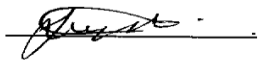
THE KNOWLEDGE AND PERCEPTIONS OF THE MEDICAL STAFF ABOUT CHIROPRACTIC AT THE KIMBERLY HOSPITAL COMPLEX

A dissertation presented to the Faculty of Health Sciences at the Durban University of Technology in partial compliance with the requirements for a Master's Degree in Technology: Chiropractic.

BY

JULIA MEYER

I, Julia Meyer, do declare that this dissertation is representative of my own work in both conception and execution.



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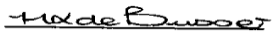

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DEDICATION

For my brother, Shaun

ACKNOWLEDGEMENTS

- To the Almighty Lord, who gave me the talent to become a chiropractor.
- To my supervisor, Dr. Nikki De Busser, for your help and guidance throughout.
- To Heino, and Carina, without you this journey would not have been possible.
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ABSTRACT

Background: In order to develop a balanced healthcare system, healthcare integration and inter-professional communication is important and allows for optimum healthcare benefits for a patient and improves cost-effectiveness. The chiropractic profession has been trying to improve inter-professional communication with the medical profession. Kimberly Hospital Complex (KHC) is a tertiary provincial hospital situated in the Northern Cape and since 1998, a permanent chiropractic post exists at this hospital, making it the only state hospital in South Africa with a full-time chiropractic clinic and post.

Purpose: To determine the knowledge and perceptions of the medical staff about chiropractic at KHC.

Method: This study was achieved by means of a questionnaire, which was modified to suit a South African context by means of a focus group. The questionnaire was personally delivered to 975 medical staff members at KHC. A response rate of 30% (n = 292) was achieved and the data was analysed using SPSS version 15 (SPSS Inc., Chicago, III, USA).

Results: The mean age of the respondents was 37.3 years and most were female (78.9%, n = 289). Doctors (62.5%, n = 54) and therapists (61.6%, n = 10) had a higher knowledge percentage score than nurses (48%, n = 213) or other healthcare professions (56.8%, n = 15). Doctors (77.8%, n = 42), therapists (100%, n = 10) and other healthcare professions (69.2%, n = 9) were more inclined to think that chiropractic is an alternative healthcare service, while nurses perceived chiropractic as a primary healthcare service (43.3%, n = 91). Many respondents were unaware of the fact that Diagnostics, Emergency Medical Care, Pharmacology and Radiology are included in the chiropractic curriculum and that chiropractic leads to a Master's degree. Seventy five percent (n = 203) believed that chiropractors are competent in the general medical

management of patients, but they would still rather refer patients to physiotherapists and orthopaedic surgeons. Despite the poor level of knowledge of chiropractic, 79.2% (n = 224) believed that it is sufficiently different from physiotherapy to warrant two separate professions and few (24%, n = 69) perceived it as unscientific. A large proportion of the respondents (80.3%, n = 228) believe that chiropractic is not well promoted in South Africa and only 20.8% (n = 59) felt that they know enough about the profession to advise a patient. The majority wanted to learn more about the chiropractic profession (95.8%, n = 277), especially pertaining to the scope and the treatment employed by chiropractors. Seventy-nine percent (n = 212) believed that patients benefit from chiropractic at KHC and 95.4% (n = 268) felt that South African hospitals would benefit from chiropractic care.

Conclusion: Due to the poor level of knowledge at KHC, an educational drive should be employed to educate the medical staff in order to increase their understanding of chiropractic and to aid chiropractic integration into the state hospital system of South Africa.

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LIST OF ABBREVIATIONS

AHPCSA:	Allied Health Professions Council of South Africa
AMA:	American Medical Association
CASA:	Chiropractic Association of South Africa
DC:	Doctor of Chiropractic
DR.	Doctor
DUT:	Durban University of Technology
e.g.:	For example
***et al*.:**	And others
GP:	General Practitioner
i.e.:	In other words
IFC:	Interferential Current
incl.:	including
KHC:	Kimberly Hospital Complex
km:	Kilometre
Mr.:	Mister
M.Tech:	Master's Degree in Technology
OT:	Occupational Therapy
PACA:	Pan-African Chiropractor's Association
SA:	South Africa
SAMPA:	South African Manipulative Practitioner's Association
SAMDA:	South African Medical and Dental Association

TENS:	Transcutaneous-Electrical Nerve Stimulation
USA:	United States of America
***viz*:**	That is

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CHAPTER ONE

INTRODUCTION

1.1 INTRODUCTION TO THE PROBLEM

The World Federation of Chiropractic (1999) defined chiropractic as being concerned with the diagnosis, treatment and prevention of the musculoskeletal system and the effects of these disorders on the functions of the nervous system and general health. Further to this, Feuling (2001) stated that chiropractic is a drug-free and non-invasive form of healthcare dedicated to the detection and correction of vertebral subluxation in order to eliminate nerve interference that can adversely affect health. A vertebral subluxation has been described as: “a complex of functional and/or structural and/or pathological articular changes that compromise neural integrity and may influence organ system function and general health” (Feuling, 2001). The chiropractic subluxation is corrected via joint manipulation, which is a type of passive movement or thrust of a synovial joint with the aim of creating a therapeutic effect by moving it past its physiological range of motion without exceeding the anatomical limit (Chapman-Smith, 2000).

A variety of disciplines including acupuncture, chiropractic, general medicine, massage therapy, naturopathy, neurosurgery, occupational therapy, orthopedic surgery, osteopathy, physiotherapy, psychiatry and rheumatology treat musculoskeletal conditions (Arthritis Care, 2007). Chiropractic joint manipulation has a strong evidence base to support it as an effective treatment for a variety of musculoskeletal conditions, including chronic pain problems, colic, headaches, herniated disc, low back pain, joint/ligament sprains, muscle neck/shoulder pain, sports injuries, temperomandibular joint problems and whiplash (Langworthy and Smink, 2000, Chapman-Smith, 2000 and Chiropractic Association of South Africa Booklet, 2007/2008). In addition,

chiropractic care has been shown to be cost-effective because of the reduction in the use of advanced imaging, plain-film radiographs, inpatient care and frequency of surgery (Nelson *et al*., 2005, The Chiropractic Report, 2005 and The American Academy of Hospital Chiropractors, 2006). According to a study by Legorreta *et al.* (2004), comparing patients that had chiropractic benefits as part of their medical coverage to those that did not, it was found that those with coverage had lower total annual healthcare costs and lower costs per episode of back-pain. Suggested reasons for lower costs included that chiropractic was less invasive and patients had fewer hospitalizations. In this study and a previous study by Manga *et al.* (1993), it was found that chiropractic treatment resulted in a significant reduction in chronic pain syndromes.

Optimum health benefits for the patient may be inhibited by the fact that treatments of musculoskeletal conditions are fragmented across a variety of professions (Langworthy and Smink, 2000). Thus, in order to develop a balanced healthcare system, good inter-professional relations are important. These relations are dependant on personal rapport, communication skills and conduct. Many issues affect inter-professional relations, these include: the extent of communication between professions, the lack of universally accepted defined scope of chiropractic practice, unequal access to healthcare resources, conflict of terminology between professions, a practitioner loyalty to their professional heritage, the medical profession's distrust of chiropractic training standards, variation in the nature of available chiropractic services and the perception that the "chiropractic manipulation" is dangerous (The Canadian Chiropractic Association, 1998). Added to this, the medical profession was previously opposed to the chiropractic profession, possibly due to a lack of scientific validity and a lack of knowledge about the chiropractic profession (Silver, 1980). This influenced the level of inter-referrals between neurosurgeons, orthopaedic surgeons and neurologists (Rubens, 1996), General Practitioners (Brusee *et al.*, 2001 and Louw, 2005)

and physiotherapists (Hunter, 2004) and chiropractors. Therefore, better communication and understanding between healthcare professionals is needed in order to achieve optimum patient health (Langworthy and Birkelid, 2001).

Since the late 1970's (Chapman-Smith, 2000), the aim of the chiropractic profession has been to embrace the behaviours and values of a mainstream profession, increasing its market share of satisfied patients, strengthening its educational system, initiating collaborations with other disciplines in practice, concentrating on research that validates spinal manipulation, and effectively using legislative, political, and legal measures to secure its role in the healthcare system (Meeker and Haldeman, 2002). In South Africa, the aim of chiropractic is to become recognized as a primary healthcare profession (Young, 2007), *viz* a profession in which the healthcare provider offers first consultation to a patient (Chapman-Smith, 2000). The mission statement of the Chiropractic and Somatology department of Durban University of Technology states that it wants to produce "quality chiropractors" that strive for personal, ethical and professional excellence, especially involving patient care (Young, 2007).

A breakthrough in the process of chiropractic integration into the South African state hospital system occurred when Rule 7. (2) was partially abolished in South Africa in the mid 90's. This rule prohibited cooperation between chiropractors and doctors registered with the South African Medical and Dental Council, and thus, with its abolishment, the chiropractic profession could increase the scope of inter-professional communication (Sidley, 1994). However, this rule was never fully abolished, but merely changed to a less prohibitive rule, Rule 9.1 (Appendix A). Subsequent to this, multi-disciplinary practices, which included chiropractors, became more common in South Africa (Engelbrecht, 2008). As a result of this change, chiropractic became integrated into Kimberly Hospital Complex (KHC). Added to this, most medical

aid schemes, the Compensation for occupational injuries and disease act (Worker's compensation) and the Road Accident Fund also cover chiropractic in South Africa (Chiropractic Association of South Africa information booklet 2007/2008).

KHC is a tertiary provincial hospital, which is situated in the Northern Cape Province and consists of Kimberly General Hospital, West End TB and Psychiatric Hospital (incorporated in 1997) and Kimberly Hospital Rehabilitation Centre (incorporated in 2001), (Strebel, 2004). The Chiropractic Department is situated in the Kimberly General Hospital, and exists as a separate outpatient department. The department is supervised by the resident chiropractor, who is assisted by a nursing sister.

In June 1996, the senior chiropractic students of Technikon Natal were invited by the Department of Health of the Northern Cape to treat patients at the KHC. This was seen as an opportunity to change the attitudes of the medical staff towards chiropractic care, expand senior chiropractic students' experience and to create positive awareness of the public towards chiropractic care. In January 1997, a program was started where five senior chiropractic students and a clinician were flown up to treat patients at KHC. A full-time post was subsequently established for a qualified, registered chiropractor at this state institute in January 1998 and still exists to this day, making it the only state hospital in South Africa with a full-time chiropractic post and clinic (Till and Till, 2000 and Engelbrecht, 2008).

As a beginning step in exploring future prospects for improved communication between medical caregivers and potential integration of chiropractic into the South African state hospital setting, this research sought to highlight the effects of having a chiropractic outpatients department at KHC.

1.2 AIM AND OBJECTIVES OF THE STUDY

The **aim** of this study was to determine the knowledge and perception of the medical staff about chiropractic care at the Kimberly Hospital Complex.

The **objectives** of this research study were to determine at KHC:

1. The general knowledge of the medical staff about chiropractic
2. The medical staff's understanding of the scope of chiropractic practice
3. The perceived role of chiropractic in the healthcare system of South Africa and KHC
4. The level of communication of the medical staff with the Chiropractic Department at KHC.

1.3 HYPOTHESIS

The following hypotheses were set to address the specific objectives identified in 1.2.

Members of the medical staff at KHC have:

- A poor level of knowledge about chiropractic
- Little understanding of the scope of chiropractic practice
- Similar perceptions to the medical professions mentioned previously in literature
- Poor level of inter-professional communication

1.4 SCOPE OF THE STUDY

The study was that of a retrospective survey of a quantitative nature. A self-administered questionnaire was personally handed out to 975 members of the medical staff at the Kimberly Hospital Complex (KHC). A three-week time lapse was given for the collection of the completed questionnaires and the signed informed consent forms.

A 30% response rate from 975 questionnaires handed out was considered satisfactory for a valid research sample (Esterhuizen, 2008). Descriptive statistical analysis has been used. SPSS version 15 was used for data analysis (SPSS Inc., Chicago, Ill, USA). Categorical variables will be described and presented using frequency tables or bar charts. Numerical variables will be described using means, standard deviations and ranges.

In conclusion, no research has previously been done to determine the knowledge and perception of the medical staff about chiropractic care at the KHC. Thus, it would be useful to determine the perception and knowledge of the medical staff about chiropractic care in this state facility, in view of it having been incorporated into the hospital 10 years ago.

CHAPTER TWO

LITERATURE REVIEW

2.1 PERCEPTION

Perception is dependant on an individual's past life experiences and education and it is a process by which information or data is gained via a person's senses. Perception is a subjective and abstract quality and represents a person's reality, thus, people may have different realities when they are exposed to the same events. In order to find some homogeneity in their perception of realties, people may be forced to re-examine and perhaps modify their interpretations of external stimuli (Chaffe, 1997). The Neiss classification which is presented by Bergh and Theron (1999) in table 2.1 indicates the factors influencing perceptions.

Table 2.1 The Neiss Classification adapted from Bergh and Theron (1999)

<table>
<tr>
<td>1. Factors related to the object that is being perceived (in the context of this research, this would be factors influencing the Chiropractic profession):

• Development in the country.
• Accessibility.
• Public Relations.</td>
<td>2. The individual factors (which in the context of this research, relate to the factors influencing KHC medical staff's views of Chiropractic):

• Experience.
• Beliefs / attitudes.
• Motivation.
• Knowledge / interests.
• Expectations and values.
• Culture.</td>
</tr>
<tr>
<td colspan="2">3. Environmental factors (in the context of this research, these are factors that could influence or modify the object (i.e. Chiropractic profession) or the individual and a change in their perception (i.e. KHC medical staff's knowledge and perception)):

• Media.
• Medical.
• Accessibility.
• Training.
• Nomenclature or jargon related to the chiropractic profession.</td>
</tr>
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2.2 FACTORS INFLUENCING THE CHIROPRACTIC PROFESSION

2.2.1 Development of chiropractic

In order to develop a balanced healthcare system, inter-professional communication is important and allows optimum health benefits for the patient. Thus, the chiropractic profession has been trying to improve communication with the medical profession (Silver, 1980).

In the early 1950's to mid-1970's, the chiropractic profession was described by sociological writings as "alternative", "pseudo" and "marginal", thus, undermining its reputation as a legitimate healthcare profession (Sidley, 1994). Additionally, the medical profession was previously had a negative perception of the chiropractic profession, possibly due to a lack of scientific validity and a poor level of knowledge about the chiropractic profession (Silver, 1980). Paris (2000) believed that the chiropractic profession was further targeted by orthodox medicine because of the "Law of the Nerve", which stated that "all could be healed by chiropractic manipulation." This placed the chiropractic profession in direct opposition to mainstream medical philosophy and influenced the number of patients referred to chiropractors by neurosurgeons, orthopaedic surgeons and neurologists (Rubens, 1996), General Practitioners (Brusee *et al.*, 2001 and Louw, 2005) and physiotherapists (Hunter, 2004). The "Law of the Nerve" was later replaced with a more scientific model that has been more accepted by orthodox medical philosophy and in the late 1970's, chiropractic gradually started changing from working in isolation to becoming integrated into primary healthcare system in the United States of America (USA) (Chapman-Smith, 2000). Chiropractic now falls into the category of "complementary and alternative medicine", which is the type of medicine that works together with and alongside orthodox medicine (Langworthy and Birlkelid, 2001) and is one of the best recognized, largest and most regulated of the professions that has traditionally

functioned outside of mainstream medical health system (Meeker and Haldeman, 2002).

In the late 1980's the demand for the use of complimentary medicine has increased dramatically because of healthcare focus on holistic care (Verhoef and Page, 1996). This is evident from a report in the USA in 2005, stating that approximately 10% of adults make use of chiropractic, making it the most common form of complimentary healthcare in America (The Chiropractic Report, 2005). Public demand for greater integration of complimentary medicine and orthodox medicine and hence, multidisciplinary healthcare practices, has made it clear that more frequent inter-professional communication is necessary (Langworthy and Birlkelid, 2001). General practitioners play a very important role in this process because they fulfil the role of "gate-keepers" for patients in the healthcare system. Many GPs may also have used "complimentary medicine" for their patients, initially to prevent the use of chronic analgesic medication (Louw, 2005).

In order for us to understand the changes occurring in South Africa, concerning the integration of chiropractors into the healthcare system, a brief history of the American chiropractors' integration into the healthcare system will be discussed. In America in 1976, Chester Wilk, a Chicago DC (Doctor of Chiropractic), along with three other DCs, brought an antitrust suit against two other medical associations and the American Medical Association (AMA). Then in 1987; the American Medical Association, the American College of Surgeons and the American College of Radiology, were found guilty of restraint of trade and conspiracy against the chiropractic profession. An appeal to the Supreme Court by the AMA was also lost and communication of its members with chiropractors was allowed (Chapman-Smith, 2000). Due to this victory, full acceptance of the national chiropractic associations was achieved (Curtis and Bove, 1992).

In 1939, the Payne brothers formed the South African Manipulative Practitioners Association (SAMPA), which was later known as the Pan-African Chiropractor's Association (PACA). In 1952, Dr Josh Haldemann formed the South African Chiropractor's Association, which fused with the PACA to form the Chiropractic Association of South Africa (CASA) in 1971. That year the register was closed to chiropractic students and chiropractors, which led to a seven-year protest by CASA. CASA was then invited by the members of Ministry and South African Medical and Dental Association (SAMDA) to give a presentation, which led to a losing vote of 17-16, preventing the incorporation of chiropractic into this statutory body and separate chiropractic legislation was formed. The Council for Scientific and Industrial Research (CSIR), called for another commission of inquiry, leading to the formation of the Allied Health Services Professions Council, the statutory body that wrote chiropractic into South African law. Finally, in 1985, the chiropractic registry was re-opened, thus becoming a legally recognized profession in SA and the first chiropractic students were invited to register for Chiropractic at Technikon Natal in 1989 (CASA, 2008).

Rule 7. (2) was then partially abolished in South Africa in the mid 90's. This rule prohibited cooperation between chiropractors and doctors registered with the SAMDC, and thus, with its abolishment, the chiropractic profession could increase the scope of inter-professional communication (Sidley 1994). Added to this, most medical aid schemes, the Compensation for occupational injuries and disease act (Worker's compensation) and the Road Accident Fund now also cover chiropractic in South Africa (Chiropractic Association of South Africa information booklet 2007/2008.) This rule was, however, never fully abolished, but merely changed to a less prohibitive rule, Rule 9.1(Appendix A). Subsequent to this, multi-disciplinary practices, which included chiropractors, became more common in South Africa (Engelbrecht, 2008).

Since the 1990's, there has been increased public acceptance of chiropractic, with more inter-referrals occurring between chiropractic and other healthcare

professionals and an acceleration of chiropractic as a healthcare profession. This was mainly due to an increased focus on research, especially in the areas of chiropractic education and the publication of scientific articles in medical journals, such as the *Annals of Internal Medicine, Medical Journal* and the *Canadian Family Physician*. There was also a dramatic increase in patient satisfaction and demand for chiropractic services (Chapman-Smith, 2000 and the Chiropractic Report, 2005). After undergoing the required training in order to qualify as Doctors of Chiropractic, chiropractors register with the Allied Health Professions Council of South Africa (AHPCSA). This statutory body focuses on the training and education of chiropractic students, functions to protect the public, sets the ethical and practice guidelines for the profession, and deals with misconduct of professionals (AHPCSA, 2007).

Currently, the chiropractic profession aims to become recognized as a primary healthcare profession (i.e. a profession in which the healthcare provider offers first consultation to a patient (Chapman-Smith, 2000)). The vision of the Chiropractic and Somatology department at Durban University of Technology (DUT) is to: “produce quality chiropractors that are orientated towards achieving excellence in their professional and personal capacities in order to contribute meaningfully to the society in which they reside.” DUT is committed to educate and train chiropractors who “strive for excellence in their professional environment with regard to ethics, patient care, business practice, as well as their private environments” (Young, 2007). The chiropractic curriculum leads to an M.Tech (Masters in Technology) degree and takes five years to complete, followed by 675 internship hours that need to be completed before registration as a chiropractor can occur. The subjects included in the curriculum that correlate to the subjects studied by medical students are as follows: Anatomy, Biochemistry, Biology, Chemistry, Diagnostics, Emergency Medical Care and Rescue, Epidemiology, Medical Microbiology, Pathology (general and systemic), Pharmacology, Physics, Physiology, Psychopathology and Radiology. Chiropractic related subjects are as follows: Auxiliary Therapeutics, Chiropractic

Principles and Practice, Clinical Biomechanics and Kinesioligy, Clinical Chiropractic, Philosophy, Principles and History, Practice Management and Jurisprudence, Research Methods and Techniques and Social Studies. Chiropractic treatment scope includes various electrotherapies such as: Interferential current (IFC), soft laser, Transcutaneous-Electrical Nerve Stimulation (T.E.N.S), Ultrasound, and Ultraviolet light. Additionally, soft tissue treatments such as: acupuncture, cryotherapy, dry needling, massage, stretching, traction and thermotherapy are also employed. Joints are treated via joint mobilization and the chiropractic adjustment (Faculty of Health Sciences booklet, 2008). In South Africa, a chiropractic student can obtain diplomas or post-graduate qualifications in rehabilitation, paediatrics, sports medicine and sports chiropractic (ICSSD) - and internationally the scope is even more vast, including: post-graduate diplomas in extremity disorders, orthopaedics, paediatrics, neurology, radiology and rehabilitation (Chiropractic – SCUHS Postgraduate Education, 2006; Mané Centre, 2007; Palmer College of Chiropractic, 2008 and Internal Chiropractors Association, 2008). Chiropractic has thus evolved from its position as an “unscientific alternative profession”, to a recognized healthcare profession of the healthcare system (Haldeman, 1992). Jekel (1991) suggested that “to some extent, the opportunities for chiropractic are the failures of medicine because medicine is less concerned with preventative care than treatment care, and people are seeing the importance of prevention and health promotion”.

The future of chiropractic lies in evidence based practice and in improved inter-professional communication and co-operation between chiropractic and other healthcare professions. The next decade will determine whether chiropractic becomes fully integrated into main-stream healthcare or remains an alternative healthcare profession (Meeker and Haldeman, 2002).

2.2.2 Accessibility:

According to CASA (2005), most chiropractors in South Africa work in private practices, thus, catering mainly to the upper and middle income population bracket, therefore, the greater portion of the population has little or no access to chiropractic care and may not be able to afford it. This may be another reason why there is overall poor public knowledge and perception of chiropractic (Rattan, 2007). Most chiropractors are urban based, thus, further decreasing the level of accessibility to the public (CASA, 2005). Kimberly Hospital Complex is the only state hospital in South Africa that has a Chiropractic Department, the value of which has been "immeasurable to the community" and caters for the previously disadvantaged population of South Africa (Till and Till, 2000).

2.2.3 Public Relations:

Two recent unpublished studies that investigated the knowledge and perception of South African vocational councellors (Van As, 2005) and Durban based grade 12 students (Rattan, 2007), highlighted that both of the population groups studied, had poor knowledge of chiropractic. Their perception was that chiropractic should be integrated to a greater extent into the SA healthcare system and many respondents incorrectly believed that chiropractors were trained in medicine. One of the greatest reasons for a lack of knowledge of chiropractic is that of a lack of public education of chiropractic. Van Zyl, (2007) believed that chiropractors/ the chiropractic profession is to blame for this lack of public knowledge and suggests that the profession failed to adequately educate the public and other healthcare professionals in South Africa. He suggests a more aggressive public education drive.

The Chiropractic and Somatology Department at DUT has various means by which they promote chiropractic in Durban. Annual letters are sent out to all the career counsellors in KwaZulu-Natal. Additionally, members of the Department

attend various career fairs across the greater Durban area, depending on the number of invitations they receive, which ranges from 10 to 35 a year. The public that may be interested in chiropractic at DUT are also able to enquire on the DUT website. Chiropractic students attend various popular sports events such as, the Comrades Marathon and the Mr. Price Pro surfing competition. Recently, in July 2008, a group of students organised a cycling tour which started in Richards Bay and ended in Uvongo, a distance of almost 400km over a time period of four days. A group of chiropractic students followed the course of the tour and treated patients along the way, free of charge, in order to create public awareness of chiropractic. Research flyers are distributed where necessary to aid in chiropractic promotion (Korporaal, 2008).

According to Dr. Reg Engelbrecht (2008), CASA has a promotional policy, which includes sending information booklets to various GPs and physiotherapists, and articles to general medical chronicles and the South African Medical Journal. Chiropractic is also advertised in magazines such as: *Airline in Flight*, hotel magazines, Medical Aid Scheme magazines, *The Baby and Me* and *TLC*. Various talks have also been aired on radio and *3 Talk*, a popular talk show on SABC 3 (Engelbrecht, 2008).

2.3 INDIVIDUAL FACTORS INFLUENCING MEDICAL STAFF'S VIEW ABOUT CHIROPRACTIC

2.3.1 Experience/ Beliefs/ Attitudes/ Motivation

Chiropractic was previously viewed with deep concern and suspicion by orthodox medicine (Curtis and Bove, 1992). This was mainly due to the fact that chiropractic claims were not supported by scientific evidence and there was a concern that a serious illness may be over-looked or misdiagnosed (Wardwell, 1994). Chiropractic has, however, gained greater acceptance from the medical fraternity over time (Chapman-Smith, 2000). However, a large number of GPs,

neurologists, neurosurgeons and orthopaedic surgeons still feel uncomfortable with chiropractic care and believe that it should exist under medical supervision (Rubens, 1996; Louw, 2005 and Engelbrecht, 2008).

Rubens (1996) investigated the view of South Africa neurologists (n = 22), neurosurgeons (n = 22) and orthopaedic surgeons (n = 120) about chiropractic. Table 2.2 below reflects the percentages of inter-referrals that took place between chiropractors and these professions:

Table 2.2 Percentage of inter-referrals between specialist professions and chiropractors:

1.Specialist Profession	2.Percentage of referral to chiropractors	3.Percentage of referral from chiropractors
Neurology	31.8 % (n = 7)	36.4% (n = 8)
Neurosurgery	86.4% (n = 19)	81.8% (n = 18)
Orthopaedic surgery	43.3% (n = 52)	60.5% (n = 72)

"Personal experience of chiropractic would encourage these specialists to use chiropractic more in the future" (Rubens, 1996). However, it was also noted that these professions were poorly informed about chiropractic and that more inter-referrals and greater communication seemed to exist between neurosurgeons and chiropractors, the majority being well satisfied with the chiropractor's professionalism. Fifty percent (n = 82) of the participants in this study, however, still feel that chiropractors were incompetent in the examination and diagnosis of the neuromusculoskeletal system and neuromusculoskeletal conditions, and 78.5% (n = 127) of them stated that they would choose physiotherapy as their first choice of referral for the treatment of neuromusculoskeletal conditions.

Two similar studies (Langworthy and Smink, 2000 and Hunter, 2004) investigated the knowledge and perception of South African (SA) physiotherapists (n = 177) and Dutch physiotherapists (n = 133) about the chiropractic profession. In both studies, it was found that poor to non-existent communication and co-operation existed between these physiotherapists and chiropractors and that 80% of Dutch physiotherapists (n = 133) had never had contact with a chiropractor (Langworthy and Smink, 2000). Two-thirds of the South African physiotherapists investigated, felt inadequately informed about chiropractic, and 82% wanted to learn more about the profession, especially with respect to the education chiropractors received, the treatment protocols they used and their scope of practice (Hunter, 2004). Only 7% of the Dutch physiotherapists investigated, reported having good knowledge about chiropractic, and 41% thought that chiropractic care was too expensive. Only 13% of the physiotherapists believed that chiropractic was suitable for intramural care, which is the type of healthcare that takes place inside a hospital setting (Langworhty and Smink, 2000). Both studies revealed that about half of the physiotherapists believed that chiropractic is complimentary to their own profession. The majority of the SA physiotherapists studied (88%), believed that good inter-professional relations between their profession and chiropractic would benefit patients as well as both professions. Eighty percent of these physiotherapists perceived chiropractors as competent and skilled medical professionals, compared to only 50% of Dutch physiotherapists. A mere 13% of the Dutch physiotherapists believe that there is a place for chiropractic in the hospital setting. Most SA physiotherapists perceived chiropractic to be an alternative form of healthcare, compared to 55% of the Dutch physiotherapists, who believed chiropractic to be a primary healthcare profession (Langworthy and Smink, 2001 and Hunter, 2004).

General practitioners (GPs) are perceived as the gate-keepers in the healthcare system, and previous studies done in both South Africa (n = 77) (Louw, 2005) and Norway (n = 112) (Langworthy and Smink, 2000), indicated that most GPs do not have enough knowledge of chiropractic and are therefore hesitant to refer

patients to them, thus highlighting the importance for chiropractors to improve inter-professional relations with medical doctors (Langworthy and Birkelid, 2001 and Louw, 2005). GPs reported gaining knowledge from patients who had previously been treated by chiropractors (Langworthy and Birkelid, 2001 and Louw, 2005). Forty-three percent of the South African GPs questioned, had communicated with a chiropractor via letter or telephone, and more than half found it a positive, beneficial experience (Louw, 2005). An even greater percentage of Norwegian GPs (67%) reported a positive experience (Langworthy and Birkelid, 2001). Two-thirds of Norwegian GPs studied, wanted to learn more about the chiropractic profession, especially in the areas of when to refer to a chiropractor, techniques of treatment and the effects and safety of treatment. These GPs favoured gaining this knowledge through scientific publications (Langworthy and Birlkelid, 2001). Although communication and co-operation improves inter-professional relations (Langworthy and Birkelid, 2001), Louw (2005) found that 35% of South African GPs studied, were not interested in communicating with chiropractors, however, their Norwegian counterparts showed more interest in communicating and referring patients to chiropractors (Langworthy and Birlkelid, 2001). In North Carolina (USA), it was found that 64.8% (n = 133) of the GPs studied, believed they were “moderately” or “well” informed about chiropractic. In this study, roughly 98% of chiropractors made routine referrals to GPs and 65% of these GPs referred patients to chiropractors (Mainous *et al.*, 2000).

Local unpublished studies suggest that GPs, neurologists, neurosurgeons, orthopaedic surgeons and physiotherapists believe that the difference that exists between chiropractic and physiotherapy is sufficient to justify the existence of two separate professions (Rubens, 1996; Hunter, 2004; Louw; 2005).

2.3.2 Culture

A person's perception is greatly affected by their ethnicity (race). Differences in traditional norms (cultural), income, health insurance cover and socio-economic differences have been thought to affect healthcare access between various population groups (Van As, 2005). The previously disadvantaged are still believed to have little knowledge and understanding of chiropractic (Rattan, 2007).

2.4 INTEGRATION OF CHIROPRACTIC INTO THE HEALTHCARE SYSTEM

The high cost of healthcare, a shortage of resources and a lack of inter-professional cooperation (due to lack of education and understaffing), have led to a crisis in the South African healthcare system (Hupkes, 1990). Thus, a greater level of cooperation and communication between all healthcare providers is essential to relieve this crisis (Hunter, 2004).

Chiropractors began being integrated into hospitals in the United States of America in the early 90's and according to the American Academy of Hospital Chiropractors (2006), some of the benefits that chiropractors offered were:

- They provided a unique treatment to neuromusculoskeletal conditions that significantly improved patient outcomes.
- There was less analgesic re-medication of patients that received chiropractic care in the hospital setting.
- There were fewer repeat visits to the emergency room when a chiropractor had treated a patient.
- Medical and nursing staff seemed responsive to the type of treatment chiropractors offered.

According to a survey performed by the National Board of Chiropractic Examiners in January 2005, 6% of chiropractors in America had hospital

privileges, an increase from the 4.9% in 1991 and 5.2% in 1998. AAHC (American Academy of Hospital Chiropractors) certification has become a benchmark credential for hospital chiropractors in the U.S.A., with many hospitals now requiring AAHC certification for their staff chiropractors (American Academy of Hospital Chiropractors (AAHC, 2006). There has also been a rise in the number of hospitals granting chiropractors hospital privileges to further their clinical education and training or for administering chiropractic treatment (The Chiropractic Report, 2005).

In South Africa, hospital privileges in state facilities are limited to Kimberly Hospital Complex (KHC). KHC is a tertiary provincial state hospital, which is situated in the Northern Cape Province, and consists of Kimberly General Hospital, West End TB and Psychiatric Hospital (incorporated in 1997) and Kimberly Hospital Rehabilitation Centre (incorporated in 2001) (Strebel, 2004). Presently, the Chiropractic Department is situated in the Kimberly General Hospital, and exists as a separate outpatient department. The Department is supervised by the resident chiropractor, who is assisted by a nursing sister.

The Department of Health of the Northern Cape invited the senior chiropractic students of the Technikon of Natal, in June 1996, to treat outpatients at KHC and to “assist in the offering of health services in the area”. The chiropractic students were exposed to an abundance of patients, with a greater variety of pathologies in comparison to what they were exposed to at the Chiropractic Day Clinic at their training institution. Till and Till (2000) saw this as “an opportunity to change the attitudes of the medical staff towards chiropractic care, expand chiropractic intern’s experience, have a positive public relations benefit and to create positive awareness of the public towards chiropractic care“. This experience seemed to have increased the students’ clinical experience and helped to better prepare them for clinical practice as well as improving their confidence in communicating with other medical professionals. The local underprivileged community also benefited from the chiropractic services offered (Till and Till, 2000). In January

1998, the first full-time post for a chiropractor was established at the KHC. This chiropractor, additionally had access to treat the mentally and physically handicapped children at two local schools, and also had access to treat infants in the paediatric wards at the KHC. Due to the satisfaction of the hospital superintendent and resident medical staff, more interns were able to provide their chiropractic services during 1999. These services include:

- “Ward rounds in orthopaedic Department
- Assistance in the orthopaedic out-patient Department
- Observation of orthopaedic surgery
- Day trips to outlying towns for patient education in terms of health promotion and disease prevention
- Planning for chiropractic care for physically and mentally handicapped children.” (Till and Till, 2000)

In the past, the resident chiropractors at KHC had given talks to the resident medical staff about chiropractic, for example during “Back Week” a week was dedicated to educating the medical staff about chiropractic and its benefits. Similarly, these chiropractors also promoted chiropractic on the local radio station to the Northern Cape (Jacobs, 2008; de Busser , 2009 and Van der Meulen, 2009)

To this day, a permanent chiropractic post exists at the KHC, making it the only state facility in South Africa that has such a post. Negotiations are underway with the Department of Health of KwaZulu-Natal to integrate the chiropractic students into the hospital system similarly to that of how they were integrated into KHC (Engelbrecht, 2008). Till and Till (2000) believed that chiropractic will gain full recognition and be fully integrated into the South African healthcare system if this approach is taken. This research, therefore, aims to determine the knowledge and perception of the medical staff about chiropractic care at the KHC and the

results of this study will be relevant only to other state facilities within the healthcare system.

CHAPTER THREE

METHODOLOGY

3.1 THE DESIGN

The study was of a quantitative nature and used a validated, structured questionnaire (Appendix B) (Langworthy and Smink, 2000; Hunter, 2004 and Louw, 2005) in order to collect the raw data.

3.1.1 Ethical Clearance and Subjects

The ethics committee of the health faculty of Durban University of Technology (DUT) granted permission (Appendix C) to do this research on the 19th of May 2008 (Clearance number: FHSEC 010/08).

For the purposes of this research, the medical staff was divided into groups of disciplines as follows: medical doctors (incl. clinical registrars, medical officers and medical consultants), nurses, therapists (incl. clinical psychologists, dieticians, occupational therapists, physiotherapists and social workers) and other healthcare professionals (incl. dentists, orthotists, prosthetists, pharmacists and radiographers).

Table 3.1 below illustrates the number of medical staff members who were included in this study. A total of 975 medical staff members were targeted, and a sample size of approximately 30% from each professional group was considered appropriate for the purposes of this research (n = 292). This table indicates the total number of staff members per group of disciplines, the total number of respondents of each group, the total percentage of that group that responded and the total percentage of the sample size that responded.

Table 3.1 The number and percentage of medical staff responding to the questionnaire

Main professional group	Discipline	Total (975)	Total returned in group (n = 292)	% of group	% of the total (n = 292)
1. Medical Doctor	1.1 Clinical Registrar 1.2 Medical Officers 1.3 Medical consultants/ Specialists	181	54	29.83%	18.49%
2. Nurses	2.1 Nurses	713	213	30.01%	72.95%
3. Therapists	3.1 Clinical Psychologists 3.2 Dieticians 3.3 Occupational therapists 3.4 Physiotherapists 3.5 Social Workers	31	10	32.26%	3.43%
4. Other healthcare professionals	4.1 Dentists 4.2 Orthotists/Prosthetists 4.3 Pharmacists 4.4 Radiographers	50	15	30%	5.14%

3.2 INCLUSION AND EXCLUSION CRITERIA

3.2.1 Inclusion Criteria

In order to be included in this study, the members of KHC's medical staff had to comply with the following criteria:

- Participants had to be English literate, as this is the medium used for all written communication and ward rounds in KHC.
- Participants had to sign the informed consent form.
- Participants had to be permanent medical staff employed by KHC.

3.2.2 Exclusion Criteria

The participants were excluded from the study if:

- They did not comply with the above inclusion criteria.
- The researcher was unable to deliver the questionnaire to a participant (e.g. in the case of sick leave, annual leave, maternity leave etc.).
- They held the position of chiropractor at KHC.

3.3 DATA COLLECTION TOOL

A quantitative questionnaire was developed and piloted by Jennifer M. Langworthy (M. Phil., Institute for Musculoskeletal Research and Clinical Implementation, Bournemouth, UK) and was used in various studies in Norway and the Netherlands. This questionnaire was used to determine the level of communication between Norwegian GPs and chiropractors, and to determine what chiropractic knowledge GPs would like to gain about chiropractic. Additionally, it was used to determine the views of Physiotherapists, Manual Therapists and Osteopaths about Chiropractic in the Netherlands.

The questionnaire comprised of five sections, with a total of 25 questions which covered demographics, knowledge of chiropractic, experience of previous referral and communication, terminology and educational material. This questionnaire has since been used and modified to a South African context by Hunter (2004) and Louw (2005). Thus, for the purposes of this research, the questionnaires in the following dissertations were used to establish a piloted questionnaire:

- Chiropractic through the Eyes of Physiotherapists, Manual Therapists and Osteopaths in the Netherlands (Langworthy and Smink, 2000).

- General Practice and Chiropractic in Norway: How well do they communicate and what do GP's want to know? (Langworthy and Birkelid, 2001).
- The perceptions and attitudes of South African Physiotherapists about the Chiropractic profession (Hunter, 2004) and
- The knowledge of General Practitioners about Chiropractic as a factor that may influence Health Care Integration in South Africa (Louw, 2005).

The questionnaire used in this research was modified to include four sections, with a total of 42 questions. It covered the participants' demographics, their knowledge of chiropractic, their understanding of the scope of chiropractic practice, the perceived role of chiropractic in the healthcare system of South Africa and KHC and what they perceived the level of communication of the medical staff with the Chiropractic Department to be at KHC.

3.4 FOCUS GROUP:

Adaptation of the pre-focus group questionnaire was accomplished through the use of a focus group, which consisted of: two chiropractors, a chiropractic student, a clinical psychologist, a medical doctor, an occupational therapist and the researcher, who read and discussed the questionnaire to rule out any ambiguity and syntax difficulties and who helped add additional questions where deemed necessary. The recommendations made by the focus group were taken into account to produce a refined version of the questionnaire (Appendix B).

3.5 PILOT STUDY:

The refined questionnaire was then reviewed by the use of a pilot study, which consisted of six medical professionals, working in a similar state facility to that of KHC, to determine if the questionnaire (Appendix B) was understandable and easy to complete.

3.6 PROTOCOL AND PROCEDURE

Permission was granted by the Department of Health of the Northern Cape to perform this research at the KHC (Appendix D).The researcher personally went to KHC, met with the superintendent and the participants, and explained the nature and extent of the research study. The questionnaires (Appendix B) were then personally handed out to the medical staff along with a letter of information (Appendix E) and an informed consent form (Appendix F), in order to increase the response rate. The letter of information explained the research being conducted and provided instructions on how to fill in the questionnaire as well as thanking the medical staff for their participation. All questionnaires were administered in a self-administered fashion (Bourque and Fielder, 1995). The researcher was present at the KHC for the period of research if the participant needed to ask any questions. The completed informed consent forms and the questionnaires were placed in two separate ballot boxes to ensure confidentiality. At the end of each day the researcher checked the ballot boxes to ensure a gradual return of 30% from each group (the participant was required to fill out his/her profession on the questionnaire) and record this. A stratified sample technique was employed. The participants were personally reminded to complete the questionnaires and signed informed consent forms on a regular basis in order to increase the response rate. This process occurred over a time period of three weeks and the results of the questionnaire were subsequently entered into an excel spreadsheet by the researcher.

3.7 THE DATA

3.7.1 The Primary Data

The primary data consisted of the raw data provided from the completed questionnaires, in the form of an excel spreadsheet.

3.7.2 Statistical Analysis

SPSS version 15 was used for data analysis (SPSS Inc., Chicago, Ill, USA). Knowledge and perception was scored using the questions which specifically addressed knowledge and perception of chiropractic (one mark per correct answer). Scores were expressed as percentages out of the maximum score.

Since all objectives were descriptive, no associations or relationships between variables were assessed. A p value <0.05 was considered as statistically significant. Categorical variables were described using frequency tables or bar charts and compared between the professional groups using Pearson's chi square test. Quantitative variables were described using mean and standard deviation, and compared between the professional groups using one-way ANOVA and post-hoc Bonferroni tests. The knowledge score was generated by summing up responses to questions 2.1 to 2.8 and expressing it as a percentage out of a total of 31 possible responses.

CHAPTER FOUR

STATISTICAL METHODOLOGY

4.1 DEMOGRAPHICS

In order to achieve a true representation of the various groups of disciplines in the KHC, the researcher aimed to receive a similar percentage of responses compared to the percentage of the total population. The completed questionnaires were returned in a more or less representative fashion as shown in Table 4.1 below.

Table 4.1 The percentage of responses received, compared to the total population for each professional group

Group of Disciplines	% of total population (n = 975)	% of respondents (n = 292)
1. Medical Doctors	18.56%	18.49%
2. Nurses	73.13%	72.95%
3. Therapists	3.18%	3.43%
4. Other healthcare professions	5.13%	5.14%

For the purposes of this research, at least 30% of each professional group was used to form the sample. Of the 292 participants in this study, the majority (73%, n = 213) were nurses. There were 54 (18.5%) doctors and 15 (5%) other healthcare professionals (incl. dentists, orthotists, prosthetists, pharmacologists and radiographers), while there were only 10 (3.4%) therapists (incl. clinical psychologists, dieticians, occupational therapists, physiotherapists and social workers).

The mean age of the total sample was 37.3 years (± 10.4 years). The age differed significantly between the professions ($p < 0.001$). Table 4.2 shows the mean ages of each professional group, as well as the years of working experience at KHC. It is clear that nurses were the oldest professional group, while doctors, other healthcare professions and therapists were relatively similar in age. Bonferroni post-hoc tests showed that nurses were significantly ($p < 0.001$) older than all other groups and that the other groups were not significantly different in age to each other ($p > 0.05$).

Table 4.2 also indicates that on average the total sample had been working for 9.6 years (± 9.3 years) at KHC. Again, there was a highly significant difference in years working at KHC between the professional groups ($p < 0.001$), with nurses working for a significantly longer time period than each of the other professional groups ($p < 0.001$). The other professional groups, however, had not been working for a significantly different number of years from each other.

Table 4.2: Descriptive statistics for age and years working at KHC by professional group

Main profession		Age	Years working
Doctor	Mean	30.94	2.88
	N	54	53
	Std. Deviation	9.6	4.75
Nurse	Mean	40.35	12.1
	N	190	202
	Std. Deviation	9.49	9.39
Therapist	Mean	25.89	1.65
	N	9	10
	Std. Deviation	3.48	1.4
Other healthcare professions	Mean	27.80	4.67
	N	15	15
	Std. Deviation	6.01	7.56
Total	Mean	37.26	9.58
	N	268	280
	Std. Deviation	10.42	9.35

Overall, 79% of the total sample was female. Table 4.3 shows 90% of nurses and therapists were female, while approximately half the doctors and other healthcare professionals were male.

Table 4.3: Gender by main professional group

			Gender		Total
			Male	Female	
Main profession	Doctor	Count	30	23	53
		% within Main professional group	56.6%	43.4%	100%
	Nurse	Count	23	188	211
		% within Main professional group	10.9%	89.1%	100%
	Therapist	Count	1	9	10
		% within Main professional group	10%	90%	100%
	Other health care professions	Count	7	8	15
		% within Main professional group	46.7%	53.3%	100%
Total		Count	61	228	289
		% within Main professional group	21.1%	78.9%	100%

$X^2 = 59.9$, $p < 0.001$

Table 4.4 illustrates that ethnic groups differed significantly between professions ($p < 0.001$). Doctors and therapists were mainly White, while nurses were mainly Black or Coloured, and other healthcare professions were evenly distributed between the race groups.

Table 4.4: Race group by main professional group

			Race group				Total
			Black	White	Coloured	Other	
Main professional group	Doctor	Count	9	27	8	9	53
		% within Main professional group	17%	50.9%	15.1%	17%	100%
	Nurse	Count	100	8	98	4	210
		% within Main professional group	47.6%	3.8%	46.7%	1.9%	100%
	Therapist	Count	1	7	2	0	10
		% within Main professional group	10%	70%	20%	0%	100%
	Other healthcare professions	Count	3	4	5	3	15
		% within Main professional group	20%	26.7%	33.3%	20%	100%
Total		Count	113	46	113	16	288
		% within Main professional group	39.2%	16%	39.2%	5.6%	100%

$X^2 = 121$, $p < 0.001$

4.2 THE GENERAL KNOWLEDGE ABOUT CHIROPRACTIC

4.2.1 Knowledge assessment:

Table 4.5 shows the responses to questions 2.1 to 2.6 by the professional group. There were significantly different responses between the professional groups for questions 2.3.1, 2.3.3, 2.4, 2.5 and 2.6. For example, for question 2.3.1, doctors and other healthcare professionals thought that chiropractic was not covered by medical aid, whilst nurses and therapists believed that chiropractic was covered (p = 0.01). The majority of nurses (71.2%, n = 79) thought that chiropractic was covered by Worker's compensation, but very few therapists (25%, n = 2) thought this.

Table 4.5 Responses to questions regarding knowledge of chiropractic (Questions 2.1 to 2.6) by professional group:

Questions 2.1-2.6		Main professional group								p value
		Doctor		Nurse		Therapist		Other healthcare professions		
		Count	%	Count	%	Count	%	Count	%	
2.1 Is chiropractic a legally recognised profession in SA?	yes	50	96.2%	190	92.2%	10	100%	14	100%	0.414
	no	2	3.8%	16	7.8%	0	0%	0	0%	
2.2 Would a practicing chiropractor be required to register with a statutory body?	yes	51	98.1%	195	97%	10	100%	15	100%	0.826
	no	1	1.9%	6	3%	0	0%	0	0%	
2.3.1 Is chiropractic covered by medical aid in SA?	yes	37	72.5%	153	87.9%	9	90%	10	71.4%	**0.031**
	no	14	27.5%	21	12.1%	1	10%	4	28.6%	
2.3.2 Is chiropractic covered by Road Accident Fund in SA?	yes	22	46.8%	60	60.6%	4	44.4%	7	50%	0.308
	no	25	53.2%	39	39.4%	5	55.6%	7	50%	
2.3.3 Is chiropractic covered by Workers Compensation in SA?	yes	24	52.2%	79	71.2%	2	25%	7	50%	**0.01**
	no	22	47.8%	32	28.8%	6	75%	7	50%	
2.4 How long has chiropractic existed as a legally recognised medical profession in SA?	<10 years	19	37.3%	115	62.2%	3	30%	9	60%	**0.031**
	11-50 years	28	54.9%	54	29.2%	5	50%	5	33.3%	
	51-100 years	2	3.9%	11	5.9%	2	20%	1	6.7%	
	<100 years	2	3.9%	5	2.7%	0	0%	0	0%	
2.5 How long does it take to train as a chiropractor in SA?	<1-2 years	4	7.4%	21	10.3%	0	0%	0	0%	**0.007**
	3 years	14	25.9%	53	26%	1	10%	5	33.3%	
	4 years	16	29.6%	73	35.8%	0	0%	6	40%	
	5 years	9	16.7%	24	11.8%	6	60%	1	6.7%	
	6 years	9	16.7%	21	10.3%	1	10%	3	20%	
	7-10 years	2	3.7%	12	5.9%	2	20%	0	0%	
2.6 What qualification does the chiropractic course in SA lead to?	Matric	3	5.6%	13	6.4%	0	0%	0	0%	**0.003**
	Certificate	0	0%	11	5.4%	0	0%	1	6.7%	
	Diploma	14	25.9%	58	28.6%	2	20%	3	20%	
	Degree	22	40.7%	69	34%	0	0%	7	46.7%	
	Honours	2	3.7%	12	5.9%	1	10%	0	0%	
	Masters	11	20.4%	17	8.4%	5	50%	0	0%	
	Specialist	2	3.7%	23	11.3%	2	20%	4	26.7%	

Figure 4.1 shows the differences in the responses to the subjects the various professional groups believed are included in the chiropractic curriculum.

Most participants were aware of the fact that Anatomy and Physiology are included in the chiropractic curriculum. While more doctors (66.7%, n = 36; 40.7%, n = 22) and therapists (70%, n = 7; 60%, n = 6) believed that Diagnostics and Emergency Medical Care is included in the curriculum, than the nurses (44.6%, n = 95; 24.9%, n = 53) or other healthcare professions (53.3%, n = 8.)

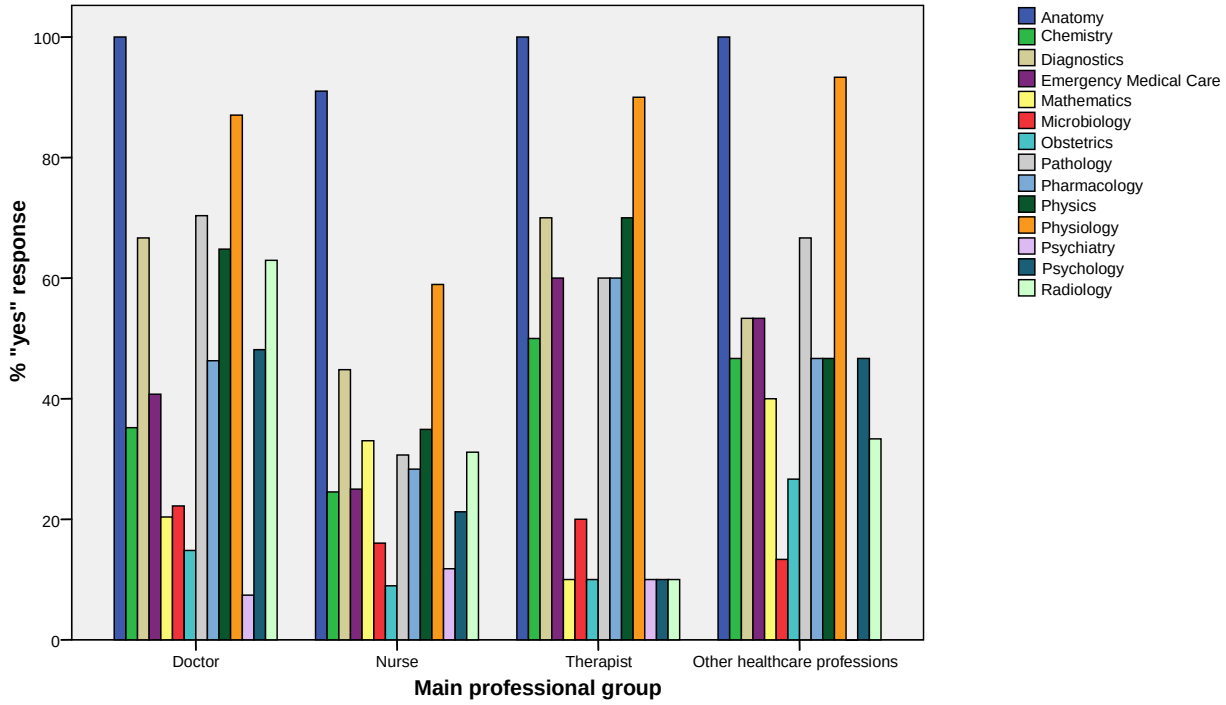

Figure 4.1: Percentage of positive responses by professional group to the question: "Which of the following subjects do you think are included in the chiropractic curriculum?"

Few participants were aware that chiropractors specialize in neurology, paediatrics and radiology. Whilst few nurses and therapists were aware that chiropractors could specialize in rehabilitation, as indicated in Table 4.6.

Table 4.6: Percentage of positive responses by main professional group to the question 2.8: "Can chiropractors obtain post-graduate qualifications in the following?"

	Main professional group								p value
	Doctor		Nurse		Therapist		Other healthcare professions		
	Count	%	Count	%	Count	%	Count	%	
Anaesthetics	3	5.6%	20	9.4%	0	0%	3	20%	0.255
Extremities	42	77.8%	137	64.3%	8	80%	11	73.3%	0.209
Dermatology	1	1.9%	13	6.1%	0	0%	1	6.7%	0.528
Neurology	22	40.7%	73	34.3%	1	10%	5	33.3%	0.309
Paediatrics	10	18.5%	20	9.4%	2	20%	4	26.7%	0.071
Radiology	13	24.1%	30	14.1%	1	10%	2	13.3%	0.311
Rehabilitation	42	77.8%	82	38.5%	4	40%	8	53.3%	**<0.001**
Sports Medicine	44	81.5%	104	48.8%	8	80%	11	73.3%	**<0.001**
Surgery	4	7.4%	38	17.8%	1	10%	2	13.3%	0.273

Knowledge score was generated by summing up responses to questions 2.1 to 2.8 and expressing it as a percentage out of 31 possible responses. The percentage was then compared between the four main professional groups. There was a statistically significant difference between the mean knowledge score percentage of the four professional groups ($p < 0.001$). Figure 4.2 shows that doctors scored highest (62.5%), followed closely by therapists (61.6%), other healthcare professionals (56.8%) and nurses had the least knowledge of chiropractic (48%).

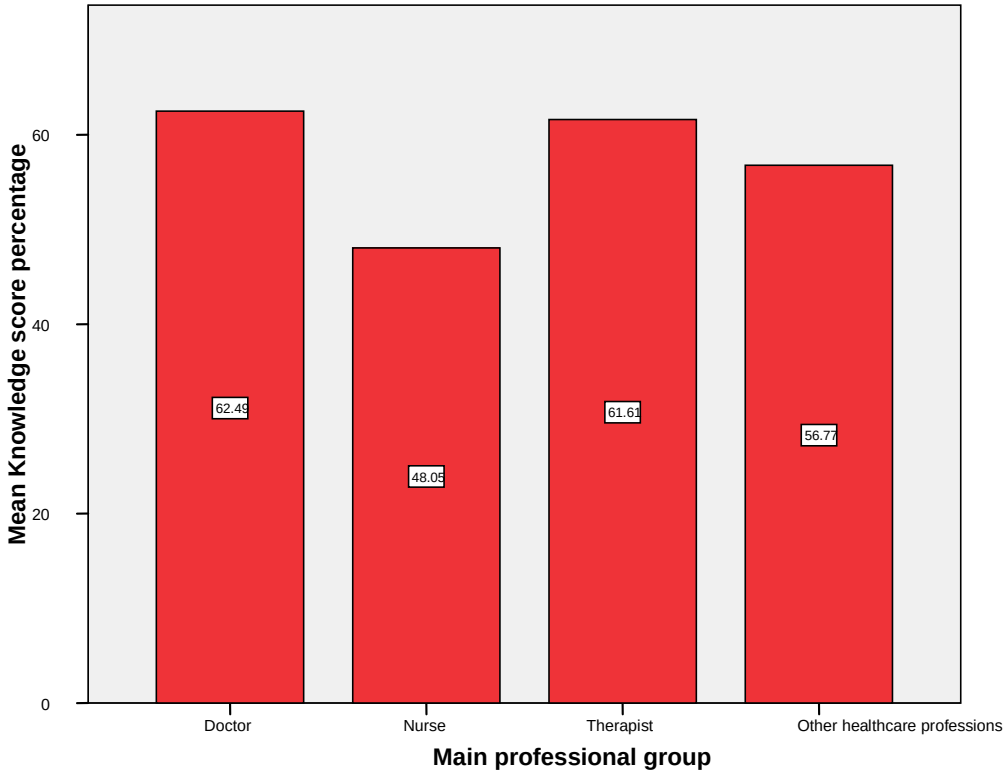

Figure 4.2: Mean knowledge score percentage by main professional group

Table 4.7: ANOVA comparison of mean knowledge score percentage between the four professional groups with Bonferroni multiple comparison post-hoc tests

	Sum of Squares	df	Mean Square	F	p value
Between Groups	10480.396	3	3493.465	27.017	**<0.001**
Within Groups	37240.586	288	129.308		
Total	47720.981	291			

Table 4.7 continued:

(A) Main profession	(B) Main professional group	Mean Difference (A-B)	Std. Error	p value	95% Confidence Interval	
Doctor	Nurse	14.43115	1.73253	**<0.001**	9.829	19.034
	Therapist	.87216	3.91476	1	-9.528	11.272
	Other	5.71087	3.31890	0.518	-3.106	14.528
Nurse	Doctor	-14.43115	1.73253	**<0.001**	-19.034	-9.829
	Therapist	-13.55899	3.67938	**0.002**	-23.334	-3.784
	Other	-8.72028	3.03769	**0.026**	-16.79	-0.65
Therapist	Doctor	-.87216	3.91476	1	-11.272	9.528
	Nurse	13.55899	3.67938	**0.002**	3.784	23.334
	Other	4.83871	4.64233	1	-7.494	17.172
Other healthcare professions	Doctor	-5.71087	3.31890	0.518	-14.528	3.106
	Nurse	8.72028	3.03769	**0.026**	0.65	16.79
	Therapist	-4.83871	4.64233	1	-17.172	7.494

4.2.2 Self-reported knowledge of chiropractic:

Therapists had a marginally higher median self-reported knowledge of chiropractic for Question 4.2.9: “How would you rate your knowledge of chiropractic (from 1 [poor] to 5 [great])”, than the other professional groups, but the difference was not statistically significant (p = 0.141). Overall, the median rating was 2 out of a maximum score of 5. Thus, overall, participants felt their knowledge of chiropractic was relatively poor (Figure 4.3).

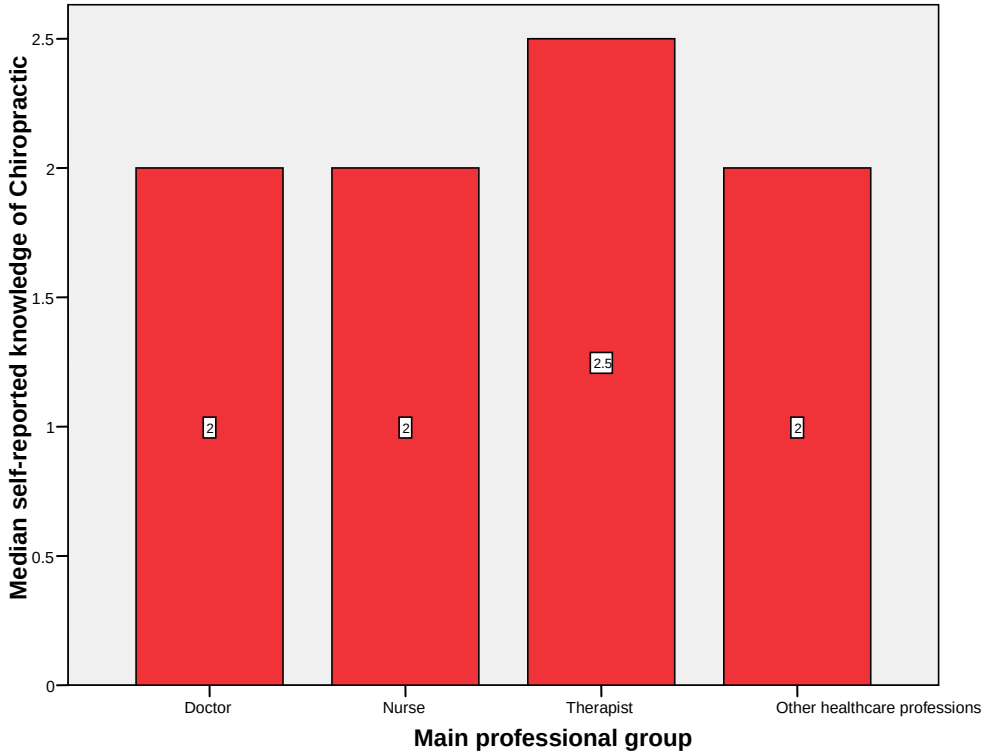

Figure 4.3: Median self-reported knowledge of chiropractic score by professional group (Question 4.2.9)

Table 4.8 shows that most professional groups gained knowledge of chiropractic by word of mouth, followed by media exposure and being treated by a chiropractor respectively (n = 114, 39%; n = 36, 12.3%). Therapists, however, had the most personal contact with chiropractors (n = 5, 50%).

Table 4.8: Methods of gaining knowledge on chiropractic by professional groups (Question 4.2.10)

	Main professional group									
	Doctor		Nurse		Therapist		Other healthcare professions		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
From other professionals	6	11.1%	18	8.5%	3	30%	1	6.7%	28	9.6%
Been treated by a chiropractor	1	1.9%	34	16%	0	0%	1	6.7%	36	12.3%
Media	11	20.4%	22	10.3%	1	10%	2	13.3%	36	12.3%
Personal contact	17	31.5%	52	24.4%	5	50%	2	13.3%	76	26.%
Scientific publications	2	3.7%	2	.9%	1	10%	0	0%	5	1.7%
Word of mouth	18	33.3%	83	39%	3	30%	10	66.7%	114	39.%
Other	5	9.3%	23	10.8%	1	10%	4	26.7%	33	11.3%

Nurses and therapists were significantly more likely to have been treated by a chiropractor previously, than doctors or other healthcare professionals (p = 0.05). This is shown in Table 4.9. Overall, however, only 16.8% (n = 49) of respondents had been treated by a chiropractor.

Table 4.9: Response to Question 2.9: "Have you ever been treated by a chiropractor?" by professional group

			Main professional group				Total
			Doctor	Nurse	Therapist	Other healthcare professions	
2.9 Have you ever been treated by a chiropractor?	Yes	Count	3	43	2	1	49
		% within Main professional group	5.6%	20.2%	20%	6.7%	16.8%
	No	Count	51	170	8	14	243
		% within Main professional group	94.4%	79.8%	80%	93.3%	83.2%
Total		Count	54	213	10	15	292
		% within Main professional group	100%	100%	100%	100%	100%

X^2 = 7.816; p=0.05

Of the respondents who had previously received chiropractic treatment, the most common place for the treatment was at the hospital (Figure 4.4). Therapists, however, were equally likely to be treated in private practice as in hospital.

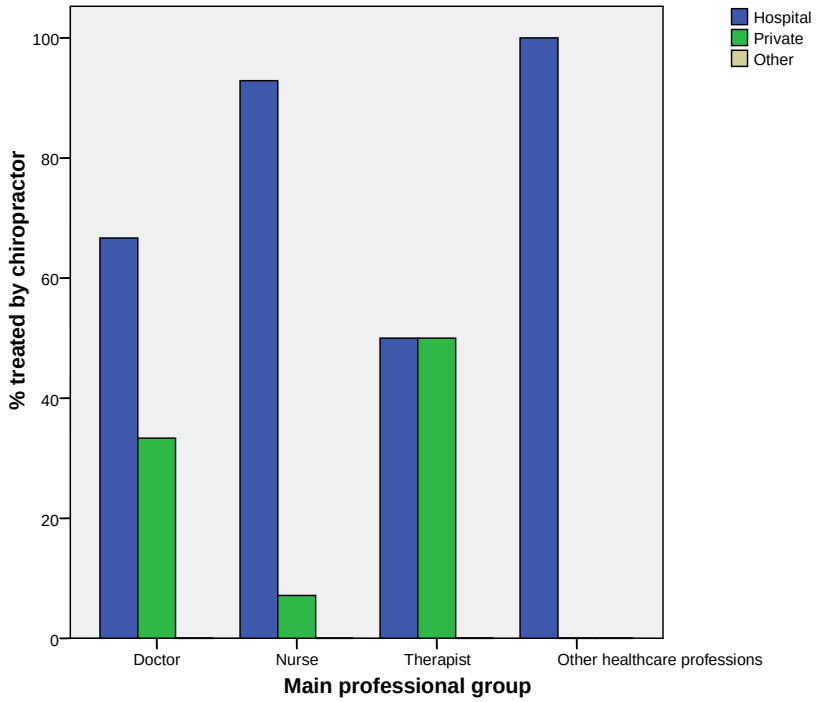

Figure 4.4: Place of treatment for those who had been treated by a chiropractor by professional group

4.2.3 Attitude towards chiropractic:

Questions 2.11.1 to 2.13 questioned the attitude of the respondents toward chiropractic. Attitudes differed between the professions in terms of whether chiropractic was an alternative healthcare service ($p < 0.001$). Doctors and therapists felt that it was an alternative therapy, while nurses tended to disagree (Table 4.10).

Therapists and doctors felt that chiropractic was not accessible to everyone ($p < 0.001$), however, 79% (n = 230) of all respondents felt that chiropractic was needed in a state hospital, while most respondents (79.2%; n = 224) felt that chiropractic and physiotherapy were sufficiently different professions.

Table 4.10: Attitude towards chiropractic by professional group (Question 2.11 to 2.13)

Questions 2.11.1-2.13		Main professional group										p value
		Doctor		Nurse		Therapist		Other healthcare professionals		Total		
		Count	%	Count	%	Count	%	Count	%	Count	%	
2.11.1 A primary healthcare service		16	29.6%	91	43.3%	1	10%	5	33.3%	113	39.1%	0.061
2.11.2 A secondary healthcare service		28	51.9%	91	42.9%	6	60%	6	46.2%	131	45.3%	0.514
2.11.3 An alternative healthcare service		42	77.8%	93	44.3%	10	100%	9	69.2%	154	53.7%	**<0.001**
2.11.4 Should be covered by medical aid		38	70.4%	145	68.7%	10	100%	12	80%	205	70.7%	0.487
2.11.5 Should be recognised by law		42	77.8%	133	63.3%	10	100%	12	85.7%	197	68.4%	0.077
2.11.6 Is affordable		28	52.8%	95	45.2%	4	40%	5	35.7%	132	46%	0.069
2.11.7 Is accessible to everyone		8	14.8%	101	48.1%	1	10%	7	46.7%	117	40.5%	**<0.001**
2.11.8 Lacking scientific background		16	30.2%	47	22.4%	2	20%	4	28.6%	69	24%	0.851
2.11.9 Needed in State hospitals		40	74.1%	171	80.7%	8	80%	11	73.3%	230	79%	0.489
2.12 There is sufficient difference between chiropractic and physiotherapy	yes	45	84.9%	157	76.2%	10	100%	12	85.7%	224	79.2%	0.162
	no	8	15.1%	49	23.8%	0	0%	2	14.3%	59	20.8%	
2.13The chiropractic profession is well promoted in SA	yes	1	1.9%	54	26.2%	1	10%	0	0%	56	19.7%	**<0.001**
	no	52	98.1%	152	73.8%	9	90%	15	100%	228	80.3%	

4.3 THE UNDERSTANDING OF THE SCOPE OF CHIROPRACTIC PRACTICE

The positive responses to questions regarding the scope of chiropractic (Questions 3.1 to 3.5), are shown by professional group in Table 4.11. Only 56.6% (n = 30) of doctors felt chiropractors were competent in the general medical management of patients, while 78.6% (n = 151) of nurses, 90% (n = 9) of therapists and 86.7% (n = 13) of other healthcare professionals, felt chiropractors were competent in the general medical management (p = 0.004). There were several differences between the professions in terms of what systems they felt a chiropractor was competent in examining, specifically the abdominal system (p = 0.026) and vital signs (p = 0.001) where nurses (23%, n = 49; 39%, n = 83) were less inclined to respond positively than the other professions.

Only a small percentage of respondents were aware of the fact that chiropractors are competent in examining the abdominal system (21.9%, n = 64), genito-urinary system (9.6%, n = 28) and respiratory system (20.3%, n = 59). Very few respondents knew that chiropractors are competent in the following treatment modalities: soft laser (17.5%, n = 51); ultrasound (12.3%, n = 36); UV light therapy (22.3%, n = 65) or that chiropractors are trained in giving ergonomic (23.3%, n = 68) and dietary advice (26.4%, n = 77).

Table 4.11: Positive responses regarding the scope of chiropractic by professional group (Question 3.1 to 3.5)

		Main professional group										p value
		Doctor		Nurse		Therapist		Other healthcare professions		Total		
		Count	%	Count	%	Count	%	Count	%	Count	%	
3.1 Do you believe chiropractors to be competent in the general medical management of patients?		30	56.6%	151	78.6%	9	90%	13	86.7%	203	75.2%	**0.004**
3.2.1 Do you believe chiropractors to be competent in the examination of the musculoskeletal (MS) system?		51	100%	203	100%	10	100%	15	100%	279	96.9%	0.714
3.2.2 Do you believe chiropractors to be competent in the examination of the neuromuscular (NM) system?		42	100%	174	100%	5	100%	13	100%	234	81%	0.082
3.3.1 Do you believe chiropractors to be competent in the diagnosis of MS conditions?		48	100%	193	100%	10	100%	15	100%	226	92%	0.491
3.3.2 Do you believe chiropractors to be competent in the diagnosis of NM conditions?		37	100%	158	100%	5	100%	12	100%	212	73.1%	0.309
3.4 What system/s would you expect a chiropractor to be competent to examine in his/her assessment of a patient?	Abdominal	6	11.1%	49	23%	2	20%	7	46.7%	64	21.9%	**0.026**
	Cardio-vascular	10	18.5%	61	28.6%	3	30%	4	26.7%	78	26.7%	0.51
	Genito-urinary	5	9.3%	21	9.9%	1	10%	1	6.7%	28	9.6%	0.982
	Musculoskeletal	51	94.4%	186	87.3%	10	100%	15	100%	262	89.7%	0.139
	Neurological	39	72.2%	137	64.3%	6	60%	7	46.7%	189	64.7%	0.31
	Respiratory	9	16.7%	43	20.3%	1	10%	6	40%	59	20.3%	0.195
	Vital signs	35	64.8%	83	39%	8	80%	6	40%	132	45.2%	**0.001**
3.5 Which techniques/modalities do you expect a chiropractor to be able to use in his/her assessment of a patient?	Acupuncture	39	72.2%	144	67.6%	7	70%	9	60%	199	68.2%	0.821
	Cold therapy	38	70.4%	89	41.8%	5	50%	9	60%	141	48.3%	**0.002**
	Dietary advice	19	35.2%	52	24.4%	1	10%	5	33.3%	77	26.4%	0.227
	Dry needling	30	55.6%	66	31%	9	90%	8	53.3%	113	38,7%	**<0.001**
	Electrotherapy	34	63%	70	32.9%	2	20%	7	46.7%	113	38.7%	**<0.001**
	Ergonomics	34	63%	20	9.4%	9	90%	5	33.3%	68	23.3%	**<0.001**
	Heat therapy	46	85.2%	134	62.9%	8	80%	10	66.7%	198	67.8%	**0.015**
	Intra-articular injections	15	27.8%	69	32.4%	3	30%	6	40%	93	31.8%	0.971
	Intra-articular joint aspirations	9	16.7%	59	27.8%	1	10%	5	33.3%	74	25.4%	0.205
	Joint mobilization	40	74.1%	129	60.6%	9	90%	12	80%	190	65.1%	**0.045**
	Manipulation of extremities	46	85.2%	75	35.2%	8	80%	12	80%	141	48.3%	**<0.001**
	Manipulation of spine	40	74.1%	83	39%	10	100%	12	80%	145	49.7%	**<0.001**
	Massage	40	74.1%	151	70.9%	7	70%	12	80%	210	71.9%	0.864

Table 4.11 continued:

	Soft laser	16	29.6%	33	15.5%	1	10%	1	6.7%	51	17.5%	0.052
	Stretching	41	75.9%	94	44.1%	8	80%	12	80%	155	53.1%	**<0.001**
	Traction	32	59.3%	61	28.6%	5	50%	8	53.3%	106	36.3%	**<0.001**
	Ultra-sound	10	18.5%	24	11.3%	1	10%	1	6.7%	36	12.3%	0.452
	Ultra-violet light therapy	18	33.3%	45	21.1%	1	10%	1	6.7%	65	22.3%	0.073

4.4 PERCEIVED ROLE AND LEVEL OF COMMUNICATION WITH CHIROPRACTIC IN KHC AND IN SOUTH AFRICA

Overall, only 27.7% (n = 75) of the respondents felt that chiropractic was well integrated into the SA hospital system, as reflected in Table 4.12. This was also significantly differently answered between the professions (p < 0.001); with nurses being more likely to think that chiropractic was well integrated into the hospital system (36.2%, n = 72). More than 95.4% (n = 268) of the respondents believed that SA would benefit from having chiropractors in state hospitals.

Table 4.12: Responses to questions on the role of chiropractic in the South African healthcare system by professional group

Questions 4.1.2 - 4.1.4 4.1.7 & 4.1.8		Main professional group										p value
		Doctor		Nurse		Therapist		Other healthcare professions		Total		
		Count	%	Count	%	Count	%	Count	%	Count	%	
4.1.2 Do other SA state hospitals have chiropractic on their permanent staff?		13	31.7%	71	39.4%	3	30%	3	37.5%	90	37.7%	0.774
4.1.3 Is chiropractic well integrated into the SA hospital system?		1	2%	72	36.2%	1	10%	1	8.3%	75	27.7%	**<0.001**
4.1.4 Would SA hospitals benefit from chiropractic care?		46	92%	200	96.6%	10	100%	12	85.7%	268	95.4%	0.141
*4.1.7 Which statement best reflects your view of chiropractic?	1	0	0%	5	2.4%	1	10%	0	0%	6	2.1%	0.269
	2	1	1.9%	7	3.4%	1	10%	1	6.7%	10	3.5%	
	3	11	20.4%	28	13.5%	0	0%	2	13.3%	41	14.3%	
	4	14	25.9%	76	36.5%	3	30%	6	40%	99	34.5%	
	5	2	3.7%	5	2.4%	0	0%	0	0%	7	2.4%	
	6	14	25.9%	29	13.9%	3	30%	0	0%	46	16.0%	
	7	12	22.2%	58	27.9%	2	20%	6	40%	78	27.2%	
4.1.8 Should a patient ask your advice, do you feel you know enough to adequately inform them on the subject?		7	13.2%	51	24.8%	0	0%	1	6.7%	59	20.8%	0.041

*4.1.7: 1 = “Chiropractic does more harm than good”; 2 = “Chiropractic is effective for spinal conditions only”; 3 = “Chiropractic is effective for some neuro-musculoskeletal conditions”; 4 = “Chiropractors are specialists in the field of nerve, muscle and bone disorders”; 5 = “I am uncomfortable with it”; 6 = “It may be effective for some patients” and 7 = “Not informed enough to comment”.

Figure 4.5 shows the median rating of importance of specific professions by each professional group. Doctors rated the importance of chiropractic lower than all other professions in comparison to nurses who rated chiropractic highly. There was a significant difference in the median ratings between the professional groups for the chiropractic profession ($p < 0.001$); general practice ($p = 0.015$); occupational therapy ($p = 0.001$); physiotherapy ($p = 0.010$); psychology ($p = 0.003$); radiology ($p = 0.034$); and speech therapy ($p = 0.012$).

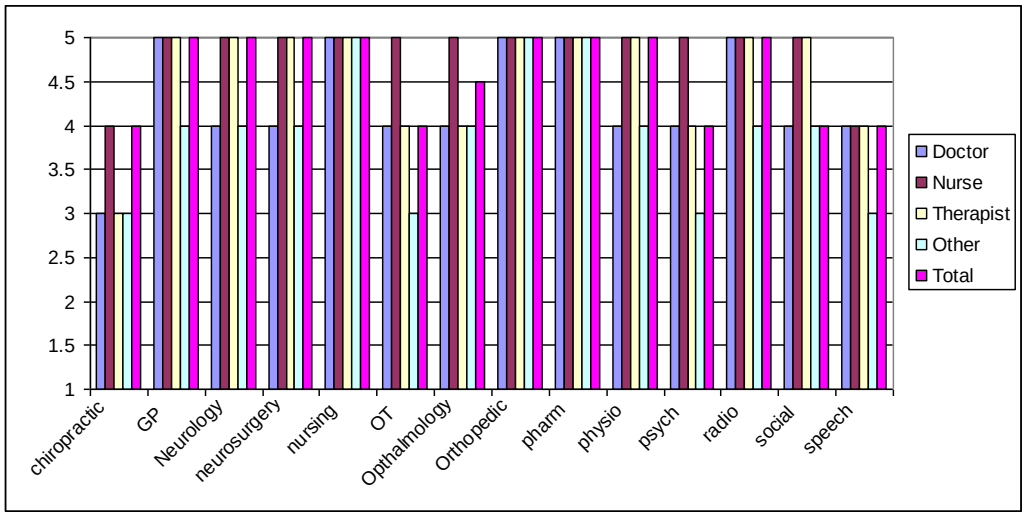

Figure 4.5: Median response to Question 4.1.6: "Please rate the following professions in terms of their importance in serving in a healthcare facility or a hospital", by professional group

For the questions (Questions 4.1.1 and 4.1.5), pertaining to the role of chiropractic at KHC, there was no significant difference in responses between the professions (Table 4.13). Therapists were more likely to report a benefit of chiropractic care to patients (100%, n = 10) and doctors were least likely (66%, n = 31), but the difference was not statistically significant (p=0.057).

Table 4.13: Responses to questions regarding the role of chiropractic in KHC by professional group

Questions 4.1.1 & 4.1.5		Main professional group										p value
		Doctor		Nurse		Therapist		Other healthcare professions		Total		
		Count	%	Count	%	Count	%	Count	%	Count	%	
4.1.1 Do the patients benefit from chiropractic care at KHC?	Yes	31	66%	162	80.2%	10	100%	9	81.8%	212	78.5%	0.057
	No	16	34%	40	19.8%	0	0%	2	18.2%	58	21.5%	
4.1.5.1 Do patients who receive chiropractic care need less analgesic medication?	Yes	21	38.9%	94	44.5%	2	20%	2	15.4%	119	41.3%	0.085
	No	3	5.6%	18	8.5%	2	20%	0	0%	23	8%	
	Don't know	30	55.6%	99	46.9%	6	60%	11	84.6%	146	50.7%	
4.1.5.2 Are there fewer repeat visits to casualty after receiving chiropractic care?	Yes	11	20.4%	58	27.9%	1	10%	2	15.4%	72	25.3%	0.17
	No	3	5.6%	27	13%	1	10%	0	0%	31	10.9%	
	Don't know	40	74.1%	123	59.1%	8	80%	11	84.6%	182	63.9%	

According to Table 4.14, there was a highly significant difference between the professions ($p < 0.001$) with regard to the level of communication that they had with the Chiropractic Department at KHC. Doctors and other healthcare professions (90.6%, n = 48; 100%, n = 14) felt the communication was not effective, while nurses and therapists (37.5%, n = 75; 50%, n = 5) were more likely to feel it was effective. Seventy percent of therapists (n = 7) felt there was effective inter-referral between the Medical and Chiropractic Departments, while this figure was much lower in the other groups ($p < 0.001$). Therapists (70%, n = 7) were significantly more likely to refer a patient to the Chiropractic Department than other groups ($p = 0.005$).

Table 4.14: Responses to questions on communication with the Chiropractic Department in KHC by professional group

Questions 4.2.1-4.2.3		Main professional group										p value
		Doctor		Nurse		Therapist		Other healthcare professions		Total		
		Count	%	Count	%	Count	%	Count	%	Count	%	
4.2.1 There is effective inter-professional communication between medical caregivers and the Chiropractic Department?	Yes	5	9.4%	75	37.5%	5	50%	0	0%	85	30.7%	**<0.001**
	No	48	90.6%	125	62.5%	5	50%	14	100%	192	69.3%	
4.2.2 There is effective inter-referral between medical staff and the Chiropractic Department?	Yes	3	5.7%	67	33.2%	7	70%	1	7.1%	78	28%	**<0.001**
	No	50	94.3%	135	66.8%	3	30%	13	92.9%	201	72%	
4.2.3 Have you ever referred a patient to the Chiropractic Department?	Yes	14	25.9%	46	22.0%	7	70%	2	14.3%	69	24%	**0.005**
	No	40	74.1%	163	78.0%	3	30%	12	85.7%	218	76%	

The professional groups responded very differently to the question on who they would refer a patient to, with a musculoskeletal condition, as shown in Figure 4.6. Doctors were more likely to refer to physiotherapists ($p < 0.001$; 72.2%, n = 39) and orthopaedic surgeons (66.7%, n = 36), while nurses (57.3%, n = 122) and other healthcare professions (60%, n = 9) were more likely to refer to chiropractors ($p < 0.001$). Doctors were more likely than any other groups to refer to neurosurgeons ($p = 0.036$; 18.5%, n = 10).

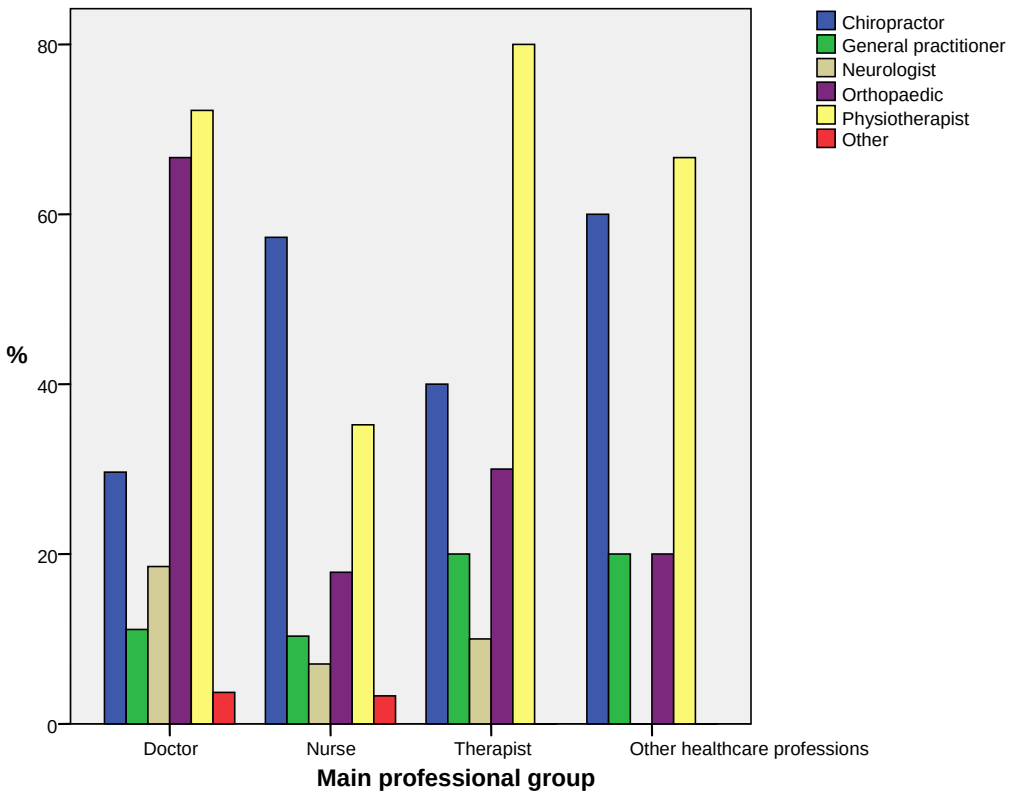

Figure 4.6: Percentage of positive responses to the question: "Who would you refer a patient to if they had a musculoskeletal condition?"

Table 4.15 illustrates how the various professions would like to receive feedback from a chiropractor once they have referred a patient or patients to the Chiropractic Department at KHC. Doctors preferred a letter (85.2%, n = 46), other healthcare professionals and therapists preferred verbal communication (60%, n = 9; 60%, n = 6) and nurses preferred a letter or personal contact with the chiropractor (60.1% n = 128; 27.7%, n = 59).

Table 4.15: Responses to best method of receiving feedback by professional group

	Main professional group										p value
	Doctor		Nurse		Therapist		Other healthcare professions		Total		
	Count	%	Count	%	Count	%	Count	%	Count	%	
Letter	46	85.2%	128	60.1%	7	70%	6	40%	187	64%	**0.001**
In person	5	9.3%	59	27.7%	0	0%	2	13.3%	66	22.6%	**0.006**
Verbally	12	22.2%	30	14.1%	6	60%	9	60%	57	19.5%	**<0.001**
None	1	1.9%	8	3.8%	0	0%	1	6.7%	10	3.4%	0.728

The percentage of positive responses to Question 4.2.6, are reflected in Table 4.16. More than half the respondents (n = 150) stated that they had never referred a patient to the Chiropractic Department at KHC. However, the majority of respondents (95.8%, n = 277) wanted to know more about the profession, as reflected in Table 4.17.

Table 4.16: Percentage of positive responses to the question: "Which of the following conditions have you referred to the Chiropractic Department?"

Question 4.2.6	Main professional group										p value
	Doctor		Nurse		Therapist		Other healthcare professions		Total		
	Count	%	Count	%	Count	%	Count	%	Count	%	
Chronic pain	12	22.2%	75	35.2%	4	40%	3	20%	94	32.2%	0.199
Colic	3	5.6%	8	3.8%	0	0%	0	0%	11	3.8%	0.693
Headaches	3	5.6%	43	20.2%	3	30%	2	13.3%	51	17.5%	0.053
Herniated disc	2	3.8%	8	3.8%	0	0%	0	0%	10	3.4%	0.808
LBP	9	16.7%	81	38%	5	50%	3	20%	98	33.6%	**0.01**
Joint sprains	6	11.1%	64	30%	0	0%	2	13.3%	72	24.7%	**0.005**
Muscle strains	4	7.4%	70	32.9%	0	0%	3	20%	77	26.4%	**<0.001**
Neck pain	6	11.1%	85	39.9%	5	50%	4	26.7%	100	34.2%	**0.001**
None	38	70.4%	99	46.5%	2	20%	11	73.3%	150	51.4%	**0.001**
Sports injury	4	7.4%	49	23%	0	0%	2	13.3%	55	18.8%	**0.022**
TMJ	1	1.9%	30	14.1%	0	0%	0	0%	31	10.6%	**0.018**
Whiplash	1	1.9%	11	5.2%	1	10%	3	20%	16	5.5%	**0.048**
Other	1	1.9%	0	0%	1	10%	0	0%	2	0.7%	**0.001**

Table 4.17: Percentage of response to the question: "Would you like to know more about the chiropractic profession?" by professional group

			Main professional group				Total
			Doctor	Nurse	Therapist	Other healthcare professions	
4.2.7	Yes	Count	51	201	10	15	277
		% within Main professional group	96.2%	95.3%	100%	100%	95.8%
	No	Count	2	10	0	0	12
		% within Main professional group	3.8%	4.7%	0%	0%	4.2%
Total		Count	53	211	10	15	289
		% within Main professional group	100%	100%	100%	100%	100%

X^2 1.285, p = 0.733

Figure 4.7 below indicates the specific aspects of the chiropractic profession that the respondents wanted to receive more information on. Information on the scope of practice and treatment procedures were commonly requested by doctors (77.8%, n = 42; 68.5%, n = 37), therapists (90%, n = 9; 80%, n = 8) and

other healthcare professions (66.7% n = 10; 86.7%, n = 13), while nurses wanted to find out more about the training a chiropractor receives (54.2%, n = 115).

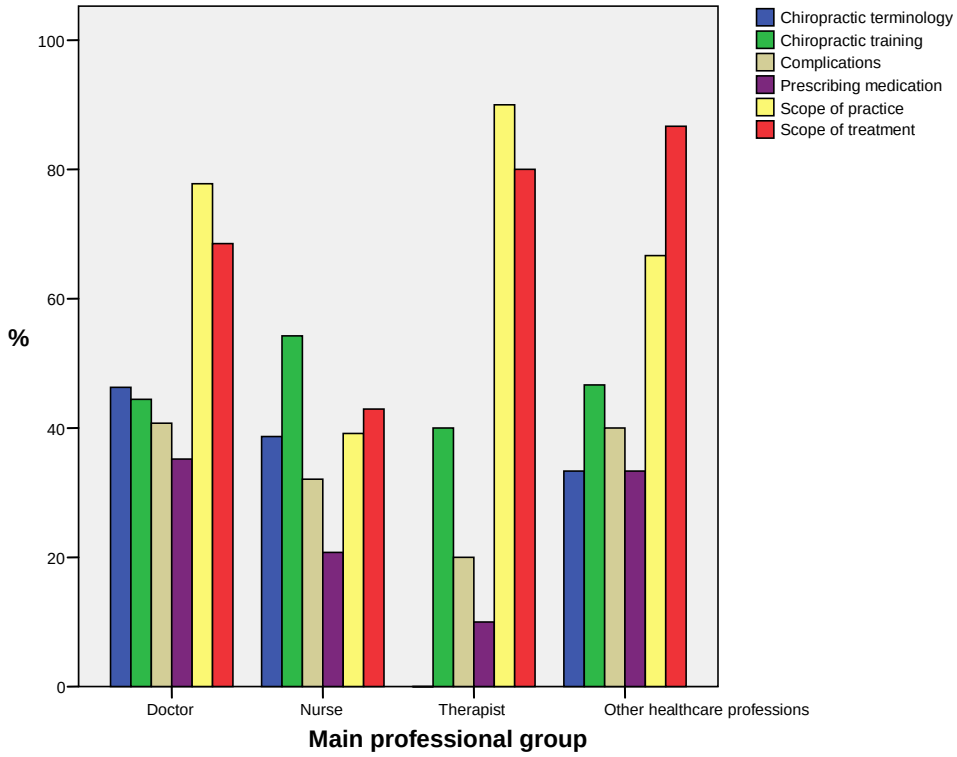

Figure 4.7: Aspects of chiropractic that respondents wanted more information on by professional group.

CHAPTER FIVE

DISCUSSION

5.1 DEMOGRAPHICS

The majority of respondents were female (78.9 %), however, of the medical doctors that responded, more were male (56.6%, n = 53). This is consistent with studies by Langworthy and Birkelid (2001) and Louw (2005) where the majority of medical doctors were also male (67% and 62.3% respectively). The mean age of the respondents was slightly younger (37.3 years) than similar studies by Langworthy and Smink (2000), Langworthy and Birkelid (2001), Hunter (2004) and Louw (2005). The majority of respondents were Black (39.2%) or Coloured (39.2%) and this is largely due to the geographic location of the hospital and possibly due to the fact that perception is often affected by the ethnicity (race) of a respondent (Van As, 2005).

5.2 GENERAL KNOWLEDGE OF CHIROPRACTIC

The self-reported knowledge of respondents about chiropractic was poor, with a mean response of two out of a possible of five. This is in keeping with similar studies done by Rubens (1996) and Langworthy and Smink, (2000). Most of the respondents gained their knowledge of chiropractic via word of mouth (39%) and personal contact (26%), similarly Langworthy and Birlkelid (2001) and Louw (2005) found that GPs gained this knowledge via patients who had previously been treated by a chiropractor. Fifty percent of the physiotherapists in KHC had personal contact with a chiropractor compared to 80% of Dutch physiotherapists who had never had contact with a chiropractor (Langworthy and Smink, 2000). The therapist group, which included clinical psychologists, dieticians, occupational therapists, physiotherapists and social workers, had the highest

self-reported knowledge of chiropractic, which is possibly due to the fact that they also had the most personal contact with chiropractors (50%, n = 5).

The mean composite knowledge of chiropractic, of the various groups of disciplines, was worked out of a total score of 100% for questions 2.1 - 2.8. Medical doctors, on average, had the most knowledge of chiropractic (62.5%), followed by therapists (61.6%) and other healthcare professions (56.8%), with nurses having the least knowledge (48%). Thus, it would be beneficial to educate all groups, but especially the nurses at KHC - particularly since many patients are referred to the Chiropractic Department by nurses.

Most of the respondents were aware that chiropractic care was covered by medical aid in SA and that chiropractors have to register with a statutory body. However, fewer respondents were aware that chiropractic is covered by the Road Accident Fund and Workman's Compensation (Table 4.5). Table 4.5 also indicates that a large proportion of respondents believed that chiropractic is a 3 - 4 year course (62%, n = 168) and leads to a degree qualification (34.5%, n = 98) and not a five year M.Tech degree (Faculty of Health Sciences Booklet, 2008).

Medical doctors (77.8%), therapists (100%) and other healthcare professions (69.2%) were more inclined to think of the chiropractic profession as an alternative healthcare service (Table 4.10). Forty-three percent of nurses and only 10% of KHC therapists perceived chiropractic as a primary healthcare service, in comparison to 55 % of Dutch physiotherapists (Langworthy and Smink, 2000). A total of 46% of respondents in KHC believe that chiropractic is affordable. This is in comparison to 59% of Dutch physiotherapists who believe chiropractic treatment is affordable (Langworthy and Smink, 2000), and may be due to the high rate of unemployment in the Northern Cape Province.

Although a large percentage of the respondents were correctly aware that Anatomy, Physiology and Pathology were part of the chiropractic curriculum

(Faculty of Health Sciences Booklet, 2008) (Figure 4.1), fewer realised that Diagnostics, Emergency Medical Care, Pharmacology and Radiology were also part of the curriculum. Roughly 94% of the doctors, 93% of the other healthcare professions and approximately 80% of the nurses and therapists had never been treated by a chiropractor (Table 4.9). Apart from the poor self-reported knowledge the respondents had of chiropractic, other factors may also have added to the low treatment rate. Firstly, there is only one chiropractor employed at KHC (Till and Till, 2000). Secondly, there is no other chiropractor practicing in Kimberly (Engelbrecht, 2008). Thirdly, just less than 80% of the doctors and all therapists believed that chiropractic was an alternative healthcare service and lastly, 80% of those questioned felt that chiropractic was poorly promoted in South Africa (Table 4.10).

A positive finding was that despite the poor knowledge of the participants and the fact that few had ever been treated by a chiropractor, 79% (n = 230) believed that chiropractic is needed in a state hospital (Table 4.10), compared to merely 13% of the Dutch physiotherapists who believed chiropractic was suitable in a hospital setting (Langworthy and Smink, 2000). Many participants believed that it is sufficiently different to physiotherapy (79.2%, n = 224) and few believed it to be unscientific (24%, n = 69) (Table 4.10), unlike in the past (Silver, 1980).

In keeping with studies done on Dutch physiotherapists and Norwegian doctors (Langworthy and Smink, 2000 and Langworthy and Birlkelid, 2001), the majority (95.8%, n = 277) of respondents wanted to learn more about the Chiropractic Department at KHC and the profession, especially pertaining to the scope and the treatment employed by chiropractors. Almost 60% of nurses on the other hand, were more interested in learning more about the training chiropractors receive.

5.3 THE UNDERSTANDING OF THE SCOPE OF CHIROPRACTIC PRACTICE

Even though many respondents (75.2%, n = 203) believed that chiropractors are competent in the general medical management of patients as seen in Table 4.11, most were unaware of the fact that chiropractors are competent in the examination of the abdominal (21.9%), genito-urinary (9.6%) and respiratory systems (20.3%). This may be attributed to the fact that most respondents were unaware that diagnostics is included in the chiropractic curriculum (Figure 4.1), as well as that Rubens (1996), Louw (2005) and Engelbrecht (2008) all suggested that many medical professions are still "uncomfortable" with chiropractic care and believe it should exist under medical supervision. Only a small percentage of respondents were aware that electrotherapy (38.7%), dietary (26.4%) and ergonomic advice (23.3%) were treatment protocols that chiropractors utilize in their treatment scope (Faculty of Health Sciences Booklet, 2008) and only 39% of nurses were aware that chiropractors manipulate the spine, which forms the cornerstone of the chiropractic profession (Chapman-Smith, 2000). A total of 95.4% of the respondents believe that South African hospitals would benefit from chiropractic care and many of the respondents (34.5%, n = 99) view chiropractors as specialists in the field of nerve, muscle and bone disorders.

5.4 THE PERCEIVED ROLE AND LEVEL OF COMMUNICATION WITH CHIROPRACTIC IN KHC AND IN SOUTH AFRICA

Van Zyl (2007) believes that the chiropractic profession is to blame for society's lack of knowledge of chiropractic because it fails to educate the public. Further to this, Rubens (1996) found that many orthopaedic surgeons, neurologists and neurosurgeons felt that chiropractors were incompetent in the examination and diagnosis of the neuromusculoskeletal system and conditions. In light of this and consistent with results of studies by Langworthy and Smink (2000), Langworthy and Birlkelid (2001) and Louw (2005), only 30% (n = 192) of respondents in this study thought that communication between the Chiropractic Department and other departments at KHC was effective. Many respondents would still refer musculoskeletal conditions to physiotherapists (36.5%) and orthopaedic surgeons (33.6%) first, while only a small percentage were aware of the fact that chiropractors treat conditions such as colic (3.8%), herniated discs (3.4%), TMJ disorders (10.6%) and whiplash (5.5%) (Table 4.16) and only 20.8% (n = 59) felt that they knew enough about the profession to advise a patient.

Despite this, 78.5% (n = 212) believed that patients at KHC benefit from chiropractic and an even greater percentage (95.4%, n = 268) felt that South African hospitals would benefit from chiropractic care. A total of 95.8% (n = 277) of the respondents wanted to learn more about the profession, especially pertaining to the scope of practice, treatment procedures and the training chiropractors receive. This is consistent with studies by Langworthy and Birkelid (2001) and Hunter (2004).

The results of this study seem to reflect the findings of similar studies by Rubens (1996), Langworthy and Smink (2000), Langworthy and Birlkelid (2001), Hunter (2004) and Louw (2005). The main problems highlighted by all these studies appear to be:

- Poor knowledge of what chiropractors study
- Poor knowledge on the scope of chiropractic and the treatment protocol chiropractors employ.

Thus, when it comes to KHC, there exists an opportunity for the chiropractic profession to target the issues addressed in this study and to educate the medical staff, in order to dispel current misconceptions and lack of knowledge regarding chiropractic.

5.5 HYPOTHESES

In terms of the four hypotheses that were set prior to undertaking this study, the hypothesis regarding the level of knowledge of the medical staff about chiropractic is accepted, that regarding the level of understanding of the scope of chiropractic is also accepted. The hypothesis regarding the medical staff's perception of chiropractic is rejected, as the staff had a far more positive attitude towards and perception of the role of chiropractic than similar studies by Rubens (1996), Langworthy and Smink (2000) and Louw (2005). Finally, there was a poor level of inter-professional communication with the Chiropractic Department and thus, the hypothesis regarding communication levels must be accepted.

5.6 LIMITATIONS TO THE STUDY

It must be acknowledged that questionnaires used for the purposes of research have limited reliability and validity. The only way to reduce this is to increase the sample size, thus, ideally a larger sample size would have strengthened the results of this research. Another factor that may have negatively influenced the study is that a questionnaire may lead a respondent to the correct answer and therefore, may not be a true reflection of the respondent's knowledge (Shephard, 2003).

Even though a letter of information was received that explained that the study was confidential, the fact that an informed consent form needed to be signed by the participant may have reduced the sample size because of the fear that anonymity would not be maintained. Another limiting factor may be the obscurity of the definition of the word “alternative”, as most respondents perceived chiropractors as an “alternative healthcare service”. Two perceptions of alternative medicine may exist. The first is that chiropractic may be perceived as being “alternative” because there is no prescription of medicine or invasive treatment technique employed by chiropractors (Feuling, 2001). Secondly, chiropractic may be associated with “energy medicine”, which includes such practices as “crystal therapy”. Thus, it would be beneficial to clarify the medical fraternity’s definition of the word “alternative” healthcare.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

Despite the limitations alluded to in the discussion, many valuable insights have been obtained from this survey of 292 medical staff members at KHC.

- Overall, the medical staff at Kimberly Hospital Complex (KHC) had very limited knowledge of chiropractic. Many respondents were unaware of the subjects that are included in the chiropractic curriculum (e.g. Diagnostics), or what is included in the chiropractic scope of treatment. It may be for this reason that there are a small number of referrals to the Chiropractic Department at KHC, as many still prefer to refer patients to physiotherapists and orthopaedic surgeons.

- Chiropractic is perceived to cater mainly to the upper and middle income bracket, thus, it may be considered to be too expensive for the larger part of the population and therefore, limiting its accessibility (CASA, 2005). A shortcoming of the chiropractic profession was noted by 80.3% of the respondents to be a lack of promotion of chiropractic in South Africa. This, added to the fact that there is only one chiropractor employed at KHC, may limit the number of patients able to be treated.

- Many of the respondents believed however, that chiropractors are skilled and competent in the general medical management of patients and that they are specialists in the field of nerve, muscle and bone disorders. A large proportion of the medical staff felt that South African state hospitals would benefit from having a chiropractor on the medical staff and that there is a sufficient difference between physiotherapy and chiropractic to warrant two separate professions.

- This study has highlighted the need for an educational drive at KHC in order to improve the medical staff's knowledge of the scope and treatment offered by the Chiropractic Department, as well as the need to strengthen inter-professional communication between the medical staff and the Chiropractic Department. Furthermore, it has highlighted the need to promote chiropractic in the state hospital setting.

- It would be beneficial for further studies to investigate the level of knowledge and perception of medical staff about chiropractic in other South African state hospitals where chiropractic is not integrated, in order to further address and target areas of poor knowledge or limited understanding regarding chiropractic with the aim of facilitating greater integration of chiropractic into the public healthcare system of South Africa.

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HEALTH PROFESSIONS COUNCIL OF SOUTH AFRICA

GUIDELINES FOR GOOD PRACTICE IN

THE HEALTH CARE PROFESSIONS

CONFIDENTIALITY: PROTECTING AND PROVIDING INFORMATION

(SECOND EDITION)

BOOKLET 11

PRETORIA

30th May 2007

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THE SPIRIT OF PROFESSIONAL GUIDELINES

Practice as a health care professional is based upon a relationship of mutual trust between patients and health care practitioners. The term "profession" means "a dedication, promise or commitment publicly made".[1] To be a good health care practitioner, requires a life-long commitment to sound professional and ethical practices and an overriding dedication to the interests of one's fellow human beings and society. In essence, practice as a health care professional is a moral enterprise. In this spirit the **HPCSA** presents the following ethical guidelines to guide and direct the practice of health care practitioners. These guidelines form an integral part of the standards of professional conduct against which a complaint of professional misconduct will be evaluated.

[Note: The term "health care practitioner" in these guidelines refers to persons registered with the **HPCSA**].

endangered third parties such as the spouse or partner of a patient who is HIV positive, who after counselling refuses to disclosure his or her status to such spouse or partner; or reporting a notifiable disease).

8.2.4.2 In all such cases the health care practitioner must weigh the possible harm (both to the patient, and the overall trust between practitioners and patients) against the benefits that are likely to arise from the release of information.

8.2.4.3 Examples of circumstances to protect the patient or other persons from death or serious harm, include, but are not limited to:

a. Access to prophylactic treatment for a person who has had contact with an

infectious disease, or

b. An employee with a health condition which may render him or her unable to

work safely posing a danger to co-workers or clients

c. A driver of a vehicle who requires medication to control an illness that might

impair his or her driving ability.

9. PUTTING THE PRINCIPLES INTO PRACTICE

The remainder of this booklet deals with circumstances in which health care practitioners are most frequently asked to disclose information, and provides advice on how the principles should be applied.

9.1 DISCLOSURES WHICH BENEFIT PATIENTS INDIRECTLY

9.1.1 Monitoring public health and the safety of medicines and devices:

9.1.1.1 Professional organisations and Government regulatory bodies that monitor the public health or the safety of medicines or devices, as well as registries of notifiable conditions, rely on information from patients' records for their effectiveness in safeguarding public health. For example, the effectiveness of the system of notifiable conditions depends on information provided by clinicians. Health care practitioners must co-operate by providing relevant information wherever possible. The notification of some communicable diseases is required by law and in other cases health care practitioners should provide information in anonymised form, when that would be sufficient.

9.1.1.2 Where personal information is needed, health care practitioners should seek express consent before disclosing information, whenever that is practicable. For example, where patients are receiving treatment there will usually be an opportunity for a health care practitioner to discuss disclosure of information with them.

9.1.1.3 Personal information may sometimes be sought about patients with whom health care practitioners are not in regular contact. Practitioners should therefore make sure that patients are given information about the possible value of their data in protecting public health in the longer-term, at the initial consultation or at another suitable occasion when they attend a health establishment.. It should be clear that they may object to disclosures at any point. The health care practitioner must record any objections so that patients' wishes can be respected. In such cases, the practitioner may pass on anonymised information if asked to do so.

9.1.1.4 Where patients have not expressed an objection, health care practitioners should assess the likely benefit of the disclosure to the public and commitment to confidentiality of the organisation requesting the information. If there is little or no evident public benefit, they should not disclose information without the express consent of the patient.

9.1.1.5 Where it is not practicable to seek the consent of patients for disclosure of personal information for these

purposes, or where patients are not competent to give consent, health care practitioners must consider whether the disclosures would be justified in the public interest, by weighing the benefits to public health of the disclosure against the possible detriment to the patient.

9.1.1.6 The automatic transfer of personal information to a registry, whether by electronic or other means, before informing the patient that information will be passed on, is unacceptable, save in the most exceptional circumstances. These would be where a court has already decided that there is such an overwhelming public interest in the disclosure of information to a registry that rights of patients to confidentiality are overridden; or where health care practitioners are willing and able to justify the disclosure, potentially before a court or to the **HPCSA**, on the same grounds.

9.1.2 Administration and financial audit:

9.1.2.1 Health care practitioners should record financial or other administrative data separately from clinical information and provide it in anonymised form wherever possible.

9.1.2.2 Decisions about the disclosure of clinical records for administrative or financial audit purposes, for example where medical scheme staff seek access to patients' records as part of the arrangements for medical benefit payments, are unlikely to breach the ethical rules of the **HPCSA**, provided that, before allowing access to patients' records, they follow the guidelines as set out in this booklet.. Only the relevant part of the record should be made available for scrutiny.

9.1.3 Medical research:

Where research projects depend upon using identifiable information or samples, and it is not practicable to contact patients to seek their consent, the data should be anonymised and this should be drawn to the attention of a research ethics committee.

9.1.4 Publication of case-histories and photographs:

Health care practitioners must obtain express consent from patients before publishing personal information about them in media to which the public has access, for example in journals or text books, whether or not the practitioners believe the patients can be identified. Express consent must, therefore, be sought to the publication of, for example case-histories about or photographs of patients. Where health care practitioners wish to publish information about a patient who has died, they should take into account the guidelines in this booklet before deciding whether or not to do so.

9.2 DISCLOSURES WHERE HEALTH CARE PRACTITIONERS HAVE DUAL RESPONSIBILITIES

9.2.1 Situations arise where health care practitioners have contractual obligations to third parties, such as companies or organisations, as well as obligations to patients. Such situations occur, for example when practitioners:

9.2.1.1 Provide occupational health services or medical care for employees of a company or organisation;

9.2.1.2 Are employed by an organisation such as an insurance company;

9.2.1.3 Work for an agency assessing claims for benefits;

Questionnaire

Definition of medical staff:
Dear Sir/Madam
This should not take more then 10 minutes
Please answer all questions honestly and to the best of your ability
You will remain anonymous throughout
Thank you for your time!

Please cross the relevant box, or full in the necessary information.

1. Personal Information

1.1 Gender:

☐ Male ☐ Female

1.2 Age:

_____Years

1.3 What is your ethnicity?

☐ Asian
☐ Black
☐ Coloured
☐ Indian
☐ White
☐ Other (please specify): _____.

1.4 What is your current position held at Kimberly Hospital Complex? Please tick one appropriate box only:

Medical Doctor:

☐ Clinical registrar:
☐ Medical Officer (including neurosurgeons, orthopaedic surgeons, neurologists, radiologists, psychiatrists, medical interns and community service doctors)
☐ Opthalmologist

Nurse

☐ Nurse

Therapist:

- ☐ Clinical psychologist
- ☐ Dietician
- ☐ Occupational therapist
- ☐ Physiotherapists
- ☐ Social worker

Other

- ☐ Dentists
- ☐ Orthotists/ prosthetist
- ☐ Pharmacist
- ☐ Radiographer

1.5 Regarding education:

1.5.1 Highest Qualification	
1.5.2 Year of qualification	
1.5.3 Tertiary institute qualified from	

1.6 How many years have you been working at the Kimberly Hospital Complex? (KHC)

_____Years

2. General Knowledge about Chiropractic

2.1 Is Chiropractic a legally recognised medical profession in South Africa?

☐ Yes ☐ No

2.2 Would a practising Chiropractor be required to register with a statutory body in South Africa?

☐ Yes ☐ No

2.3 Is Chiropractic covered by the following in South Africa?

	Yes	No
2.3.1 Medical aid		
2.3.2 Road accident fund		
2.3.3 Workers Compensation		

2.4 How long has Chiropractic existed as a legally recognised medical profession in South Africa?

☐ <10 years
☐ 11-50 years
☐ 51-100 years
☐ >100 years

2.5 How long do you think it takes to train as a Chiropractor in South Africa?

☐ <1-2 years
☐ 3 years
☐ 4 years
☐ 5 years
☐ 6 years
☐ 7-10 years

2.6 What qualification does the Chiropractic course in South Africa lead to?

☐ Certificate
☐ National higher certificate
☐ Diploma
☐ Bachelor's degree
☐ Honours
☐ Masters degree
☐ PhD
☐ Other: (please specify)_____.

2.7 Which of the following subjects do you think are included in the Chiropractic curriculum? (Please cross the appropriate boxes)

☐ Anatomy
☐ Chemistry
☐ Diagnostics
☐ Emergency medical care and rescue
☐ Mathematics
☐ Microbiology
☐ Obstetrics
☐ Pathology
☐ Pharmacology
☐ Physics
☐ Physiology
☐ Psychiatry
☐ Psychology
☐ Radiology

2.8 Can Chiropractors obtain further post-graduate Chiropractic qualifications in the following (more than one answer possible)?

☐ Anaesthetics
☐ Extremities (e.g. Knee, elbow, wrist, hip, ankle)
☐ Dermatology
☐ Neurology
☐ Paediatrics
☐ Radiology
☐ Rehabilitation
☐ Sports medicine
☐ Surgery

2.9 Have you ever been treated by a Chiropractor?

☐ Yes ☐ No

2.10 If you answered "yes" to 2.9, where were you treated?

☐ Hospital
☐ Private practice
☐ Other (please specify):_____.

2.11 I think Chiropractic is:

	Yes	No
2.11.1A primary health care service		
2.11.2 A secondary health care service		
2.11.3 An alternative health care service		
2.11.4 Should be covered by medical aid		
2.11.5 Should be recognised by law		
2.11.6 Is affordable		
2.11.7 Is accessible to everyone		
2.11.8 Lacking scientific background		
2.11.9 Needed in state hospitals		

2.12 Do you believe that there is sufficient difference between Chiropractic and physiotherapy to warrant two separate professions?

☐ Yes ☐ No

2.13 Do you think the Chiropractic profession is well promoted in South Africa?

☐ Yes ☐ No

3. Scope of practice of Chiropractic

3.1 Do you believe Chiropractors to be competent in general medical management of patients? (Definition of general medical management: The ability to diagnose, treat or refer the patient for optimum patient benefit.)

☐ Yes ☐ No

3.2 Do you believe Chiropractors to be competent in the examination of the:

	Yes	No
3.2.1 Musculoskeletal system		
3.2.2 Neuromuscular system		

3.3 Do you believe Chiropractors to be competent in the diagnosis of the:

	Yes	No
3.3.1 Musculoskeletal conditions		
3.3.2 Neuromuscular conditions		

3.4 What system/ systems would you expect a Chiropractor to be competent to examine in his/her assessment of a patient? (More than one answer possible)

☐ Abdominal
☐ Cardiovascular
☐ Genito–Urinary
☐ Musculoskeletal
☐ Neurological
☐ Respiratory
☐ Vital signs (Heart rate, blood pressure, respiratory rate, temperature)

3.5 Which techniques/modalities do you expect a Chiropractor to be able to use in his/her treatment of a patient? (More than one answer possible)

☐ Acupuncture
☐ Cold therapy
☐ Dietary advice
☐ Dry needling
☐ Electrotherapy (IFC, TENS)
☐ Ergonomic advice
☐ Heat therapy/ heat packs
☐ Intra-articular injections

☐ Intra-articular joint aspirations

☐ Joint mobilisation

☐ Manipulation/Adjustment of the extremities

☐ Manipulation/Adjustment of the spine

☐ Massage

☐ Soft laser

☐ Stretching

☐ Traction

☐ Ultrasound

☐ Ultraviolet light therapy

4. Chiropractic at KHC: 1) The role of Chiropractic in the health care system of South Africa

4.1.1 Do the patients benefit from Chiropractic care at the KHC?

☐ Yes ☐ No

4.1.2 Do other South African state hospitals have Chiropractic on their permanent staff?

☐ Yes ☐ No

4.1.3 Is Chiropractic well integrated into the South African hospital system?

☐ Yes ☐ No

4.1.4 Would South African hospitals benefit from Chiropractic care?

☐ Yes ☐ No

4.1.5 With respect to your experience at KHC:

	Yes	No	Don't know????
4.1.5.1 Do patients that receive Chiropractic care need less chronic analgesic medication?			
4.1.5.2 Are there fewer repeat visits to casualty after patients received Chiropractic care?			

4.1.6 Please rate each of the following professions in terms of their importance in serving in a health-care facility or a hospital (Please cross a number for each profession, with (1) indicating least important and (5) indicating most important)

□ Chiropractic	1	2	3	4	5
□ General Practice	1	2	3	4	5
□ Neurology	1	2	3	4	5
□ Neurosurgery	1	2	3	4	5
□ Nursing	1	2	3	4	5
□ Occupational therapy	1	2	3	4	5
□ Ophthalmology	1	2	3	4	5
□ Orthopaedic surgery	1	2	3	4	5
□ Pharmacology	1	2	3	4	5
□ Physiotherapy	1	2	3	4	5
□ Psychology	1	2	3	4	5
□ Radiography	1	2	3	4	5
□ Social Worker	1	2	3	4	5
□ Speech therapy	1	2	3	4	5

4.1.7. Which of the following statements best reflects your view of Chiropractic? (Please cross one box only)

☐ Chiropractic does more harm then good

☐ Chiropractic is effective for spinal conditions only

☐ Chiropractic is effective for some neuromusculoskeletal conditions

☐ Chiropractors are specialists in the field of nerve, muscle and bone disorders

☐ I am uncomfortable with it

☐ It may be effective for some patients

☐ Not informed enough to comment

4.1.8 Should a patient ask you for advice regarding Chiropractic, do you feel you know enough to adequately inform them on the subject?

☐ Yes ☐ No

4. Chiropractic at KHC: 2) Communication between the medical staff and the Chiropractic department

4.2.1 Do you believe that there is effective inter-professional communication between medical caregivers and the Chiropractic Department?

☐ Yes ☐ No

4.2.2 Do you believe that there is effective inter-referral between medical staff and the Chiropractic Department?

☐ Yes ☐ No

4.2.3 Have you ever recommended/referred a patient to the Chiropractic Department?

☐ Yes ☐ No

4.2.4 Who would you refer a patient to if they had a musculoskeletal condition?

☐ Chiropractor

☐ G.P

☐ Neurosurgeon

☐ Orthopaedic surgeon

☐ Physiotherapist

☐ Other (Please specify) _____.

4.2.5 How would you like to receive feedback regarding a patient that you referred to the Chiropractic Department?

☐ By letter

☐ In person

☐ Verbally, direct or via telephone

☐ None

4.2.6 Which of the following conditions have you referred to the Chiropractic Department (More than one answer possible):

☐ Chronic pain problems

☐ Colic (paediatric patients)

☐ Headaches

☐ Herniated disc

☐ Low back pain

☐ Joint/ligament sprains

☐ Muscle strains

☐ Neck and shoulder pain

☐ None

☐ Post orthopaedic surgery rehabilitation

☐ Sports Injury

☐ Temporomandibular joint problems

☐ Whiplash

☐ Other (please specify)_____.

4.2.7 Would you like to know more about the Chiropractic Department at KHC?

☐ Yes ☐ No

4.2.8 If you answered yes to 4.2.8 above, what would you like to know more about in order to gain a better understanding of the profession?

☐ Chiropractic terminology

☐ Chiropractic training

☐ Possible complications

☐ Prescribing medicine

☐ Scope of practice

☐ Treatment options

☐ Other (Please specify) _____.

4.2.9 How would you rate your knowledge of Chiropractic from 1 (little knowledge) to 5 (great extent of knowledge)? (Please cross one appropriate box)

1	2	3	4	5

4.2.10 How did you gain this knowledge about Chiropractic?

☐ From other GPs, specialists, physiotherapists etc

☐ I have been treated by a Chiropractor

☐ Media (radio, television, newspapers)

☐ Personal contact with a Chiropractor/ Chiropractic intern

☐ Through scientific publications

☐ Word of mouth

☐ Other (Please specify):_____.

Thank you so much for taking the time to complete this questionnaire!
Please return this questionnaire in the enclosed stamped envelope

ETHICS CLEARANCE CERTIFICATE

Student Name	**Miss J Meyer**	**Student No**	**20201971**
Ethics Reference Number	**FHSEC 010/08**	**Date of FRC Approval**	**2008/05/19**
Qualification	**M-Tech: Chiropractic**		
Research Title:	**The Knowledge and perception of the medical staff about Chiropractic care at the Kimberley Hospital Complex.**		

In terms of the ethical considerations for the conduct of research in the Faculty of Health Sciences, Durban University of Technology, this proposal meets with Institutional requirements and confirms the following ethical obligations:

1. The researcher has read and understood the research ethics policy and procedures as endorsed by the Durban University of Technology, has sufficiently answered all questions pertaining to ethics in the DUT 186 and agrees to comply with them.
2. The researcher will report any serious adverse events pertaining to the research to the Faculty of Health Sciences Research Ethics Committee.
3. The researcher will submit any major additions or changes to the research proposal after approval has been granted to the Faculty of Health Sciences Research Committee for consideration.
4. The researcher, with the supervisor and co-researchers will take full responsibility in ensuring that the protocol is adhered to.
5. ***The following section must be completed if the research involves human participants:***

	YES	NO	N/A
❖ Provision has been made to obtain informed consent of the participants	✓		
❖ Potential psychological and physical risks have been considered and minimised	✓		
❖ Provision has been made to avoid undue intrusion with regard to participants and community	✓		
❖ Rights of participants will be safe-guarded in relation to: - Measures for the protection of anonymity and the maintenance of Confidentiality.	✓		
- Access to research information and findings.	✓		
- Termination of involvement without compromise	✓		
- Misleading promises regarding benefits of the research	✓		

SIGNATURE OF STUDENT/RESEARCHER — DATE: 19/5/08

SIGNATURE OF SUPERVISOR/S — DATE: 19/5/08

SIGNATURE OF HEAD OF DEPARTMENT — DATE: 19/5/08

SIGNATURE: CHAIRPERSON OF RESEARCH ETHICS COMMITTEE — DATE: 1/12/08

DEPARTMENT OF HEALTH

LEFAPHA LA BOITEKANELO

ISEBE LEZEMPILO

DEPARTEMENT VAN GESONDHEID

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KIMBERLEY
8300

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Du Toitspan Road
Posbus X5021
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Dipatlisiso :
Imibuzo :
Navrae :

Reference :
Tshupelo :
Isalathiso :
Verwysings :

DR DG THEYS
TEL: 053 8022147
FAX: 053 8329435

Date :
Letlhupelo :
Umhla :
Datum :

7 MAY 2008

Ms Julia Meyer
Student Number: 20201971

RE: REQUEST TO DO RESEARCH

Permission is hereby granted to do your research on the Knowledge and Perception of the Medical Staff towards Chiropractic Care at Kimberley Hospital Complex.

Trusting that you will find this in order.

Thank you,

DR DG THEYS
MEDICAL DIRECTOR

Letter of Information

The research administrator
Department of Chiropractic
P.O. Box 1334
Durban 4000

Title of Research:
The knowledge and perception of the medical staff about Chiropractic care at the Kimberly Hospital Complex.

Supervisor:
Dr Nikki de Busser {M.Tech: Chiropractic; MmedSci(SportsMed)}

Student:
Julia Meyer

Brief Introduction and Purpose of the Study:
Dear Participant, I am a student currently pursuing my M. Tech: Chiropractic qualification at the Durban University of Technology.
The **aim** of this study is to determine the knowledge and perception of the medical staff about Chiropractic care at the Kimberly Hospital Complex.
This research is necessary to the Chiropractic profession because:

1. A full time Chiropractic post has been established at the KHC since January 1998. Till and Till (2000) suggested that this would give the profession an opportunity to "change the attitude of the medical staff toward Chiropractic care". Thus it would be useful to determine the perception and knowledge of the medical staff about Chiropractic care in this state facility, in view of it having been incorporated into the hospital 10 years ago.

2. The information gathered from this research may help with the integration of Chiropractic into the South African state hospital system.

Outline of the Procedures:
You'll receive an informed consent from (which needs to be signed) and a questionnaire (which needs to be answered please.) Two ballot boxes will be provided, one for the completed questionnaires, and another for the signed informed consent forms. This ensures your confidentiality.
Inclusion criteria

- You'll need to be English literate (medium used for all written communication and ward rounds in KHC is English, thus participants must be English literate).
- You must have signed the informed consent form.

Benefits: Final results will be published in a recognized journal and a manuscript will be available in the Durban University of Technology library.

Confidentiality: See procedure

Contact Persons: Should you have any questions regarding the research please contact the researcher (Julia Meyer) on the following number: 031 373 2205.
If the researcher can not be contacted please contact the supervisor on the following number: 031 373 2904 and failing that Mr. V. Singh on 031 373 2701.

Statement of agreement: I, ……...,(full name)
……..(I.D), have read this document in its entirety and understand its contents. Where I have had any questions or queries, these have been explained to me by Julia Meyer to my satisfaction. Furthermore, I fully understand that I may withdraw from this study at any stage without any adverse consequences and my future health care will not be compromised. I, therefore, voluntarily agree to participate in this study.

Subject's name:……..
Subject's signature…….……
Date……..…

Researcher's
name:……..
Researcher's signature…….……..
Date……..

Witness name…….
Witness signature……...
Date……..

The questionnaire will only take a few minutes to complete, as most of the questions require you to tick or circle the appropriate answer. There are only a few short written responses that are required. Thank you for your participation.

Informed Consent Form

Date :

Title of research project:

The knowledge and perception of the medical staff about Chiropractic care at the Kimberly Hospital Complex.

Name of supervisor : Dr. Nikki de Busser
M.Tech: Chiropractic
Tel : 031-3732533

Name of research student : Julia Meyer
Tel : 084 2994 795

Please circle the appropriate answer **YES /NO**

1. Have you read the research information sheet? Yes No
2. Have you had an opportunity to ask questions regarding this study? Yes No
3. Have you received satisfactory answers to your questions? Yes No
4. Have you had an opportunity to discuss this study? Yes No
5. Have you received enough information about this study? Yes No
6. Do you understand the implications of your involvement in this study? Yes No
7. Do you understand that you are free to withdraw from this study? Yes No
   - at any time
   - without having to give any a reason for withdrawing, and
   - without affecting your future health care.
8. Do you agree to voluntarily participate in this study Yes No
9. Who have you spoken to? _____

Please ensure that the researcher completes each section with you
If you have answered NO to any of the above, please obtain the necessary information before signing

Please Print in block letters:

Patient /Subject Name:_____ Signature: _____

Parent/ Guardian:_____ Signature:_____

Witness Name:_____ Signature:_____