian Coloured
Other (please specify):
4. Occupation:
5. Medical aid subscription: Yes No

Appendix G: Interview questions and probes

Perception:

1. Please describe your understanding of chiropractic prior to your first chiropractic consultation.

Possible probes:

- Can you tell me about how your understanding of chiropractic influenced your choice to seek chiropractic care?
- Can you tell me about your reasons for seeking chiropractic care? Explain why you decided to seek chiropractic care for these reasons.
- What do you think chiropractors can do in order to care for their patients?
 - o What is your perception of chiropractic with regards to diagnosis of conditions?
 - o What do you perceive chiropractic treatment to consist of?
 - o What is your perception of chiropractic with regards to giving advice?
 - o What is your perception of chiropractic with regards to medication and surgery?
- What conditions do you think chiropractors can treat and where did you obtain this information from?
- What part/parts of the body do you think chiropractors could treat and where did you obtain this information from?
- Who do you think can receive chiropractic treatment? Are there any groups of persons you think shouldn't or aren't able to receive chiropractic treatment? Please explain.
- Describe any changes in your understanding of chiropractic after your first consultation today.

Expectation:

2. What did you expect to happen during the chiropractic consultation?

Possible probes:

- What did you expect to happen during the examination?
- What did you expect to happen during your chiropractic treatment?
- Could you please expand on any positive or negative expectations that you had, if any?
- Describe what led you to form these expectations of the chiropractic consultation.
- Explain if the chiropractic consultation was what you expected.

3. What were your expectations for the treatment outcome prior to your first chiropractic consultation?

Possible probes:

- What did you expect to get relief from?

- What time frame did you expect this relief in?
- How many treatments do you expect to receive before feeling the relief?
- Describe what led you to form these expectations.
- Explain if your expectations for the treatment outcome changed after your first chiropractic consultation.

Experience:

4. Please can you describe your experience of the chiropractic consultation? In other words, explain everything you saw, heard or thought from the time you arrived today.

Possible probes:

- What did you experience with regards to the chiropractic student?
- What did you experience with regards to the chiropractic examination?
- What did you experience with regards to the chiropractic treatment?

5. Please can you describe the aspects of your experience, if any, that could have been improved and ways in which they could have been improved?

6. Would you return to the DUT CDC for further chiropractic consultations and why?

Question 1 (AHPCSA 1982; Wilson, Swincer and Vemulpad 2007)

Questions 2 and 3 (Sigrell 2001)

Question 4 (Partab n.d.)