

The perception, knowledge and utilization of the chiropractic profession amongst Durban University of Technology students.

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I, **Melvin Ikobeng Ralekwa**, do solemnly declare that this dissertation is representative of my own work in both conception and execution (except where acknowledgements indicate to the contrary).

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DEDICATION

This dissertation is dedicated to my grandmother Lenah Setswakae Kolokoto. Her support towards me has been amazingly immeasurable. Ke a leboga.

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ABSTRACT

Objectives: To investigate the perception, knowledge and utilization of chiropractic profession by Durban University of Technology students.

Methods: One thousand quantitative questionnaires were handed to students during lecture times. The sample was selected through representative sampling of all the Durban University of Technology students. The questionnaire was developed utilizing a Delphi process of focus group refinement and piloting. Data was entered on the spread sheet into the computer using SPSS version 15.0.

Results: A response rate of 94,6% (946/1000) was obtained. There was a low level of knowledge, perception and utilization of chiropractic amongst Durban University of Technology students, only 37% had knowledge about chiropractic which most of them admitted to having a fair knowledge . White females had a higher knowledge about chiropractic than any other group. The perceptions about the suitability of chiropractic to treat different conditions were low. Low back pain was the condition for which respondents most commonly consulted a chiropractor, with 30% of participants being referred by a doctor and another 30% referred by family members.

Conclusions: The overall knowledge of chiropractic in this population was relatively poor but a better perception of chiropractic existed in some ethnic groups which was not statistically significant. The results indicated that no statistic significance relationship exists between demographic factors and perception and knowledge of DUT students with respect to chiropractic.

LIST OF TABLES

- Table 4.1:** Comparison of median knowledge score between demographic and other variables.
- Table 4.2:** Spearman's correlation analysis of age vs. knowledge score.
- Table 4.3:** Responses to "Have you ever heard of Chiropractic".
- Table 4.4:** Responses to "How would you rate your level of knowledge about chiropractic profession".
- Table 4.5:** Descriptive statistics for knowledge score in the sample (n=319).
- Table 4.6:** Responses of the individual knowledge as it appears in a questionnaire Section B Q13 to Q18.
- Table 4.7:** Responses of the individual knowledge as it appears in a questionnaire Section B Q19.
- Table 4.8:** Responses to "Chiropractic treatment can be useful in which of the following conditions".
- Table 4.9:** Responses to "Is there a difference between chiropractic and the following professions" as it appears in Section C Q6.
- Table 4.10:** Response to "In your opinion, which health care provider is best suited to treat the following conditions".
- Table 4.11:** Responses to perception of chiropractic as it appears in Section C Q1-3.
- Table 4.12:** Responses to "The reasons that are thought why chiropractic is not accepted by the public".
- Table 4.13:** Responses to "Have you ever been treated by a Chiropractor".
- Table 4.14:** Responses to "Would you recommend Chiropractic to anybody else".

LISTS OF FIGURES/ GRAPHS/ CHARTS

Figure 4.1: Bar chart of referral person (n=54).

Figure 4.2: Pie chart showing satisfaction with chiropractic treatment.

Figure 4.3: Pie chart showing family members satisfaction with chiropractic care.

Figure 4.4: Percentage of respondents consulting chiropractors for each listed condition (Section A Q 22).

LIST OF APPENDICES

| | |
|---------------------|--|
| Appendix A - | Letter of Information-Focus group. |
| Appendix B - | Confidentiality Statement-Focus group. |
| Appendix C - | Informed Consent Form-Focus group. |
| Appendix D - | Code of Conduct-Focus group. |
| Appendix E - | Questionnaire-Prefocus group. |
| Appendix F - | Post Focus group/Pre Pilot Questionnaire. |
| Appendix G - | Letter of Information and Informed Consent Form. |
| Appendix H - | Instructions on how to complete the questionnaire. |
| Appendix I - | Pretest Evaluation. |
| Appendix J - | Letter of Permission- Vice Chancellor. |
| Appendix K - | Letter of Permission- Dean of Faculty. |
| Appendix L - | Letter of Permission- Head of Department. |
| Appendix M - | Letter of Request- Lecturer. |
| Appendix N - | Letter of approval by Ethics Committee. |
| Appendix O - | Permission to use a Questionnaire. |
| Appendix P - | DVD of the focus group. |

Abbreviations utilized in this dissertation

| | | |
|-------------|---|--|
| % | = | Percentage |
| DUT | = | Durban University of Technology |
| CASA | = | Chiropractic Association of South Africa |
| WFC | = | World Federation of Chiropractic |
| TCAM | = | Traditional and Complementary Alternative medicine |
| WHO | = | World Health Organization |

DEFINITION OF TERMS

Complementary and Alternative Medicine (CAM):

It is a group of diverse medical and health care systems, practices, and products that are not generally considered part of conventional medicine (Ernst *et al.*, 1995).

Construct Validity:

Establishing construct validity of a measure involves both theoretical and empirical task of determining the extent to which a measure of a construct is empirically related to the other measures with which it theoretically related (Smith, 2010).

Face Validity:

This is determined by an agreement between the researchers and those with a vested interest in the questionnaire, that on “the face of it” the tool seems valid (Smith, 2010).

Knowledge:

Information and skills acquired through experience or education (Pearsall, 2002).

Manipulation:

Refers to the adjustments performed by the hands and consists of high velocity and low amplitude thrust applied to the joints especially of the spine (Redwood and Cleveland, 2003).

Musculoskeletal system:

All the muscles, bones, joints, and related structures such as tendons and connective tissue, that functions in a movement of the parts and organs of the body (Anderson, 1990).

Perception:

A way of regarding, understanding, or interpreting something (Pearsall, 2002).

Practitioner:

A person actively engaged in an art, discipline, or profession, especially medicine (Pearsall, 2002).

Traditional Medicine:

Health practices, approaches, knowledge and beliefs which incorporate plant, animal and mineral based medicines, spiritual therapies, manual techniques and exercises, applied singularly or in combination to treat, diagnose and prevent illnesses and maintain well-being. In industrialized countries, adaptations of traditional medicine are termed “Complementary” or “Alternative” (WHO, 2009).

Table of Contents

| | |
|---|--------------|
| DEDICATION..... | i |
| ACKNOWLEDGEMENTS..... | ii |
| ABSTRACT..... | iii |
| LIST OF TABLES..... | iv |
| LIST OF FIGURES..... | v |
| LIST OF APPENDICES..... | vi |
| ABBREVIATIONS..... | vii |
| DEFINATION OF TERMS..... | viii |
| TABLE OF CONTENTS..... | x |
| <u>CHAPTER ONE: INTRODUCTION.....</u> | 1 |
| 1. 1 Introduction..... | 1 |
| 1. 2 Problem statement..... | 2 |
| 1. 3 Research Objectives..... | 2 |
| 1. 4 Rationale for this study..... | 3 |
| 1. 5 Delimitations..... | 3 |
| 1. 6 Conclusion..... | 4 |
| <u>CHAPTER TWO: LITERATURE REVIEW.....</u> | 5 |
| 2.1 Introduction..... | 5 |
| 2.2 Conceptual framework..... | 5 |
| 2.3 Perception..... | 5 |
| 2.3.1 The concept of perception..... | 5 |
| 2.3.2 Factors affecting perception..... | 6 |
| 2.3.3 Factors in the perceiver affecting perception..... | 8 |
| 2.3.4 Factors in the environment affecting perception..... | 10 |
| 2.4 Factors in the perceived object affecting perception..... | 13 |

| | |
|---|-----------|
| 2.4.1 Chiropractic..... | 13 |
| 2.4.1.1 Definition..... | 13 |
| 2.4.1.2 History of chiropractic..... | 13 |
| 2.4.1.3 Chiropractic education in South Africa..... | 14 |
| 2.4.1.4 Chiropractic and Mainstream Medicine..... | 15 |
| 2.4.1.5 Chiropractic professional growth..... | 16 |
| 2.4.2 Sound..... | 17 |
| 2.4.3 Novelty..... | 17 |
| 2.5 Conclusion..... | 19 |
| CHAPTER THREE: METHODOLOGY..... | 20 |
| 3. 1 Introduction..... | 20 |
| 3. 2 Study Design..... | 20 |
| 3. 3 Sampling..... | 20 |
| 3.3.1 Size..... | 20 |
| 3.3.2 Allocation and Procedure..... | 20 |
| 3. 4 Inclusion Criteria and Exclusion Criteria..... | 22 |
| 3.4.1 Inclusion Criteria..... | 22 |
| 3.3.2 Exclusion Criteria..... | 22 |
| 3. 5 Administration of the Questionnaire..... | 23 |
| 3. 6 Measurement Tool..... | 24 |
| 3.6.1 Questionnaire construction..... | 24 |
| 3.6.2 Questionnaire refinement..... | 25 |
| 3.6.2.1 Focus Group..... | 25 |
| 3.6.2.2 Focus Group changes to the Questionnaire..... | 26 |
| 3.6.2.3 Pilot Group..... | 28 |
| 3. 7 Data Analysis..... | 30 |

| | |
|--|---------------|
| CHAPTER FOUR: THE RESULTS AND DISCUSSION..... | 31 |
| 4. 1 Introduction..... | 31 |
| 4. 2 Data..... | 31 |
| 4. 3 Response rate..... | 31 |
| 4. 4 Descriptive analysis of participants..... | 32 |
| 4. 5 Conclusion..... | 48 |
| CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS..... | 50 |
| 5. 1 Introduction..... | 50 |
| 5.2 Conclusion..... | 50 |
| 5.3 Recommendations..... | 51 |
| REFERENCES..... | 52 |
| APPENDIX A..... | 61 |
| Letter of information- Focus Group..... | 61 |
| APPENDIX B..... | 62 |
| Confidentiality Statement- Focus Group..... | 62 |
| APPENDIX C..... | 63 |
| Informed Consent Form- Focus group..... | 63 |
| APPENDIX D..... | 64 |
| Code of conduct- Focus Group..... | 64 |
| APPENDIX E..... | 65 |
| Questionnaire- Prefocus Group..... | 65 |
| APPENDIX F..... | 71 |
| Postfocus Group/ Prepilot Questionnaire..... | 71 |
| APPENDIX G..... | 81 |
| Letter of Information and Informed Consent Form..... | 81 |
| APPENDIX H..... | 82 |
| Instructions on how to complete the questionnaire..... | 82 |

| | |
|---|-----------|
| APPENDIX I..... | 83 |
| Pretest Evaluation..... | 83 |
| APPENDIX J..... | 84 |
| Letter of permission- Vice Chancellor..... | 84 |
| APPENDIX K..... | 85 |
| Letter of permission- Dean of Faculty..... | 85 |
| APPENDIX L..... | 86 |
| Letter of permission- Head of Department..... | 86 |
| APPENDIX M..... | 87 |
| Letter of permission- Lecturer..... | 87 |
| APPENDIX N..... | 88 |
| Letter of approval by Ethics Committee..... | 88 |
| APPENDIX O..... | 89 |
| Permission to use a questionnaire..... | 89 |

CHAPTER ONE: INTRODUCTION

1.1 Introduction

“Chiropractic is a health care profession concerned with the diagnosis, treatment and prevention of mechanical disorders of the musculoskeletal system, and effects of these disorders on the functions of the nervous system and general health” (World Federation of Chiropractic, 2007). This marketed definition may, however, not be congruent with the actual perceptions held by the current and future health care consumers / students (Gaumer *et al.*, 2002). The chiropractic profession in South Africa (S.A.) is facing challenges in its development, and certain factors may have influenced the perception of chiropractic (Gaumer *et al.*, 2002), namely: socio-economic standards in S.A., consumer preference, accessibility barriers and chiropractic education in S.A.

Students are the present and future health care consumers, therefore it is important to establish the knowledge and perception of this target group as this will be a good marketing drive for the chiropractic profession amongst Durban University of Technology (DUT) students and the population as a whole as these students come from different communities and represent the diverse population of South Africa.

Therefore, this research aimed to establish students’ knowledge and perception and their utilization of chiropractic services as well as the factors that influence their knowledge and perception. This would enable a comparison to be made between practitioners’ defined perception of the profession (Gaumer *et al.*, 2002) versus the students’ perceptions; allowing for differences to be highlighted. A strategy could also be developed to minimise these differences and thereby assist with the integration of chiropractic into the public health care system particularly in previously disadvantaged groups; providing a choice of health care services for consumers. As most chiropractors are currently in the private sector, therefore it is unaffordable to the majority of the population of S.A (Chiropractic Association of South Africa, 2009) especially those who do not have medical aid schemes. In addition knowing the level of knowledge and perceptions of all student groups towards chiropractic can assist

with the decisions on how to improve their knowledge of chiropractic and therefore also its utilization (Moys, 1998).

1.2 The problem statement

To determine the perception, knowledge and utilization of the chiropractic profession by Durban University of Technology students and the factors that influence their perception, knowledge and utilization.

1.3 Research Objectives

- 1.3.1 The first objective was to determine the level of knowledge DUT students have of the chiropractic profession.

Hypothesis 1

A low level of knowledge is expected about chiropractic profession amongst DUT students.

- 1.3.2 The second objective was to determine the perception of students towards the chiropractic profession.

Hypothesis 2

A negative perception is expected about chiropractic profession amongst DUT students.

- 1.3.3 The third objective was to determine correlations between DUT students' demographic factors and the perception of the chiropractic profession.

Hypothesis 3

There was no relationship between the demographic factors and perception and knowledge of DUT students.

- 1.3.4 The fourth objective was to establish the utilisation of chiropractic services by DUT students.

Hypothesis 4

There was low utilisation of chiropractic services by DUT students.

1.4 Rationale for this study

- 1.4.1 The student population of DUT should have a better perception and knowledge of chiropractic compared to the general public due to DUT being one of the two South African institutions which have a chiropractic programme and clinic. However, this has not been determined. Therefore, this study could help to expose the existence of chiropractic clinic.
- 1.4.2 If this study was to highlight that students had a poor knowledge and / or perception then the information could be used by Chiropractic Association of South Africa (CASA) and the chiropractic programme to help market the profession amongst the students and increase their knowledge, in an appropriate manner.
- 1.4.3 The perception of DUT students about chiropractic has not been researched, and students are the present and future healthcare care consumers. Although this study was not designed to market the profession it may promote its exposure in the public sector particularly in previously disadvantaged groups and so provide another choice of health care service.

1.5 Delimitations

This study was limited to the Durban University of Technology (DUT) students, in selected departments of all the faculties.

It was assumed that the respondents to the questionnaires were honest and reflected their best knowledge and perception of what chiropractic is, thus avoiding bias and lack of validity (Mouton, 1996). According to Dyer, 1997 (as cited in Rattan, 2007), it is inevitable that in any sampling process, no matter how carefully carried out, it will always result in a sample that is less than perfectly representative of the population.

1.6 Conclusion

The aim of the study was to determine the perception, knowledge and utilization of chiropractic services by Durban University of Technology students.

Chapter Two consists of a review of related literature. Chapter Three consists of methodology, and Chapter Four consists of the results and discussion. Lastly Chapter Five consists of conclusion and recommendations.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter discusses what literature is available related to the perception, knowledge and utilization of chiropractic profession by Durban University of Technology (DUT) students and factors that influence their perception, knowledge and utilization of the profession.

2.2 Conceptual framework

This is used in research to outline possible courses of action or to present a preferred approach to an idea. Conceptual frameworks are a type of intermediate theory that attempts to connect to all aspects of an inquiry (e.g. problem definition, purpose, literature review, methodology, data collection and analysis), they can act like maps that give coherence to empirical inquiry. Because they are potentially so close to the empirical inquiry, they take different forms depending upon the research question or problem. In this study the conceptual framework is based on that of Neiss classification as it relates to perception (Bergh and Theron, 1999).

2.3 Perception

2.3.1 The concept of perception

Perception is a psychological process by which people select, organize, and interpret information to form a meaningful picture of the world (Chaffe, 1997). According to Chaffe (1997) people assume that what they perceive is actually what is taking place, and it is only when their perception of the same event differs from the perception of others, that they are forced to examine the manner in which they select, organize and interpret the events taking place around world.

In trying to explain perceptual development, the constructivist theorists emphasised the importance of “Top-down” and “Bottom-top” processes (Hayes, 1994; Eysenck and Keane, 1996). In nature, “Bottom-up” processes are affected by external input from available stimuli, whereas “Top-down” is affected by person’s expectations and previous knowledge (Hayes, 1994; Myers, 1996; Atkinson *et al.*, 2000). To some extent, Eysenck and Keane (1996) highlighted that perception could be influenced by both “Bottom-up” and “Top-down” processes as this can occur simultaneously

However, when assessing perception and knowledge, one needs to consider that these two constructs are not independent of the environment in which they are acquired or developed. The level of exposure of the perceiver (whose perception is being measured) as well as their background knowledge that they bring into the relationship between themselves, the object and the environment (Hayes, 1994; Robbins, 1996; Bergh and Theron, 1999) must be taken into consideration. In this context, the “perceived object” is the chiropractic profession, the “perceiver” is the student and the “environment” the university.

2.3.2 Factors affecting the perception

Robbins (1999) and Bergh and Theron (1999) suggest that the perception is subjective in its essence. Therefore, the subjectivity of perception can be linked to many factors. These factors may be attributed to the perceiver, the environment or the situation in which the object is being perceived (Robbins, 1999; and Bergh and Theron, 1999).

As presented by Bergh and Theron (1999) and Robbins (1996), the Neiss classification indicated the following broad categories of possible factors as presented in Table 2.1 to understand the factors that may influence perception.

Table 2.1 Neiss Classification

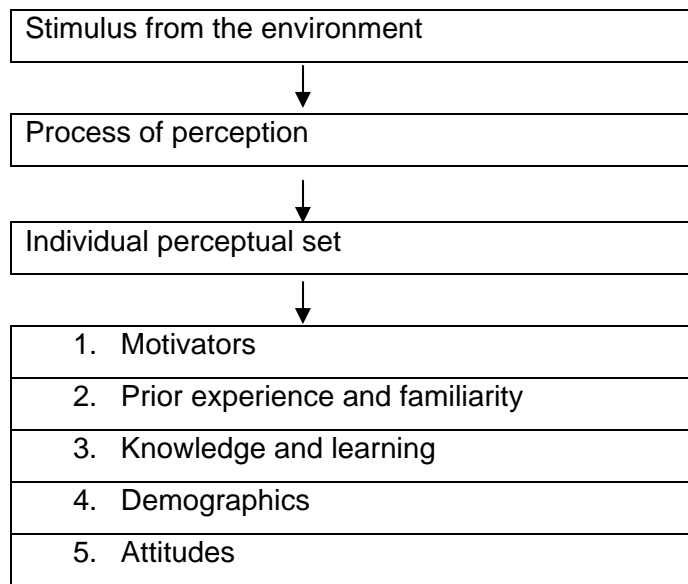
| | |
|--|---|
| Factors in the Perceiver, (The students). <ul style="list-style-type: none"> • Age • Ethnicity • Education • Culture • Language | Factors in the Object, (The chiropractic profession). <ul style="list-style-type: none"> • Chiropractic history • Professional growth • Novelty • Sound |
| Factors in the Environment, (The University). <ul style="list-style-type: none"> • Time • University setting • Social setting • Accessibility | |

With regard to this study, the factors are discussed in the context of the questionnaire which was circulated to the perceiver (students) to establish their knowledge and perception of the object (chiropractic profession) in the environment in which the situation was found (Durban University of Technology in South Africa).

2.3.3 Factors in the perceiver affecting perception

Hayes (1994) states that information is not just interpreted from immediate stimuli. Past knowledge is often used to interpret sensory information, “Top-down” process of perception development. Past knowledge and experience of the perceiver may bias the interpretation of certain stimuli, therefore affecting perception (Coren and Ward, 1989; Eysenck and Keane, 1996). This concept is known as a perceptual set and is illustrated in Table 2.2.

Table 2.2 An Individuals perceptual set



Allport (1995) believed that individuals through their perceptual set tend to perceive, select, order and interpret the world according to their respective backgrounds, assumptions and experiences. Coren and Ward (1989) further states that most of what the perceiver sees is determined by what their education, experience, and culture has 'set' them to see.

In this regard, Sawni and Tomas (2007); Sikand and Laken (1998); Goldszmidt *et al.*, (1995) studies have shown age and gender to influence paediatricians' perception of the usefulness of Complementary Alternative Medical therapy providers and also plays an important role in perception as young people have limited experience and knowledge (Haverly, 1998). In a study compiled by Rattan (2007), females showed more knowledge about chiropractic as compared to males. However, these factors have not been determined in other studies and therefore it is of significance to determine if these factors also influence DUT students.

Furthermore, the perception of usage of alternative healthcare system is further compounded by high levels of poverty (71% of people in rural areas and 50% overall) and unemployment (at least 38%), which makes it difficult for most people to belong to a medical aid scheme or pay for health services in South Africa (in some cases even for

state subsidised care) (About South Africa, 2006; Rattan, 2007). This leads to a decreased likelihood that these people would be exposed to chiropractic (Van As, 2005), which would reflect their limited understanding of the chiropractic scope of practice (Reubens, 1996; Hunter, 2004; Louw, 2005). Additionally Gale (2005) noted that limited access to resources like internet, TV and computers will also limit exposure to various healthcare options (i.e. chiropractic).

Additionally, cultural and traditional upbringing, education and educational levels of the people of the country have been found to affect the levels of knowledge as well as the perceptions that people have of different objects (Coren and Ward, 1989; Hayes, 1994; Eysenck and Keane, 1996; Myers, 1996; Atkinson, Atkinson, Smith, Bem and Nolen-Hoeksema, 2000). Dreyer (2004) also states that social considerations in terms healthcare differences that have traditionally been associated with certain cultures may also restrain access to healthcare practices outside of that culture. For example, if one grows up in a culture that utilizes mainly allopathic medicine for treatment of pain and related ailments, they are far less likely to seek care from CAM practitioners such as chiropractic, homoeopathy and phytotherapy.

These factors would therefore also play a role in the South African context where there is a large diversity of people from different ethnic, religious and traditional groups (S.A. Demographics, 2007) [i.e. at universities]. One example of this is that there are about 200 000 traditional healers in South Africa, who are consulted by approximately 80% of African Blacks (About South Africa, 2006) for their primary healthcare needs (Dreyer, 2004). This high percentage of use of traditional healers would mitigate against the use of another Traditional and Complementary Alternative medicine (TCAM professions (e.g. Chiropractic). Another example is that different cultures perceive and utilise manual medicine differently. The use of manual medicine in eastern cultures is overruling higher than in Africa (Korporaal, 2008). This too would affect the likely ratio of exposure of South African people to chiropractic as a healthcare profession as the people would tend to choose their healthcare provider based on what is known and familiar to them (Gamble and Gamble, 1998).

As far as education is concerned, another factor that might influence DUT students' perception and knowledge regarding occupational choices is School Guidance Counsellors (SGC) at secondary schools (Dusek, 1987), thus influencing the knowledge towards chiropractic as well. Therefore, it could be argued that those who attended career fairs at the university are more likely to know more about chiropractic than those who do not attend (Van As, 2005).

2.3.4 Factors in the environment affecting perception

According to Robbins (1996), various components within the environment can influence our perception, therefore the environment in which people see events or objects taking place is very vital. The environment can refer to a social setting or work that the participant (student) finds him- or herself in (university campus setting).

The perceivers (students) and environment are, however, two aspects that need to be considered, the third aspect are those factors related to the perceived object (chiropractic profession). Within this milieu the chiropractic profession was observed to be facing major challenges related to:

- a. Inter-professional relations as the average medical practitioner / biokineticist / personal trainer / pharmacist are still unaware of the benefits of chiropractic (Louw, 2005; Kew, 2006; Naidoo, 2008; Palmer, 2008).
- b. The public, where the largest challenge lies within the fact that "it is estimated that only 1% of the Black population and only 10% of the White population, have any notion of what chiropractic is" (Chiroweb, 2007) let alone utilizing the services provided.
- c. Development of strategies to increase exposure of the profession to the public. However, this has been hampered by the fact that the clinical practical programme at both Universities (DUT and University of Johannesburg) find it difficult to attain full integration into the public health services system. Additionally, the limited access to the public health services also limits the

availability of the chiropractic profession to patients that would otherwise not be exposed to it (Rattan, 2007; Myburgh and Mouton, 2008; Meyer, 2009).

From the unique characteristics highlighted within the three aspects of knowledge acquisition and perception development, it could be argued that the South African context is different to those contexts found elsewhere with regards to the public's perception of the chiropractic profession (Langworthy and Birkelid, 2001).

Internationally, the Chiropractic profession has had to establish itself against mainstream medicine as an alternative health profession (Coulter, 1999). In South Africa particularly, this has been further complicated by the socioeconomic circumstances of this country (or according to Neiss classification, the environment) (Hayes, 1994; Robbins, 1996 and Bergh and Theron, 1999). This can best be illustrated by the fact that in South Africa most chiropractors are in private practice in up market suburbs (CASA, 2005) which makes it unaffordable to the majority of the population of S.A., who do not have basic medical aid cover schemes to access such care (About South Africa, 2006; Chiroweb, 2007). Majority of South Africans do not have medical aids, therefore a large number of the population are not exposed to chiropractic profession due to affordability issues (Rattan, 2007).

Additionally, people are also driven to "consumer preference", which is the initial driving force in the demand for services (Gaumer, Koren and Gemmen, 2002). This consumer demand is complicated by the lack of practitioners within a geographical location or in some instances there are practitioners but no consumer demand (Worku, 2000; Louw, 2005 and Chiroweb, 2007). The interaction between these two factors would then also determine exposure and the likely level of knowledge acquisition and perception formation (Hayes, 1994).

In Australia and America the majority of the public prefers chiropractic treatment as opposed to medical care for low back pain (Jamison, 1995). According to Gaumer *et al.* (2002), most public consumers and future potential consumers view chiropractors as

back specialist only. However, this perception may be different from the South African's population, whose experience with healthcare may include traditional healers, herbalist, physiotherapies and other healthcare professionals (Hupkes, 1990). In addition, Breen *et al.* (2000) states that many General Practitioners are comfortable referring patients to physiotherapists because they feel they have a better understanding of the profession's scope of practice. Therefore, these factors would limit the exposure of the chiropractic profession to the general public.

Additionally, since 1994 the chiropractic profession is covered by Workman's Compensation (also known as Compensation for Occupational Injury and Disease (COIDS)). This means any injury occurring whilst at work can be treated by a chiropractor without referral from another doctor or physician. All costs if necessary - X-rays and blood tests will be reimbursed by COIDS (CASA, 2009). Thus, the general public should be aware of what chiropractic is.

2.4 Factors in the perceived object affecting perception

2.4.1 Chiropractic

2.4.1.1 Definition

The chiropractic profession is defined as "a healthcare profession concerned with the diagnosis, treatment and prevention of mechanical disorders of the musculoskeletal system and effects of these disorders on the functions of the nervous system and general health" (WFC, 2007; Chiropractic Association of South Africa and Allied Health Profession Council of South Africa, 2009).

Additionally, the Chiropractic Association of South Africa (CASA) describes chiropractic further as a hands-on, complimentary/ alternative, surgery free, medicine free healthcare profession which works on the presupposition that normal functioning of the

spine has a partial influence on good health (Chiropractic Association of South Africa, 2009).

2.4.1.2 History of chiropractic

Chiropractic has a very long history dating back to 1895 when the first official manipulation / adjustment was given (CASA, 2009). Since the inception of chiropractic over a century ago various doctrines of the profession have been challenged at length by other highly influential groups, most importantly medicine and sociology (Coulter, 1999; Wardwell, 1994). DUT students may have a low level of knowledge and poor perception about the chiropractic profession as a result of propaganda of highly influential groups to discredit and ruin chiropractic (CASA, 2005) without evidence to substantiate the claims made by the chiropractic profession (Brantingham and Snyder, 1999). However, according to Langworthy and Smink (2000), this has changed as there is increased publication of chiropractic journals and the reading of such journals might increase chiropractic awareness amongst DUT students. Additionally, negative perceptions may exist due to the fact that scientific publication is not read by the public at large (Wardwell, 1994).

Haldeman (2002) refers to the chiropractic profession as having now come to a crossroads between alternative and mainstream medicine. Although the biomedical paradigm has not fully absorbed chiropractic as a mainstream form of healthcare, the next generation should determine whether chiropractic maintains the trappings of alternative healthcare profession or whether it becomes fully integrated into healthcare systems.

2.4.1.3 Chiropractic education in South Africa

In South Africa, the only two institutions that offer chiropractic training are Durban University of Technology (former Natal Technikon) and University of Johannesburg (former Wits Technikon) (CASA, 2009). The academic programme of the chiropractic profession extends over five years of full time study after which; Master's Degree in Chiropractic is obtained. The first three years provide the learner with basic traditional medical subjects with special emphasis on diagnostic skills. The final two years of the programme emphasize the holistic nature of the profession and at the end of fifth year students are required to write a research project and dissertation. In addition to academic component, the fifth year learners receive training in the Chiropractic Day Clinic treating patients and therefore gaining experience (Faculty of Health Sciences, Department of Chiropractic, 2008).

Limited understanding of the entrance requirements to the chiropractic programmes at these institutions will also influence the knowledge of DUT students regarding the chiropractic profession. Van As (2005) found very little knowledge or understanding of what chiropractic is at the level of Career Guidance Counsellors. If these counsellors have no or limited understanding how would students or scholars be encouraged to take up chiropractic as a profession. The entrance requirements include (Faculty of Health Sciences, 2009):

- Applicants must be over 17 years of age;
- Reasonably physically fit;
- In possession of a senior certificate with matriculation exemption. Subjects must include higher grade mathematics, physical science and/ or biology and
- After an extensive screening process, which includes psychometric assessment, a number of selected candidates will be invited to interviews towards the end of the year.

2.4.1.4 Chiropractic and mainstream medicine

According to Eisenberg *et al.* (1998) earlier definitions of Complimentary Alternative Medicine (CAM) included those therapies which:

- Were not taught at medical schools,
- Were generally not provided at hospitals,
- Were lacking evidence of effectiveness and
- Were generally not reimbursed by medical aid (third party payers).

However, the above statements were deemed questionable due to the following shifts in practices (Kemper *et al.*, 2004):

- According to Ernst *et al.* (1995) in the United States (US), most medical schools now offer courses on CAM therapies and in South Africa there is some informal education on chiropractic at medical school although it is very limited (Vawda, 2010).
- In the US, CAM therapy such as acupuncture are now available at the hospitals (Ernst *et al.*, 1995), and in South Africa chiropractic has been offered at Kimberly General Hospital since 1997 (Till and Till, 2000).
- There are an increased number of mainstream medical journals which have published studies evaluating the effectiveness of CAM therapies (Ernst *et al.*, 1995). According to CASA (2009) there has been literature produced by both Durban University of Technology and University of Johannesburg since 1993 supporting the efficacy and relative effectiveness of chiropractic.
- About South Africa> Health (2006) states that nearly all medical aids cover chiropractic treatments.

Regardless of these shifts in chiropractic practice, students at Durban University of Technology might still have poor perception and limited knowledge about the chiropractic profession which may be due to lack of exposure to the profession.

2.4.1.5 Chiropractic Professional Growth

The first chiropractic students were accepted into Technikon Natal in 1989 (Till, 1997; Brantingham and Snyder, 1999), therefore the profession has had less than 20 years to establish itself against mainstream medicine as a alternative health profession in South Africa. Before 1989, the public interested in studying chiropractic had to enrol at colleges' overseas (Brantingham and Snyder, 1999). Hence school guidance counsellors may still have the notion that chiropractic can only be studied overseas. As a result of this misinformation or lack thereof the DUT students might have not being aware of chiropractic programme available at Durban University of Technology. Additionally, the perception that chiropractic training is not offered in South Africa may contribute towards a lack of knowledge about the profession.

However, during the past decade, numerous studies have highlighted the increased usage of CAM therapies, including chiropractic worldwide (Hughes and Wingard, 2006; Ernst, 2000). There has been an increase in the number of chiropractors throughout the world. For example, in 2000, there were 81 000 chiropractors, an increase of 16000 practicing chiropractors since 1989 (www.chiropracticdiplomatic.com, 2007).

According to Robbins (1996), the factors that affect our perception of certain objects are rarely observed in isolation, therefore the relationship between the object and the background in which it is observed will influence perception. Thus Robbins (1996) points out that similar people, objects or events are grouped together as a result of their uniform characteristics even if they have different features.

The following factors in the perceived object may influence perception (Hayes, 1994; Robbins, 1996 and Bergh and Theron., 1999):

- Sound and
- Novelty

2.4.2 Sound

This refers to any form of communication that takes place through hearing (Robbins, 1996). This may refer to the portrayal of the profession through word-of-mouth communication, radio or television.

2.4.3 Novelty

Despite the fact that the chiropractic profession has been around for more than a century, most of the South African public are only beginning to hear about it now. It seems more people are only now starting to understand the chiropractic profession and its benefits of non- drug approach in treating neuromuscular disorders. This may increase the level of knowledge and positively influence the public's perception, including the DUT students, of the chiropractic profession.

Most patients make use of the healthcare system in S.A. in the form of basic primary healthcare, offered at minimal charge by the state (About South Africa, 2006). Thus there is a polarization of the population in respect to their utilization to either side of the health scale (Rattan, 2007). This polarisation of people with respect to healthcare limits peoples' access to different forms of healthcare and also has the potential to affect their knowledge and perception of the profession if one accepts the conceptual framework discussed by Hayes (1994), Robbins (1996) and Bergh and Theron (1999).

Thus based on the studies done by Reubens (1996), Hunter (2004), Louw (2005), Van As (2005), Rattan (2007) and Heslop (2008) it would be seem that there is generally a low understanding of the chiropractic profession in S.A.

Hupkes (1990) stated that it is important to do as many perception studies in as many different contexts as possible, as each country will differ considerably in its culture, delivery of healthcare, education of healthcare, professional and inter-professional

relations as this might help to expose and market chiropractic profession in the environment in which DUT students surround .

As a result of this suggestion, it was decided that this research would focus on DUT students as their perception and knowledge of the chiropractic profession has not been researched despite the existence of a chiropractic clinic on campus. According to Kisten (2009) there are 20 948 students with 76% being African Black, 2% Coloured, 17% Indian, and 5% White, which adequately reflects the South African demographics (S.A. Demographics, 2007). DUT students should also be representing a microcosm of South Africa in terms of the present and future healthcare consumers (Marcquet, 2007). Additionally they seem to represent the suggested national norms of chiropractic usage (Chiroweb, 2007), where of the 1000 patients that visited the Chiropractic Day Clinic in 2007 (a period of one year) (Clinic Information System, 2009), only thirty one (31) were DUT students¹. In 2008 there was an increase, but only marginally to 68 students who visited the Chiropractic Day Clinic. This implies that less than 1% of the student population utilise the Chiropractic Day Clinic per year. “Learners need to be aware that the chiropractic course is available at Durban University of Technology and University of Johannesburg in South Africa” (Boshoff, 2006). “Furthermore the perception that chiropractic programme is not offered in South Africa may contribute towards the lack of knowledge about the existence of this profession” (Van As, 2005).

Thus, this research intended to determine the factors that influence knowledge, perception, and utilization of chiropractic specifically within the DUT student group since it could not be assumed that their knowledge and perception would be similar to the general population findings (Van As (2005), Louw (2005), Hunter (2004), Reubens (1996), and Langworthy and Birkfield (2001)).

¹ Chiropractic and homoeopathic students were excluded for this analysis.

2.5 Conclusion

Based on the discussion of the literature review, it can be stated that the public as well as the students' perception, knowledge and utilization of the chiropractic profession might have been influenced by various factors such as culture, socio-economic standards, chiropractic education in South Africa and accessibility or geographical locations.

Currently, very little quantifiable information in both South Africa and globally on younger generation's opinion and knowledge of the chiropractic profession exists and no studies have determined the knowledge and perception of DUT students with regard to the chiropractic profession.

This research therefore aimed to investigate and document the levels of perception, knowledge and utilization of DUT students regarding the chiropractic profession.

CHAPTER THREE: **METHODOLOGY**

3.1 Introduction

This chapter covers the study design, questionnaire construction, questionnaire refinement (focus group and pilot study), inclusion and exclusion criteria, sampling procedures, administration of the questionnaire and data analysis.

3.2 Study Design

Survey research is a way of collecting data from a large group of people (Dyer, 1997). Therefore the data in this quantitative study was collected by means of a questionnaire. Based on this design the research was approved by the Faculty of Health Sciences Research and Ethics Committee (Appendix N) indicating that the research fulfilled the requirements of the Declaration of the Helsinki, Belmont and Nuremberg (Johnson, 2005).

3.3 Sampling

3.3.1 Size

It was deemed sufficient that 1000 questionnaires would be appropriate for this study (Esterhuizen, 2009).

3.3.2 Allocation and procedure

One thousand full-time DUT students were selected by means of stratified sampling.

| Faculty: | Total No: of students | Sample size for the study per faculty | Department (Random Sampling)¹ | Level selection (Random Sampling)² | Campus selection (Random sampling)³ |
|---|------------------------------|--|---|--|---|
| Applied Sciences (Steve Biko ML Sultan Campuses) | 1 426 | 68 | Chemistry, Sports Studies | 2 nd Year | ML Sultan |
| Accounting & Informatics (Ritson, ML Sultan, Riverside Site and Midlands campuses) | 5 020 | 241 | Management Accounting | B-Tech | Ritson |
| Arts and Design (Steve Biko, Indumiso, Midlands, Brickfield, ML Sultan City Campuses) | 2 609 | 125 | Interior Design | 2 nd Year | City campus |
| Engineering & Built Environment (Steve Biko Campus, Indumiso, Midlands) | 4 462 | 213 | Chemical, Industrial | 1 st Year | Steve Biko |
| Health Sciences (Ritson, ML Sultan, Steve Biko campus) | 1 915 | 91 (Exclusive of Homoeopathy and Chiropractic students) | Radiography, Dental | 3 rd Year | Ritson |
| Management Sciences (MLSultan, Ritson, Riverside, Midlands Campus) | 5 496 | 262 | Marketing and Retail | 3 rd Year | ML Sultan |
| Grand Total | 20 948 | 1 000 | | | |

The sampling procedure included targeting students in all DUT faculties (i.e. Health Science, Engineering and Built Environment, Accounting and Informatics, Art and Design, Applied Sciences, and Management Sciences) and at all campuses of DUT (i.e. Steve Biko, Mansfield School, Ritson Road, ML Sultan, City, Indumiso, Brickfield and Pietermaritzburg).

¹ This sampling was done randomly as each department names were put into a hat and were selected by chance from the group of departments allocated to that faculty.

² This sampling was done randomly as each level possible for that department was put into a hat and selected by chance from the levels allocated to that faculty, if the sampling size was bigger than the level size selected then another department was selected by the same method.

³ This was only applicable for the departments that were found in two or more campuses and sampling was done randomly as the campuses names were put in a hat and selected by chance.

With the stratified sample however, the largest proportion of the respondents came from the campus with the highest student population (Paul, 2009). Thereafter, on each campus, the biggest sample came from the faculty with the highest student population and in the faculty the biggest sample came from the department with the highest student population. This ensured equal representation of the population. By so doing equal representation of all faculty departments was ensured.

Additionally, the stratified sampling resulted in a sample that was a representative sample of the university and represented a microcosm of the broad overview of South Africans (DUT student statistics, 2007 and SA demographics, 2007). Therefore the outcomes of the knowledge and perceptions of the chiropractic profession that these students have may be generalized to all students of South African.

3.4 Inclusion Criteria and Exclusion Criteria

3.4.1 Inclusion Criteria

- 1) Any non-chiropractic and non-homoeopathic student registered with DUT and present on the day that the questionnaire was distributed.
- 2) The students were full-time students and South African citizens.
- 3) No age limit.
- 4) The questionnaires were completed in English because English is the medium of instruction. There was no other validated questionnaire in another language context, because when words are taken out of context they will lose their meaning (Baynham, 1995).

3.4.2 Exclusion Criteria

- 1) Those people who did not meet the above inclusion criteria.
- 2) Chiropractic students, since they already have a knowledge of chiropractic.
- 3) Homoeopathy students, because of the commonality of the curriculum in the courses, there is an increased likelihood that there was potential to skew the data.

- 4) Focus and Pilot study groups, because they had already completed the questionnaire and discussed the questionnaire. Therefore this would be biased towards the answers because of their knowledge of the questions.

3.5 Administration of the Questionnaire

- 1) The researcher wrote a letter to the DUT vice-chancellor to ask for permission to conduct this research (Appendix J).
- 2) The researcher then ascertained the most accurate statistics of DUT for 2009 students (i.e. students in all faculties of each of the campuses), as this changes per semester and therefore final allocations could only be done according to the statistics of the student population at that time.
- 3) One thousand full-time students were selected through a stratified process to complete the questionnaire.
- 4) The researcher received permission from the Dean of the respective Faculties (Appendix K), the Heads of each of the respective Departments (Appendix L) and then also requested a time slot from respective lecturers (Appendix M) before the commencement the lecture.
- 5) Questionnaires were delivered by handing the questionnaire directly to the students within a predetermined class representing the appropriate year and department that was allocated in the stratified sampling.
- 6) Upon arrival, the researcher introduced himself, explained the purpose of the study and handed out the Letter of Information and Consent Form⁴ (Appendix G) to explain the background and purpose of this study and for the students to sign. The final Questionnaire (Appendix F) was then distributed.

⁴ It was acknowledged that the use of the informed consent forms was not necessary as it was recognised that the completion and the return of the questionnaires by respondents implied informed consent. However for the purpose of this study the informed consent form was utilised to track students that have completed and returned the questionnaires in order that they were not able to complete the questionnaire more than once (especially if the researcher had to return to same department in order for the data to be collected) and this was approved by ethics committee.

- 7) The researcher was present during the answering of a questionnaire to provide clarity and assistance if needed.
- 8) To ensure anonymity, there were two collection boxes, one for the completed Informed Consent Forms and one for the completed questionnaires.
- 9) The research subscribed to the principle ANONYMITY and CONFIDENTIALITY, as no names or any information that might have identified the participant was required on the questionnaires and the questionnaires were kept in a safe place for confidentiality.
- 10) The researcher addressed any questions in a group forum, such that all students within the respective classes got the same instructions for clarity purposes.
- 11) The researcher then waited for the students to complete the questionnaire and put it in the sealed box provided.
- 12) The researcher ensured that the same process was followed at each faculty in each campus to complete the questionnaire.
- 13) A coding system was used, where each questionnaire was numbered for identification purposes, without the identity of the participant being revealed to the researcher.
- 14) All the data collected from one thousand students was data captured prior to being interpreted and statistically analyzed using the latest version of the SPSS programme (Esterhuizen, 2009).

3.6 Measurement Tool

3.6.1 Questionnaire Construction

Oppenheim (1992) survey construction was used to assist in formulating and designing the questionnaire for this research. This provided vital insight into the design of descriptive surveys, design of attitude statements and data processing and analysis. Existing questionnaires were used to formulate the questions for the prefocus group questionnaire of this study (Appendix E) (Macquet, 2007; Van As, 2005; Rattan, 2007; Smith, 2004 and Palmer, 2008; Langworthy and Birkelid, 2000); particularly that of

Macquet (2007) (Appendix O) where perception of DUT students with respect to homoeopathy was measured.

The questionnaire covered the participant's demographics, knowledge about chiropractic and perception of chiropractic as well as utilisation of the chiropractic profession.

3.6.2 Questionnaire Refinement

3.6.2.1 Focus group

"Focus groups are a powerful means to evaluate services or test new ideas. Basically, focus groups are interviews, but of 6-10 people at the same time in the same group" (McNamara, 2000).

The purpose of the focus group is to develop the face and construct validity of the adapted questionnaire (Langworthy and Smink, 2000). Face validity may be lost when a questionnaire is translated, as the questionnaires might not be understood. Thus error could be introduced into the results (Hunter, 2004). Therefore the questionnaire for this research was limited to English only.

The focus group consisted of 6 students, 1 chiropractor, 1 clinician and the researcher. The questions were discussed in a sequential order which is congruent with Morgan (1998). Each member was given a Letter of Information (Appendix A), a Confidentiality Statement (Appendix B), an Informed Consent Form (Appendix C) and Code of Conduct Form (Appendix D) to read and sign. The group gathered and discussed the prefocus group questionnaire and the factors that it covered, to rule out any ambiguity and syntax difficulties, therefore establishing face validity (Bernard, 2000) of the questionnaire. This ensured that the content of the questionnaire did not affect the measurement of the construct under the study (Fowler, 1995).

All relevant questions were included and all irrelevant questions were omitted (Appendix F). A DVD of the focus group proceedings was made (Gibbs, 1997) as evidence of the individuals involved and the content of the discussion. The focus group participants were excluded from the main study.

3.6.2.2 Focus Group changes to the prefocus group questionnaire (Appendix ???)

Section A: Personal Information

- The question of age with the answer options of age ranges was changed to ‘How old were you at your last birthday?’
- The home language question with the answer options of different languages was changed to ‘What is your principal home language?’
- The question ‘Do you understand and speak English?’ was changed to ‘Rate your level of English, for understanding and speaking it?’
- The question ‘Where do you live?’ was changed to ‘Where do you come from?’
- The questions ‘Where are you staying while you are studying?’ and ‘How do you get to DUT?’ were added.
- The following questions were also added;
 - Did you go to a career fair while at school?
 - At which campus do you attend most of your lectures?
 - Did you take part in DUT activities such as orientation helping or career fairs?
 - Do you have access to the DUT website?
 - Do you read Conduit (DUT news letter)?
 - Are your parents employed?
 - Do you have a part time job?
 - Who pays your tuition fees?
 - Are you covered by medical aid?
 - In your opinion which health care provider is best suited to treat the following conditions?
 - Who would you consult for the following conditions?

- Does your medical aid cover chiropractic treatment?

Section B: General knowledge of chiropractic

- The question 'If you heard about chiropractic, where did you hear about it?' with the answer option 'OTHER', space was provided to specify if other.
- The question 'How would you rate your level of knowledge about chiropractic?' was added.
- The answer options for the question 'Did the chiropractor explain how chiropractic works?' were changed from 'YES, GOOD EXPLANATION/ NOT MUCH EXPLANATION/ NOT AT ALL' to 'SATISFACTORY EXPLANATION/ UNSATISFACTORY EXPLANATION/ NOT AT ALL' and added 'If satisfactory why?' With the space provided.
- The question 'Do you know if there are any training courses available in South Africa for people to become chiropractors?' was changed to 'Can you study chiropractic in South Africa?'
- The question 'How many years do you think it takes to qualify as a chiropractor?' was changed to 'How many years of studying do you think it takes to qualify as a chiropractor?'
- The question 'Are chiropractors required to undergo any work experience training program?' was changed to 'Are chiropractors required to undergo any practical training program?'
- The question 'Are you aware of chiropractic training institution at the Durban University of Technology?' was changed to 'Is there a chiropractic training department at the following?'
- The question 'Would you consider coming to the Chiropractic Day Clinic as a patient, now that you are aware it exists?' was changed to 'If you have an opportunity, would you consider coming to the Chiropractic Day Clinic as a patient?'
- The following question was added;
 - State if the following are true or false.
 - Chiropractic profession is a legislation profession?

- Chiropractors treat lower back pain?
- Chiropractic and Medicine are the same?
- Chiropractors are massage therapists?
- Chiropractors can treat any disease?
- Chiropractors do not do any surgical procedures?
- There is no difference between chiropractic and homoeopathy?
- Chiropractors are specialised medical doctors?

Section C: Perception of Chiropractic

- The question 'Do you think Chiropractic has any scientific basis?' was changed to 'Do you think chiropractic is based on research?' and the answer option UNSURE was removed.
- The question 'Do you consider chiropractic to be a legitimate form of medicine?' was changed to 'Do you consider chiropractic to be recognised by the health department?'
- The question 'Chiropractic treatment can be useful in which of the following complaints?' was changed to a True/ False question.

After the focus group was held, the changes suggested to the questionnaire were implemented and the pre-test evaluation was conducted (Appendix I) and chance was given to comment on the questionnaire. No suggestions or comments were forwarded regarding the questionnaire. Therefore, the final questionnaire was developed and printed for the use of this study (Appendix F).

3.6.2.3 Pilot Study:

This involved taking a small sample from the population which the study was targeting and administering questionnaires exactly the same way that it was to be done in the main sample (Rattan, 2007). The aim was to establish how long it would take to complete the questionnaire and to identify any problems areas. No changes were made to the questionnaire.

The pilot study participants were excluded from the main study as they had already filled in the questionnaire.

Final Questionnaire:

The cover page of the questionnaire, which was printed on a DUT letterhead, consisted of an introduction that contained the basic information about the research project in general, and information about the questionnaire (Appendix G and H). The information included: the title of the research; purpose of the research; the nature of the sample; the average time to complete the questionnaire and reassure all respondents of the confidentiality of the information.

The final questionnaire consisted of 48 questions covering the following aspects:

- Section A: Personal Information (Question 1- 23).
- Section B: General Information about Chiropractic (Question 1- 19).
- Section C: Perception of Chiropractic (Question 1- 6).

3.7 Data Analysis

Data was entered into the computer on an excel spread sheet and then imported into the SPSS version 15.0. (Esterhuizen, 2009).

Data was analyzed to demonstrate knowledge, perception and utilisation, analysis of all questions consisted of frequency counts and results were expressed as percentage. A knowledge score was generated by summing up all correct responses to knowledge questions and dividing by the total score to express it as a percentage. This quantitative score was compared between the ethnic and demographic groups using one-way ANOVA testing. Similarly perceptions were also scored assigning higher scores to the more positive responses and similar comparison was done. A p value of <0.05 was considered as statistically significant.

CHAPTER FOUR:

RESULTS AND DISCUSSION

4.1 Introduction

This Chapter covers the results of the study as well as the discussion of the results. This format was decided on as the data and discussion of the data should complement one another in sections as opposed to separate chapters. Conclusion and Recommendations will follow in Chapter Five.

4.2 Data

The data sources utilised in this study were compiled from both primary and secondary sources of information.

4.2.1 Primary Data

The primary data utilised in this study was collected by the questionnaires from the participants of the study.

4.2.2 Secondary Data

This included data acquired from the literature, internet, books and journals with which to compare the outcome of the results in the research study.

4.2.3 Abbreviations

- “n” = Sample size.
- “%” = Percentage.
- “ANOVA” = Analysis of variance.
- “P-Value” = The probability of the results being due to chance or random error. [if p value is very small one can conclude that the results are significant].

4.3 Response Rate

Out of 1 000 questionnaires that were printed, only 946 questionnaires were returned to the researcher. Thus the overall response was 94,6 % (946/1 000). This could be due to fact that some of the students did not want to participate since it is stated in the Consent Form (Appendix G) that participation is voluntary. In addition, the fact that the researcher was collecting this data during lecture time which only gave students a limited time for them to complete the questionnaire and there was limited time for the researcher to count if everyone returned the questionnaire as the lecturer wanted to commence with his/her lecture. Another factor that might have influenced the non-completed questionnaires was that some of the classes were a big group (i.e. approximately 100 students in one class) which meant more time had to be allocated to distribute and collect the questionnaire and some students returned them without completing it, some only filled in their personal details. Also some completed section one only. It appears that some of the questions were “skipped” for certain reasons such as time and/ or they did not understand the question (language barrier) despite the fact the questions and options were changed to the most simple form of English possible during the focus group discussion.

4.4 Descriptive Analysis of Participants

4.4.1 Demographics of the participants

The first objective was to determine the level of knowledge DUT students have of chiropractic profession.

Demographic factors associated with knowledge of chiropractic:

Table 4.1 shows that gender was associated with knowledge ($p=0.049$). Females scored higher than males. Ethnicity was also a significant factor ($p < 0.001$). Whites had the highest level of knowledge. English ability was also a significant predictor ($p = 0.001$)

with knowledge increasing as English ability increased. Suburb dwellers had a significantly higher level of knowledge than township or rural students ($p < 0.001$). Those whose transport was a car, lift or bicycle had significantly higher scores than the others ($p < 0.001$). Those registered for a qualification in the Health Sciences also had higher knowledge scores than those in other Faculties ($p < 0.001$). Having parents who were employed and having a part time job were also significant factors which increased knowledge score ($p = 0.033$ and 0.007 respectively). Those who were paying for their tuition themselves, or who had a full bursary or whose parents were paying also scored significantly higher than others ($p = 0.016$).

Table 4.1: Comparison of median knowledge score between demographic and other variables

| | | Knowledge score | | | p value |
|-------------------------|-------------------|-----------------|---------------|---------------|---------|
| | | Median | Percentile 25 | Percentile 75 | |
| Gender | Female | 62.16 | 48.65 | 70.27 | 0.049 |
| | Male | 59.46 | 40.54 | 67.57 | |
| Ethnicity | African | 54.05 | 35.14 | 64.86 | <0.001 |
| | Coloured | 62.16 | 56.76 | 67.57 | |
| | Indian | 64.86 | 56.76 | 72.97 | |
| | White | 72.97 | 54.05 | 81.08 | |
| | Other | 51.35 | 20.27 | 70.27 | |
| English Ability | Poor | 31.08 | 25.68 | 48.65 | 0.001 |
| | Fair | 54.05 | 40.54 | 64.86 | |
| | Good | 59.46 | 40.54 | 67.57 | |
| | Excellent | 64.86 | 54.05 | 72.97 | |
| Where do you come from? | Rural | 54.05 | 29.73 | 62.16 | <0.001 |
| | Township | 56.76 | 43.24 | 62.16 | |
| | Suburb | 64.86 | 51.35 | 72.97 | |
| Where do you stay? | Flat | 56.76 | 48.65 | 67.57 | 0.247 |
| | Home | 64.86 | 45.95 | 72.97 | |
| | DUT | 59.46 | 40.54 | 67.57 | |
| | Private residence | 62.16 | 50.00 | 66.22 | |
| | Commune | 54.05 | 44.59 | 67.57 | |

Table 4.1: Comparison of median knowledge score between demographic and other variables continued

| | | | | | |
|--|--------------------------------------|-------|-------|-------|--------|
| How do you get to DUT? | Walk | 54.05 | 40.54 | 64.86 | <0.001 |
| | Car | 64.86 | 54.05 | 72.97 | |
| | Lift | 64.86 | 56.76 | 72.97 | |
| | Taxi | 59.46 | 40.54 | 67.57 | |
| | Bicycle | 66.22 | 56.76 | 67.57 | |
| | Other | 35.14 | 8.11 | 45.95 | |
| Which of the following qualification are you registered for? | One year National Certificate | 51.35 | 40.54 | 62.16 | 0.389 |
| | Two year National Higher Certificate | 62.16 | 45.95 | 64.86 | |
| | Three year | 62.16 | 45.95 | 70.27 | |
| | National Diploma | | | | |
| | Bachelor Degree | 70.27 | 67.57 | 78.38 | |
| | Masters Degree | 67.57 | 67.57 | 67.57 | |
| Did you go to a career fair while at school? | Yes | 62.16 | 45.95 | 70.27 | 0.679 |
| | No | 62.16 | 48.65 | 70.27 | |
| Which Faculty are you registered with? | Arts and Design | 62.16 | 48.65 | 72.97 | <0.001 |
| | Health Sciences | 67.57 | 59.46 | 75.68 | |
| | Accounting | 56.76 | 40.54 | 67.57 | |
| | Management Sciences | 54.05 | 24.32 | 64.86 | |
| | Applied Sciences | 60.81 | 54.05 | 67.57 | |
| | Engineering | 62.16 | 45.95 | 70.27 | |
| At which campus do you attend most lectures? | Steve Biko | 62.16 | 48.65 | 70.27 | 0.009 |
| | ML Sultan | 56.76 | 29.73 | 66.22 | |
| | Brickfield | | | | |
| | City | 55.41 | 17.57 | 72.97 | |
| | Indumiso | - | - | - | |
| | Riverside | - | - | - | |
| | Ritson | 64.86 | 51.35 | 72.97 | |
| Did you take part in DUT activities such as orientation helping or career fairs? | Yes | 59.46 | 40.54 | 70.27 | 0.675 |
| | No | 62.16 | 45.95 | 70.27 | |
| Do you have access to DUT website? | Yes | 59.46 | 44.59 | 70.27 | 0.066 |
| | No | 67.57 | 54.05 | 70.27 | |
| Do you read the Conduit (DUT newsletter)? | Yes | 59.46 | 48.65 | 70.27 | 0.602 |
| | No | 62.16 | 43.24 | 70.27 | |
| Are your parents employed? | Yes | 62.16 | 48.65 | 70.27 | 0.033 |
| | No | 59.46 | 40.54 | 67.57 | |
| Do you have part time job? | Yes | 67.57 | 54.05 | 74.32 | 0.007 |
| | No | 59.46 | 45.95 | 67.57 | |

Table 4.1: Comparison of median knowledge score between demographic and other variables continued

| | | | | | |
|---------------------------------|-----------------|-------|-------|-------|-------|
| Who pays your tuition fees? | Parents | 62.16 | 45.95 | 70.27 | 0.016 |
| | Loan | 56.76 | 43.24 | 70.27 | |
| | NFSAS | 51.35 | 29.73 | 62.16 | |
| | Bursary Full | 63.51 | 54.05 | 71.62 | |
| | Bursary partial | 62.16 | 56.76 | 64.86 | |
| | Self | 66.22 | 56.76 | 72.97 | |
| | Other | 63.51 | 60.81 | 67.57 | |
| Are you covered by medical aid? | Yes | 62.16 | 48.65 | 70.27 | 0.163 |
| | No | 59.46 | 43.24 | 67.57 | |

According to Harvely (1998), age plays a role in one's perception but in this study there was no correlation between age and knowledge score. Although the p value was statistically significant, the correlation coefficient was very close to 0 ($\rho = 0.075$), indicating an absence of relationship.

Table 4.2: Spearman's correlation analysis of age vs. knowledge score

| | | | Age | Knowledge score |
|----------------|-----|-------------------------|-------|-----------------|
| Spearman's rho | Age | Correlation Coefficient | 1.000 | .075(*) |
| | | Sig. (2-tailed) | . | .023 |
| | | N | 910 | 910 |

* Correlation is significant at the 0.05 level (2-tailed).

Gender distribution is shown in Table 4.1. Females had a higher percentage (70.27%) of knowledge about chiropractic than males (67.57%). These results were similar to those found by Rattan (2007). As far as ethnicity is concerned, the results in the descending order about chiropractic knowledge were, White, Indian, Other, Coloured and Black. This however, correlates with the literature (Chiroweb, 2007) stating that only 1% of African Blacks have a notion of what chiropractic is. Knowledge increased as English ability increased and those who come from suburbs indicated a higher knowledge score than township and rural dwellers. Participants who drove their own cars to DUT and stayed at home while studying also have more knowledge than students who are reliant on other transport system and places of accommodation. As Rattan (2007) states that chiropractic is unaffordable to majority of the population who do not have medical aids, it is clear in this study that those who are not covered by

medical aid have less of a notion about chiropractic than those are covered by medical aid which corresponds to the literature in 'About South Africa' (2007).

4.4.2 General Knowledge of chiropractic

The second objective was to establish the level of knowledge DUT students have of Chiropractic.

Nine hundred and forty-six participants chose to participate in the study. Of these, 861 answered the question about whether they had ever heard of chiropractic. Only 37% (n=319) of them had ever heard of chiropractic. Thus the analysis of the knowledge of chiropractic is only based on these 319 participants.

Table 4.3: Responses to “Have you ever heard of Chiropractic?”

| | | Frequency | Valid Percent |
|-------|--------|-----------|---------------|
| Valid | Yes | 319 | 37.0 |
| | No | 468 | 54.4 |
| | Unsure | 74 | 8.6 |
| | Total | 861 | 100.0 |

Most admitted to having a fair knowledge (49.2%) of chiropractic, while 39% said their knowledge was poor and only 10% stated good and under 2% excellent.

Table 4.4: Responses to “How would you rate your level of knowledge about chiropractic profession”

| | | Frequency | Valid Percent |
|-------|-----------|-----------|---------------|
| Valid | Poor | 121 | 38.7 |
| | Fair | 154 | 49.2 |
| | Good | 32 | 10.2 |
| | Excellent | 6 | 1.9 |
| | Total | 313 | 100.0 |

Their median knowledge score was 62% with a range from 0% to 91.9%. Thus, the range was very wide. The inter-quartile range was from 46% to 70%, meaning that 50% of the sample scored between these values. Thus, the overall knowledge of chiropractic in this population who had heard of chiropractic was relatively poor.

Table 4.5: Descriptive statistics for knowledge score in the sample (n=319).

Knowledge score

| | | |
|-------------|---------|---------|
| N | Valid | 319 |
| | Missing | 0 |
| Minimum | | .00 |
| Maximum | | 91.89 |
| Percentiles | 25 | 45.9459 |
| | 50 | 62.1622 |
| | 75 | 70.2703 |

The results of the individual knowledge questions in the 319 who reported to have heard of chiropractic are shown in the following Tables (Table 4.6 to Table 4.9). The correct responses are highlighted.

Table 4.6: Responses of the individual knowledge as it appears in the questionnaire Section B Q13 to Q18

| | | Count | Column % |
|--|-----------|-------|----------|
| How many years of studying do you think it takes to qualify as a chiropractor? | 1 Year | 2 | .7% |
| | 2 Years | 0 | .0% |
| | 3 Years | 34 | 11.1% |
| | 4 Years | 55 | 18.0% |
| | 5 Years | 66 | 21.6% |
| | 6 + Years | 85 | 27.9% |
| | Unsure | 63 | 20.7% |

Table 4.6: Responses of the individual knowledge as it appears in the questionnaire Section B Q13 to Q18 ... continued

| | | | |
|--|-----------|-----|--------|
| What level of education is required to practice as a chiropractor in South Africa? | None | 7 | 2.3% |
| | Diploma | 36 | 11.8% |
| | Degree | 70 | 23.0% |
| | Honours | 14 | 4.6% |
| | Masters | 55 | 18.0% |
| | Doctorate | 39 | 12.8% |
| | Unsure | 84 | 27.5% |
| Are chiropractors required to undergo any practical training program? | Yes | 229 | 75.1% |
| | No | 2 | .7% |
| | Unsure | 74 | 24.3% |
| Is there a Chiropractic Day Clinic at the following? | UKZN | 9 | 2.9% |
| | DUT | 85 | 27.7% |
| | Both | 44 | 14.3% |
| | Unsure | 169 | 55.0% |
| Is there a chiropractic training department at the following? | UKZN | 5 | 1.7% |
| | DUT | 102 | 34.7% |
| | Both | 43 | 14.6% |
| | Unsure | 144 | 49.0% |
| | Total | 294 | 100.0% |

Table 4.7: Responses to “Is there a difference between chiropractic and”

| | Yes | | No | | Don't know | |
|---------------------|-------|---------|-------|---------|------------|---------|
| | Count | Row N % | Count | Row N % | Count | Row N % |
| Medicine | 206 | 72.5% | 23 | 8.1% | 55 | 19.4% |
| Pharmacy | 217 | 76.7% | 23 | 8.1% | 43 | 15.2% |
| Somatology | 158 | 56.4% | 35 | 12.5% | 87 | 31.1% |
| Traditional healing | 206 | 72.5% | 29 | 10.2% | 49 | 17.3% |
| Massage therapy | 96 | 33.8% | 140 | 49.3% | 48 | 16.9% |
| Acupuncture | 102 | 36.6% | 92 | 33.0% | 85 | 30.5% |
| Dentistry | 224 | 79.7% | 18 | 6.4% | 39 | 13.9% |
| Physiotherapy | 105 | 37.4% | 121 | 43.1% | 55 | 19.6% |
| Homoeopathy | 144 | 52.0% | 59 | 21.3% | 74 | 26.7% |

Only 319 participants had heard of chiropractic, out of this 27.9% thought chiropractic was studied for 6+ years. Only 21.6% thought 5 years which is the correct answer. Therefore a quarter of the participants were aware of the number of the years it takes to study chiropractic which is only 21.6% of 319. Only 18% of 319 knew correctly that

chiropractors are required to complete Master's research to practice, 75.1% believed chiropractors undergo a practical program and 27.7% knew that there is a chiropractic clinic at DUT. Only 34.7% knew the existence of the Chiropractic Department at DUT.

4.4.3 The perception of chiropractic

The third objective is to determine the perception of students towards the chiropractic profession.

In the questionnaire, students were asked to select the statement that best reflected their perception of chiropractic. Most public perception of chiropractic is based on ignorance, misinformation and bias rather than fact (Coulter, 1999). The correct responses are highlighted.

Table 4.8: Participant responses to their perception of chiropractic. Section B Q19

| | True | | False | |
|---|-------|---------|-------|---------|
| | Count | Row N % | Count | Row N % |
| Chiropractic profession is a legislated profession | 210 | 76.1% | 66 | 23.9% |
| Chiropractors treat lower back pain | 247 | 86.7% | 38 | 13.3% |
| Chiropractic and Medicine are the same | 37 | 12.9% | 250 | 87.1% |
| Chiropractors are massage therapists | 138 | 48.8% | 145 | 51.2% |
| Chiropractors can treat any disease | 28 | 9.7% | 262 | 90.3% |
| Chiropractors do not do any surgical procedures | 178 | 62.5% | 107 | 37.5% |
| There is no difference between chiropractic and homoeopathy | 62 | 21.8% | 223 | 78.2% |
| Chiropractors are specialised medical doctors | 193 | 68.2% | 90 | 31.8% |

A significantly high percentage of participants thought chiropractic is a legislated profession (76.1%) and 86.7% thought chiropractors treat low back pain. This is congruent to Gaumer *et al.* (2002) findings that chiropractors do not treat all diseases. This is also supported further by Jamison (1995) who highlighted that in Australia and America a significant portion of the public preferred chiropractic treatment to medical care for low back pain. Most participants stated that chiropractic is not the same as medicine and massage therapy.

Table 4.9: Responses to “Chiropractic treatment can be useful in which of the following conditions/ aspects”

| | True | | False | |
|--|-------|---------|-------|---------|
| | Count | Row N % | Count | Row N % |
| Any disease disorder | 23 | 9.1% | 229 | 90.9% |
| Headache | 124 | 47.7% | 136 | 52.3% |
| Joint injury | 245 | 89.4% | 29 | 10.6% |
| Emergency care | 95 | 37.7% | 157 | 62.3% |
| Inflammatory disorders | 103 | 39.5% | 158 | 60.5% |
| HIV/AIDS | 20 | 7.9% | 233 | 92.1% |
| Tuberculosis (T.B.) | 29 | 11.2% | 230 | 88.8% |
| Muscular problems | 244 | 89.1% | 30 | 10.9% |
| Sports injuries | 237 | 89.1% | 29 | 10.9% |
| Rehabilitation | 141 | 53.6% | 122 | 46.4% |
| Repetitive stress injuries | 203 | 76.6% | 62 | 23.4% |
| Dry needling tender points | 206 | 78.0% | 58 | 22.0% |
| Extremities (i.e. shoulder, knee, elbow) | 228 | 86.4% | 36 | 13.6% |
| Radiology (i.e. X-RAYS) | 115 | 44.1% | 146 | 55.9% |
| Surgery | 70 | 27.2% | 187 | 72.8% |

A smaller number of the participants stated that chiropractic is not useful for the treatment of ‘any disease disorder’, ‘emergency care’, ‘headaches’, ‘inflammatory disorders’, ‘HIV/AIDS’, ‘T.B.’, and ‘surgery’. A larger number of the participants believed that chiropractic treatment is useful for ‘joint injury’, ‘muscular problems’, ‘sports injuries’, ‘rehabilitation’, ‘repetitive stress injuries’, ‘dry needling tender points’ and ‘extremities’.

Table 4.10: Response to “In your opinion, which health care provider is best suited to treat the following conditions”

| | Dentist | | Chiropractor | | GP | | Homeopath | | Pharmacist | | Physiotherapist | | Specialist | | Traditional healer | |
|--------------------------|---------|---------|--------------|---------|-------|---------|-----------|---------|------------|---------|-----------------|---------|------------|---------|--------------------|---------|
| | Count | Row N % | Count | Row N % | Count | Row N % | Count | Row N % | Count | Row N % | Count | Row N % | Count | Row N % | Count | Row N % |
| ALLERGIES | 14 | 1.7% | 15 | 1.8% | 368 | 45.0% | 25 | 3.1% | 209 | 25.6% | 10 | 1.2% | 137 | 16.8% | 39 | 4.8% |
| APPENDICITIS | 4 | .6% | 30 | 4.2% | 183 | 25.8% | 24 | 3.4% | 58 | 8.2% | 32 | 4.5% | 344 | 48.5% | 35 | 4.9% |
| ARTHRITIS/PAINFUL JOINTS | 7 | .9% | 137 | 18.2% | 122 | 16.2% | 25 | 3.3% | 36 | 4.8% | 251 | 33.3% | 135 | 17.9% | 41 | 5.4% |
| ASTHMA/WHEEZING | 4 | .5% | 19 | 2.6% | 356 | 48.3% | 40 | 5.4% | 92 | 12.5% | 23 | 3.1% | 163 | 22.1% | 40 | 5.4% |
| CHRONIC (LONG TERM) PAIN | 4 | .6% | 114 | 15.9% | 135 | 18.8% | 23 | 3.2% | 47 | 6.5% | 83 | 11.6% | 265 | 36.9% | 47 | 6.5% |

| | | | | | | | | | | | | | | | | |
|---|----|-------|-----|--------|-----|--------|----|-------|-----|--------|-----|--------|-----|--------|----|-------|
| COLIC IN BABIES | 2 | .3% | 22 | 3.3% | 284 | 42.1 % | 41 | 6.1 % | 50 | 7.4% | 22 | 3.3% | 206 | 30.5 % | 48 | 7.1 % |
| DIABETES MELLITUS/ SUGAR PATIENTS | 4 | .6% | 26 | 3.7% | 340 | 48.4 % | 31 | 4.4 % | 56 | 8.0% | 27 | 3.8% | 182 | 25.9 % | 37 | 5.3 % |
| FRACTURE | 5 | .7% | 103 | 15.3 % | 133 | 19.7 % | 28 | 4.1 % | 42 | 6.2% | 142 | 21.0 % | 184 | 27.3 % | 38 | 5.6 % |
| GASTRO INTERSTINAL PROBLEMS/ STOMACH PROBLEMS | 5 | .7% | 31 | 4.5% | 266 | 38.9 % | 49 | 7.2 % | 93 | 13.6 % | 17 | 2.5% | 163 | 23.9 % | 59 | 8.6 % |
| HEADACHES | 3 | .4% | 35 | 4.6% | 332 | 43.5 % | 28 | 3.7 % | 211 | 27.7 % | 42 | 5.5% | 67 | 8.8% | 45 | 5.9 % |
| LIGAMENTS/ JOINT SPRAINS | 2 | .3% | 143 | 20.1 % | 102 | 14.4 % | 27 | 3.8 % | 35 | 4.9% | 275 | 38.7 % | 94 | 13.2 % | 32 | 4.5 % |
| LOW BACK PAIN | 2 | .3% | 188 | 26.0 % | 88 | 12.2 % | 26 | 3.6 % | 34 | 4.7% | 260 | 36.0 % | 83 | 11.5 % | 42 | 5.8 % |
| MUSCULAR PAIN | 5 | .7% | 143 | 19.7 % | 98 | 13.5 % | 26 | 3.6 % | 39 | 5.4% | 307 | 42.2 % | 76 | 10.5 % | 33 | 4.5 % |
| NECK PAIN | 5 | .7% | 169 | 23.3 % | 108 | 14.9 % | 25 | 3.4 % | 39 | 5.4% | 260 | 35.9 % | 85 | 11.7 % | 34 | 4.7 % |
| OSTEOPOROSIS | 8 | 1.2 % | 105 | 16.4 % | 118 | 18.4 % | 43 | 6.7 % | 44 | 6.9% | 69 | 10.7 % | 204 | 31.8 % | 51 | 7.9 % |
| PINS AND NEEDLES NUMBNESS IN YOUR ARMS | 5 | .7% | 108 | 16.2 % | 153 | 22.9 % | 45 | 6.7 % | 46 | 6.9% | 128 | 19.2 % | 116 | 17.4 % | 66 | 9.9 % |
| VIRAL INFECTION (e.g. FLU) | 4 | .6% | 25 | 3.6% | 390 | 55.9 % | 19 | 2.7 % | 106 | 15.2 % | 24 | 3.4% | 91 | 13.0 % | 39 | 5.6 % |
| SORE THROAT | 18 | 2.5 % | 27 | 3.7% | 343 | 47.6 % | 39 | 5.4 % | 173 | 24.0 % | 34 | 4.7% | 50 | 6.9% | 37 | 5.1 % |
| SHOULDER PAIN | 10 | 1.4 % | 144 | 20.2 % | 123 | 17.3 % | 22 | 3.1 % | 44 | 6.2% | 269 | 37.8 % | 73 | 10.3 % | 27 | 3.8 % |
| SPORTS INJURIES | 3 | .4% | 127 | 17.5 % | 85 | 11.7 % | 31 | 4.3 % | 26 | 3.6% | 336 | 46.4 % | 88 | 12.2 % | 28 | 3.9 % |
| POST JOINT INJURY REHABILITATION | 5 | .7% | 122 | 17.9 % | 74 | 10.9 % | 29 | 4.3 % | 28 | 4.1% | 267 | 39.1 % | 115 | 16.9 % | 42 | 6.2 % |
| WHIPLASH INJURIES | 7 | 1.1 % | 123 | 18.8 % | 131 | 20.0 % | 28 | 4.3 % | 30 | 4.6% | 175 | 26.7 % | 107 | 16.3 % | 55 | 8.4 % |

The perception of chiropractic in terms of being suited to treat certain conditions ranged from 1.8% for allergies to 26% for low back pain. Thus the perceptions about the suitability of chiropractic were low.

Table 4.11: Responses to perception of chiropractic as it appears in Section C Q1-3

| | | Count | Column N % |
|--|-------|-------|------------|
| Do you think Chiropractic is based on research? | Yes | 595 | 78.3% |
| | No | 165 | 21.7% |
| Do you consider chiropractic to be recognised by the health department? | Yes | 526 | 68.0% |
| | No | 54 | 7.0% |
| | Maybe | 193 | 25.0% |
| Do you think that the general public accept chiropractic as a form of medical treatment? | Yes | 418 | 59.5% |
| | No | 285 | 40.5% |

Table 4.12: Responses to “The reasons that are thought why chiropractic is not accepted by the public”

| | no | | yes | |
|---|-------|---------|-------|---------|
| | Count | Row N % | Count | Row N % |
| Lack of awareness of chiropractic | 72 | 16.3% | 369 | 83.7% |
| Lack of understanding of how chiropractic works | 122 | 27.7% | 318 | 72.3% |
| Chiropractic treatment can be harmful | 355 | 80.9% | 84 | 19.1% |
| Inadequate marketing of chiropractic | 221 | 50.0% | 221 | 50.0% |
| Chiropractors are not well trained | 370 | 83.9% | 71 | 16.1% |
| Its effectiveness is unproven | 330 | 75.2% | 109 | 24.8% |
| Chiropractic is unaffordable | 321 | 73.1% | 118 | 26.9% |
| Chiropractic does not work | 376 | 85.8% | 62 | 14.2% |
| Other | 373 | 85.7% | 62 | 14.3% |

In total 78.3% thought chiropractic is based on research, 68% thought it is recognised by the health department and 59.5% thought the public accepted chiropractic as a form

of medical treatment. As for the reasons thought why chiropractic is not accepted by the general public; 72.3% thought there is a lack of understanding how chiropractic works. This is confirmed by 83.7% who thought there is lack of awareness of chiropractic. Only 16.1% thought chiropractors are not well trained and 14.2% thought chiropractic treatment does not work.

4.4.4 The utilisation of chiropractic

The fourth objective is to establish the utilisation of chiropractic services in the study population.

The prevalence of actual chiropractic usage was only 7.5%. This is shown in Table 4.13. The Table shows that almost 30% of participants who had been to a chiropractor were referred by a doctor and a further 30% were referred by a family member.

Table 4.13: Responses to “Have you ever been treated by a Chiropractor?”

| | | Frequency | Valid Percent |
|-------|-------|-----------|---------------|
| Valid | Yes | 54 | 7.5 |
| | No | 664 | 92.5 |
| | Total | 718 | 100.0 |

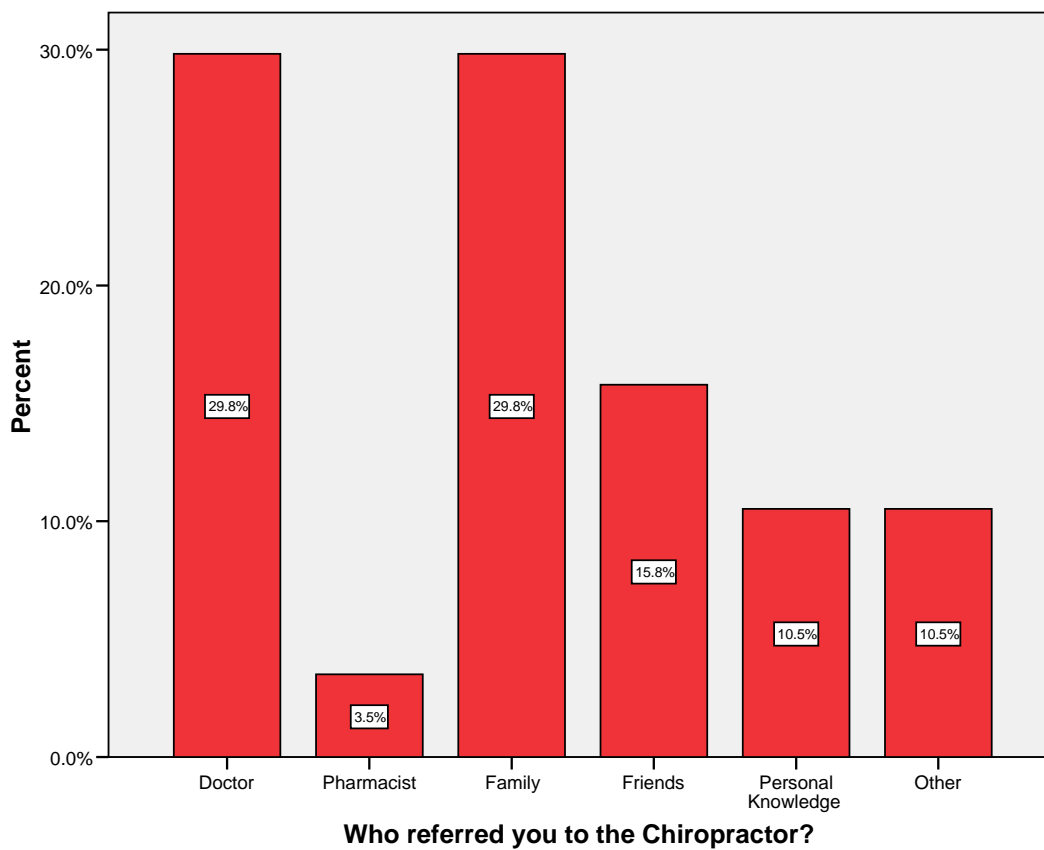


Figure 4.1: Bar chart indicating referral person (n=54)

The pie chart below shows that most of participants who were treated by a chiropractor were neutral about their satisfaction with the treatment. 7.5% of the 718 participants were treated by a chiropractor and 29.8% were referred by a doctor and further 29.8% were referred by family members, 10% by friends and 3.5% by a pharmacist.

This is congruent with the literature that states that many General Practitioners are comfortable referring patients to physiotherapists because they feel they have a better understanding of the profession's scope of treatment (Breen *et al.*, 2000). In addition, according to the study carried out by Palmer (2008), the majority of pharmacists were not informed about chiropractic in S. A. Therefore, this explains the lower percentage referrals from pharmacists.

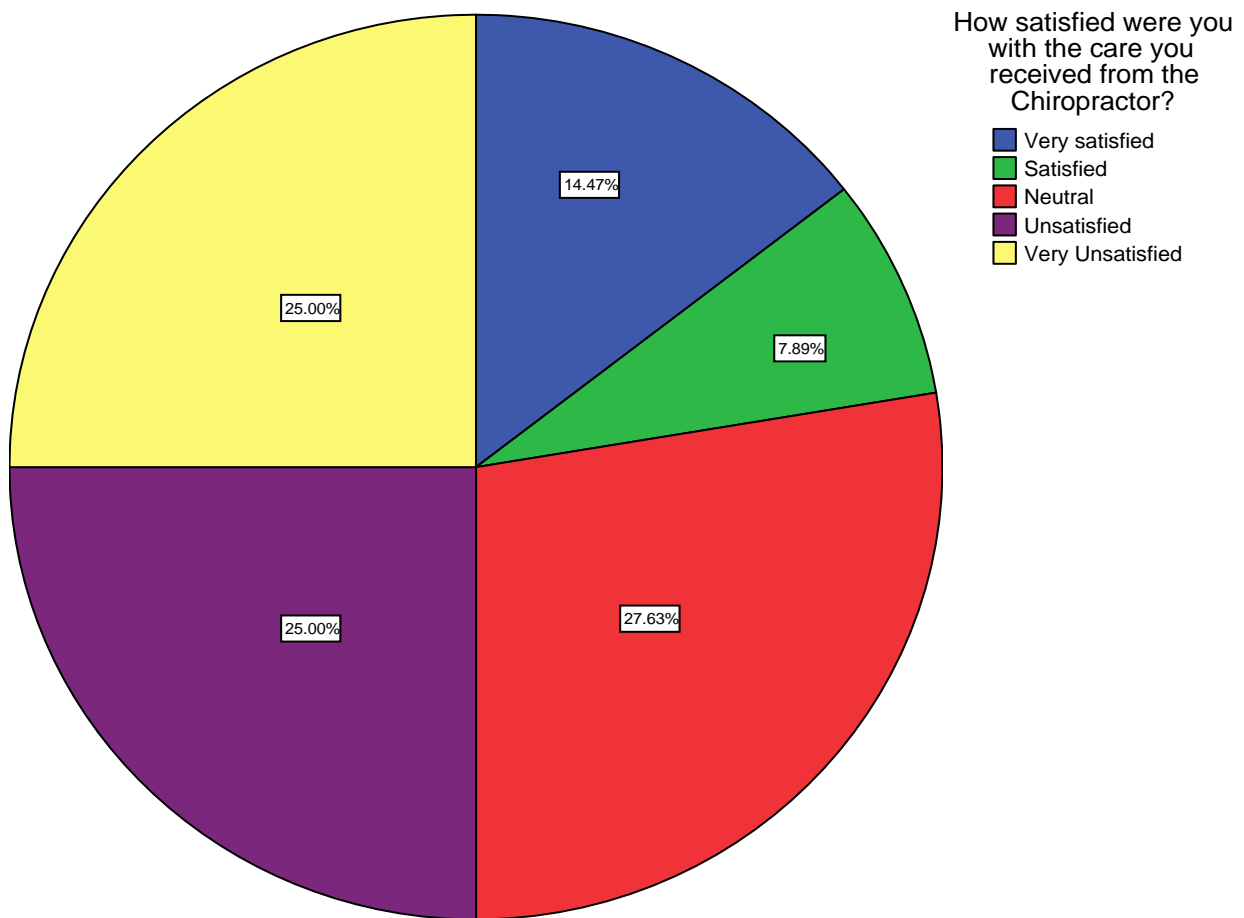


Figure 4.2: Pie chart showing satisfaction with chiropractic treatment

Thirty-two percent said they would recommend chiropractic to others.

Table 4.14: Responses to “Would you recommend Chiropractic to anybody else?”

| | | Frequency | Valid Percent |
|-------|-------|-----------|---------------|
| Valid | Yes | 70 | 32.1 |
| | No | 46 | 21.1 |
| | Maybe | 102 | 46.8 |
| | Total | 218 | 100.0 |

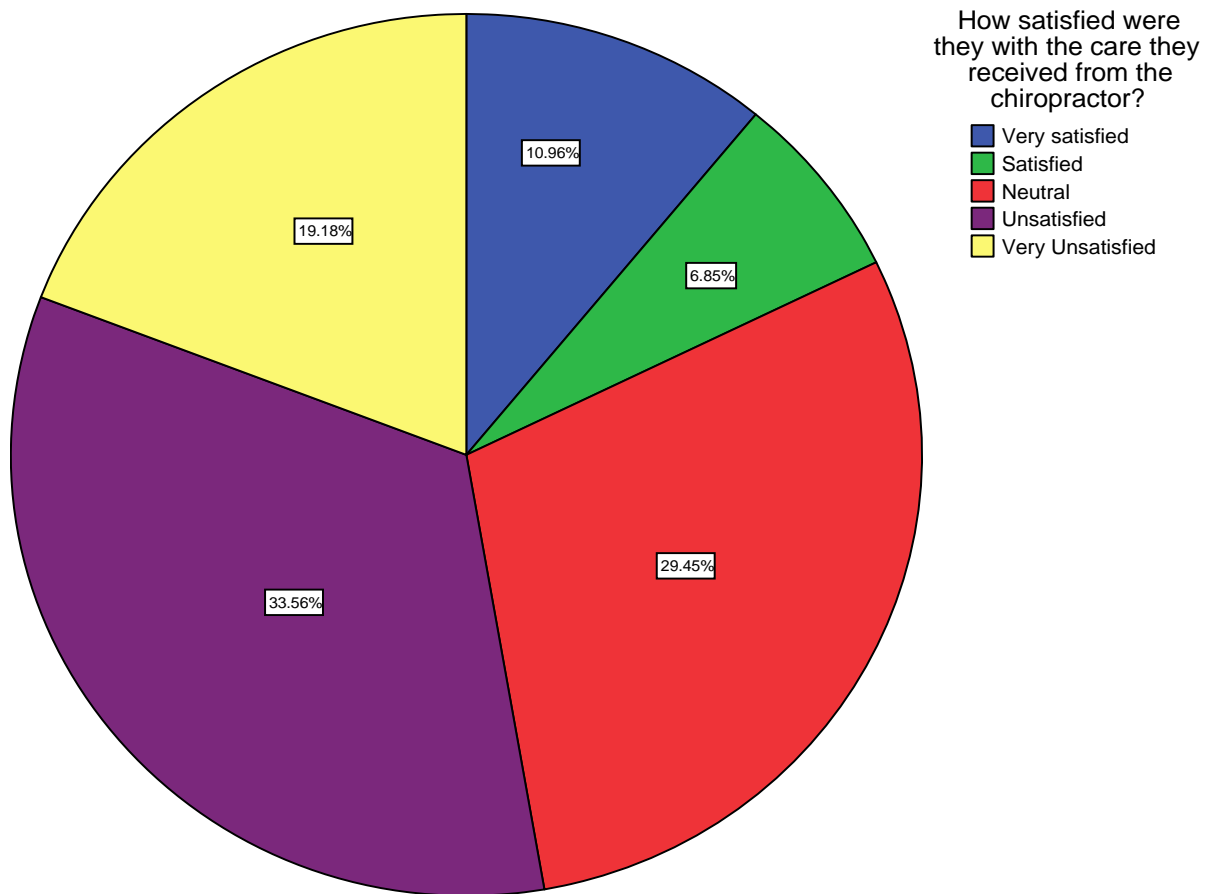


Figure 4.3: Pie chart showing family members satisfaction with chiropractic care

There were 108 participants (16.4%) whose family members had been treated by chiropractors. Out of these 108 participants, 10.96% were very satisfied with the treatment, 6.85% were satisfied, 29.45% were neutral with treatment, 33.56% were unsatisfied and 19.18% were very unsatisfied.

Responses to Section A question 22 are shown graphically below in terms of the percentage of participants who would consult a chiropractor (out of all the other listed practitioners) for each condition. Low back pain was the condition for which participants would most commonly consult a chiropractor (21.6%).

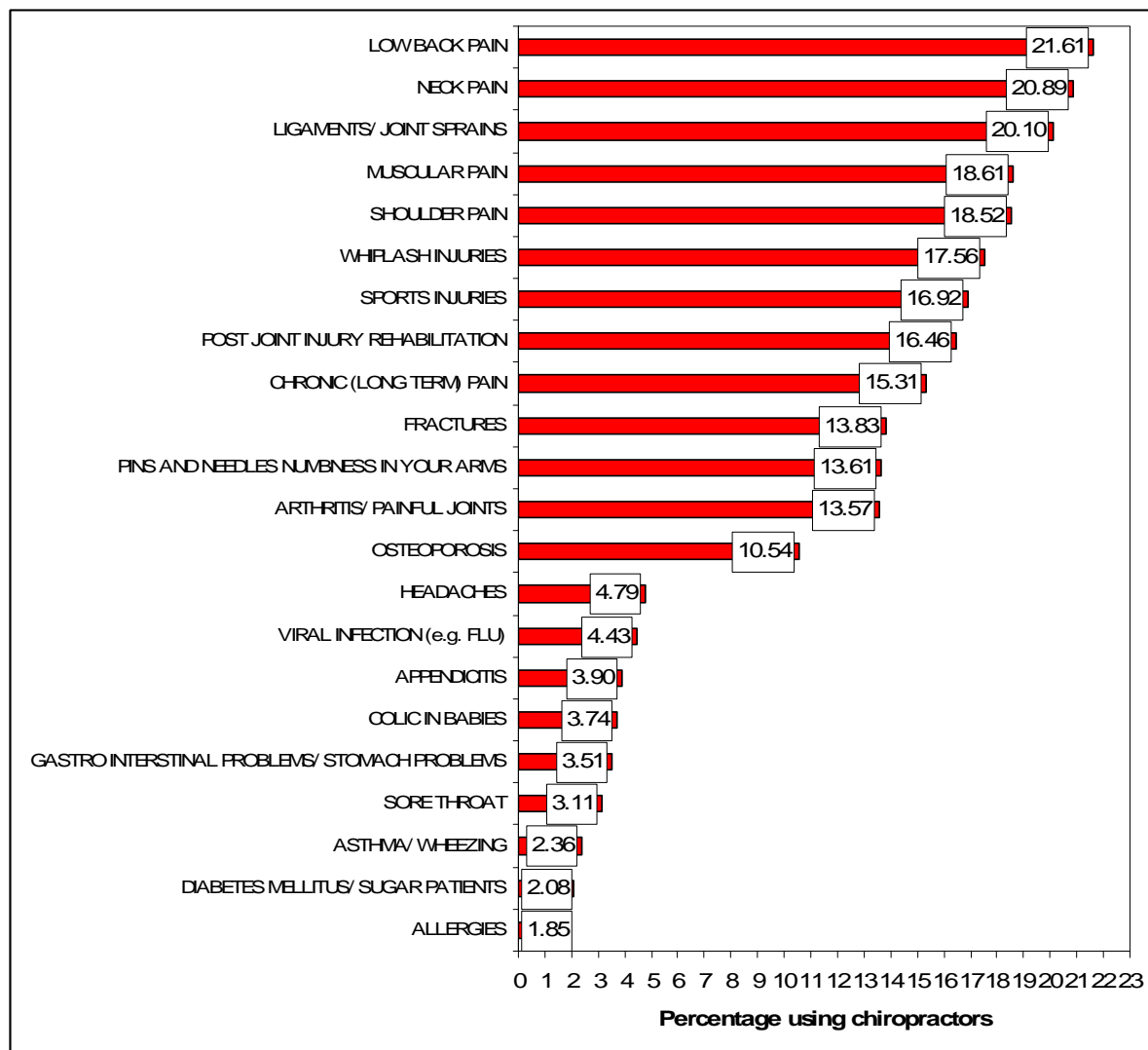


Figure 4.4: Percentage of participants consulting chiropractors for each listed condition (Section A Q22)

4.5 Conclusion

Therefore, with respect to the hypotheses made in Chapter One the following are applicable:

Hypothesis one:

Only 37% (n=319) of the participants had ever heard of chiropractic. Thus, the analysis of the knowledge of chiropractic is only based on these 319 participants. The overall knowledge of chiropractic in this population who had heard of chiropractic was relatively poor which is congruent with the literature (Hunter, 2004; Reubens, 1996 and Louw, 2005).

Hypothesis two:

The perception of chiropractic in terms of being suited to treat certain conditions ranged from 1.8% for allergies to 26% for low back pain. Thus, the perceptions about the suitability of chiropractic were low as stated in the literature review that the perception of usage of alternative medicine is compounded by high levels of poverty and unemployment which makes chiropractic unaffordable to the public (Hayes, 1994; Robbins, 1996; Bergh and Theron, 1999). Only 16.1% thought chiropractors are not well trained and 14.2% thought chiropractic treatment does not work.

Hypothesis three:

Gender, ethnicity and English speaking ability were significant factors.

Those who lived in the suburbs had more knowledge than the rural dwellers.

Therefore, there was a relationship between the demographic factors and perception and knowledge of DUT students except the age factor as opposed to the literature review states that age and gender influences the perception and knowledge of young

people since they have limited experience and knowledge (Haverly, 1998; Rattan, 2007; Sawni and Thomas, 2007; Sikand and Laken, 1998 and Goldszmidt *et al.*, 1995). There was no correlation between age and knowledge score, therefore must be rejected.

Hypothesis four:

The prevalence of actual chiropractic usage was only 7.5%, which is relatively low. Low back pain was the condition for which participants would most commonly consult a chiropractor (21.6%) which corresponds to the literature review that most public consumers view chiropractors as back specialists (Gaumer *et al.*, 2002).

CHAPTER FIVE:

CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter serves to conclude the study determining the perception, knowledge and utilization of chiropractic profession by Durban University of Technology students. The conclusion was drawn from the results and discussion of the previous Chapter Four and recommendations were made.

5.2 Conclusions

1. This study revealed that there was a difference in terms of chiropractic knowledge and perception among the various demographic populations. Whites have a higher knowledge of what chiropractic is and knowledge increased as English ability increased. Having parents who were employed and having a part time job were also significant factors which increased the knowledge score but there was no correlation between age and knowledge score.
2. Out of 946 participants that were included in this study 861 answered the question about whether they had ever heard of chiropractic. Of this number (n=319) 37% confirmed indicating a very low knowledge of chiropractic.
3. There is still a lack of awareness amongst DUT students and perception of chiropractic in terms of being suited to treat certain conditions. This ranged from 1.8% for allergies to 26% for low back pain. Thus, the perceptions about the suitability of chiropractic were low.
4. The study found that the actual chiropractic usage was only 7.5% and almost 30% of participants who had been to a chiropractor were referred by a doctor and a further 30% were referred by a family member.

5.3 Recommendations

5.3.1 Recommendations based on the methodology of the study

1. The questionnaire was of medium length, however, students were busy in lectures, and time was of great concern. In order to obtain a better response a slightly shorter questionnaire might have been more applicable.
2. Numerous contacts between the researcher and the Head of the Department that the research will be conducted so lecturers can prepare their students that they could voluntarily participate in research. This could be done by sending a request letter of permission prior to the day of distributing the questionnaire as obtaining permission on the day of distribution delayed the process.

5.3.2 Recommendations for the profession based on the results of the study

1. Information pamphlets/ brochures about chiropractic should be circulated to all DUT departments as this may increase the awareness of chiropractic amongst the students.
2. More perception studies needs to be done in different population groups (i. e. different universities) as this will help market chiropractic and expose it to different population groups.

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Appendix A**LETTER OF INFORMATION- FOCUS GROUP**

Dear Participant,

I would like to welcome you into the focus group of my study.

Study Title

The perception, knowledge and utilization of the chiropractic profession by Durban University of Technology students.

Background to the study

Chiropractic is a health care profession concerned with the diagnosis, treatment and prevention of mechanical disorders of the musculoskeletal system and effects of these disorders on the functions of the nervous system and general health. In this respect Chiropractic is an important and growing part of our culture. Therefore knowing about chiropractic is highly vital for physicians, researchers, those in the cure policy and the public.

Durban University of Technology (DUT), which is the result of the first successful merger between two tertiary educational institutions in South Africa, has 72% of African students and 28% of western and Indian registered in DUT which is reflective of the South African population. Tertiary education students are present and future health care consumers, therefore it is important that well educated in both mainstream and complimentary health practices.

The Chiropractic profession has to establish itself against mainstream medicine as an alternative health profession. In addition, in the South African context, the African's population's perception and knowledge of the scope of chiropractic practice might have been influenced by the political events in the past. Together with the fact that out of 38 million blacks in SA there are 25 million who don't have Chiropractors to treat them, except those situated in the up-market suburbs, it stands to reason that Chiropractic in South Africa is facing a challenge in its development. This is with particular reference to the political changes that occurred in South Africa during and since the early 1990s, where the Health Services were being restructured.

Objective of the study

This study proposes an investigation to determine the perception and knowledge of different ethnic students of Durban University of Technology towards chiropractic profession and also to establish the level of knowledge, towards Chiropractic amongst students. The data obtained by this questionnaire will also assess the factors that are thought to influence the perception and knowledge towards chiropractic from these different ethnic groups. The questionnaire will only take few minutes to complete as most of the questions require you to tick or cross the appropriate answer. There are only a few short written responses that are required.

Your time, opinion and assistance with this project are highly appreciated and you are assured that your comments and contribution will be kept confidential.

Yours sincerely,

.....
Melvin Ralekwa
Research student

.....
Dr. Charmaine Korporaal
Supervisor

Appendix B**CONFIDENTIALITY STATEMENT- FOCUS GROUP****IMPORTANCE NOTICE:**

THIS FORM IS TO BE READ AND FILLED IN BY EVERY MEMBER PARTICIPATING IN THE FOCUS GROUP, BEFORE THE FOCUS GROUP MEETING CONVENES.

DECLARATION

1. All information contained in the research documents and any information discussed during the focus group meeting will be kept private and confidential. This is especially binding to any information that may identify any of the participants in the research process.
2. The returned questionnaire will be coded and kept anonymous in the research process.
3. None of the information shall be communicated to any other individual or organization outside of this specific focus group as to the decisions of this focus group.
4. The information from this focus group will be made public in terms of journal publication, which will in no way identify any participants of this research.

Once this form has been read and agreed to, please fill the appropriate information below and sign to acknowledge agreement.

Please print in block letters:

Focus Group Member: _____ Signature _____

Witness Name : _____ Signature _____

Researcher's Name : _____ Signature _____

Supervisor's Name : _____ Signature _____

Appendix C**INFORMED CONSENT FORM**

(TO BE COMPLETED BY THE PARTICIPANTS OF THE FOCUS GROUP)

DATE:

TITTLE OF THE RESEARCH PROJECT: The perception, knowledge and utilization of the chiropractic profession by Durban University of Technology students.

NAME OF THE SUPERVISOR: Dr. C. Korpelaar

NAME OF THE RESEARCH STUDENT: Melvin Ralekwa
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 ever 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 | | |
| a. Withdraw from this study at any time? | Yes | No |
| b. Withdraw from this study at any time, without reasons given | Yes | No |
| c. Withdraw from this study at any time, without affecting your future health care or relationship with the Chiropractic day clinic at the Durban University of Technology? | Yes | No |
| 8. Do you agree to voluntary participate in this study | Yes | No |
| 9. Who have you spoken to regarding this study | | |

If you have answered NO to any of the above, please obtain the necessary information from the researcher and / or the supervisor before signing. Thank You.

Please print in block letters:

Focus Group Member : _____ Signature_____

Witness Name : _____ Signature_____

Researcher's Name : _____ Signature_____

Supervisor's Name : _____ Signature_____

Appendix D**CODE OF CONDUCT**

This form has to be completed by every member of the Focus Group prior to the commencement of the focus group meeting.

As a member of this committee I agree to abide by the following conditions:

1. All information contained in the research documents and any information discussed during the focus group meeting will be kept private and confidential. This is especially binding to any information that may identify any of the participants in the research process.
2. None of the information shall be communicated to any other individual or organization outside of this specific focus group as to the decisions of this focus group.
3. The information from the focus group will be made public in terms of a journal publication, which will in no way identify any participants of this research.

| Member Represents | Member's Name | Signature | Contact Details |
|--------------------------|----------------------|------------------|------------------------|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

Appendix E**PERCEPTIONS TOWARDS CHIROPRACTIC PREFOCUS GROUP QUESTIONNAIRE**

(Modified from Marcquet, 2007 and Small, 2004)

Please answer by placing an 'X' in the appropriate box

SECTION A: PERSONAL INFORMATION

1. Gender

| | |
|--------|------|
| FEMALE | MALE |
|--------|------|

2. Age (in years)

| | | | | | |
|-------|-------|-------|-------|-------|-----|
| 16-20 | 21-25 | 26-30 | 31-35 | 36-40 | 40+ |
|-------|-------|-------|-------|-------|-----|

3. Ethnicity (For statistical purposes only)

| | | | | |
|---------|----------|--------|-------|-------|
| African | Coloured | Indian | White | Other |
|---------|----------|--------|-------|-------|

4. Home Language

| | | | | | | |
|-----------|---------|---------|--------|-------|-------|-------|
| AFRIKAANS | ENGLISH | IsiZULU | TSWANA | SOTHO | XHOSA | OTHER |
|-----------|---------|---------|--------|-------|-------|-------|

5. Do you understand and speak English?

| | | |
|-----|----|--------|
| YES | NO | UNSURE |
|-----|----|--------|

6. Where do you live?

| | | |
|------------|----------|--------|
| RURAL AREA | TOWNSHIP | SUBURB |
|------------|----------|--------|

7. Which of the following are you registered for?

| | | | | |
|-----------------------------------|--|--------------------------------|----------------------------------|--------------------|
| 1 YEAR NATIONAL CERTIFICATE | 2 YEARS NATIONAL HIGHER CERTIFICATE | 3 YEARS NATIONAL DIPLOMA | BACHELOR'S DEGREE (B.Tech) | MASTER'S DEGREE |
|-----------------------------------|--|--------------------------------|----------------------------------|--------------------|

8. Which Faculty do you fall under?

| | | | | | |
|----------------|-------------------------|------------|------------------------|--------------------|---|
| ARTS DESIGN | & HEALTH SCIENCES | ACCOUNTING | MANAGEMENT SCIENCES | APPLIED SCIENCE | ENGINEERING AND BUILT ENVIRONMENT |
|----------------|-------------------------|------------|------------------------|--------------------|---|

9. Who do you consult when you are feeling ill?

| | | | | | | |
|-------------------|------------------------|--------|-----------------------|----------|--------------|-------|
| MEDICAL DOCTOR | PHARMACIST/ CHEMIST | CLINIC | TRADITIONAL HEALER | HOSPITAL | CHIROPRACTOR | OTHER |
|-------------------|------------------------|--------|-----------------------|----------|--------------|-------|

10. Do you have medical aid?

| | |
|-----|----|
| YES | NO |
|-----|----|

11. How satisfied were you with the care you received from this person the last time you consulted with them?

| | | | | |
|-------------------|-----------|---------|-------------|---------------------|
| VERY SATISFIED | SATISFIED | NEUTRAL | UNSATISFIED | VERY UNSATISFIED |
|-------------------|-----------|---------|-------------|---------------------|

12. Are you covered by Medical Aid?

| | |
|-----|----|
| YES | NO |
|-----|----|

SECTION B: GENERAL KNOWLEDGE OF CHIROPRACTIC

1. Have you ever heard of Chiropractic? **If YES, please proceed to question 2. If NO, please proceed to question 3.**

| | | |
|-----|----|--------|
| YES | NO | UNSURE |
|-----|----|--------|

2. If you have heard about it, where did you hear about it?

| | | | | |
|-------|---------|--------|--------|-------|
| MEDIA | FRIENDS | FAMILY | DOCTOR | OTHER |
|-------|---------|--------|--------|-------|

3. Would you be interested in finding more about Chiropractic?

| | | |
|-----|----|-------|
| YES | NO | MAYBE |
|-----|----|-------|

4. Have you ever been treated by a Chiropractor? **If YES, proceed to question 5. If NO, please proceed to question 9.**

5. If yes, who referred you to the Chiropractor?

| | | | | | |
|-------------------|------------------------|--------|---------|-----------------------|-------|
| MEDICAL DOCTOR | CHEMIST/ PHARMACIST | FAMILY | FRIENDS | PERSONAL KNOWLEDGE | OTHER |
|-------------------|------------------------|--------|---------|-----------------------|-------|

6. Would you recommend Chiropractic to anybody else?

| | | |
|-----|----|-------|
| YES | NO | MAYBE |
|-----|----|-------|

7. How satisfied were you with the care you received from the Chiropractor?

| | | | | |
|------------------|-----------|---------|-------------|---------------------|
| VERY SAISFIED | SATISFIED | NEUTRAL | UNSATISFIED | VERY UNSATISFIED |
|------------------|-----------|---------|-------------|---------------------|

8. Did the Chiropractor explain how chiropractic works?

| | | | |
|-------------------------|----------|------|------------|
| YES, A GOOD EXPLANATION | NOT MUCH | VERY | NOT AT ALL |
|-------------------------|----------|------|------------|

9. Have other members of your family consulted with a chiropractor?

| | | |
|-----|----|----------|
| YES | NO | NOT SURE |
|-----|----|----------|

10. Do you know if there are any training courses available in South Africa for people to become chiropractors?

| | | |
|-----|----|--------|
| YES | NO | UNSURE |
|-----|----|--------|

11. How do you think it takes to qualify as a chiropractor?

| | | | | | |
|--------|---------|---------|---------|---------|----------|
| 1 YEAR | 2 YEARS | 3 YEARS | 4 YEARS | 5 YEARS | 6 YEARS+ |
|--------|---------|---------|---------|---------|----------|

12. What level of education is required to practice as a chiropractor in South Africa?

| | | | | | |
|------|---------|--------|---------|---------|-----------|
| NONE | DIPLOMA | DEGREE | HONOURS | MASTERS | DOCTORATE |
|------|---------|--------|---------|---------|-----------|

13. Are chiropractors required to undergo any work experience training program?

| | | |
|-----|----|--------|
| YES | NO | UNSURE |
|-----|----|--------|

14. Are you aware of chiropractic training institution at the Durban University of Technology?

| | |
|-----|----|
| YES | NO |
|-----|----|

15. Are you aware of existence of Chiropractic Day Clinic at the Durban University of Technology? **If YES, please proceed to question 16. If NO, please proceed to question 19.**

| | | |
|-----|----|--------|
| YES | NO | UNSURE |
|-----|----|--------|

16. Have you ever been to the Chiropractic Day Clinic?

| | |
|-----|----|
| YES | NO |
|-----|----|

17. Would you consider coming to the Chiropractic Day Clinic as a patient, now that you are aware it exists?

| | | |
|-----|----|-------|
| YES | NO | MAYBE |
|-----|----|-------|

SECTION C: PERCEPTION OF CHIROPRACTIC

1. Do you think Chiropractic has any scientific basis?

| | | |
|-----|----|--------|
| YES | NO | UNSURE |
|-----|----|--------|

2. Do you consider chiropractic to be a legitimate form of medicine?

| | | |
|-----|----|-------|
| YES | NO | MAYBE |
|-----|----|-------|

3. Do you think that the public accept chiropractic as a form of medical treatment? **If YES, please proceed to question 5. If NO, please proceed to question 4.**

4. Mark the block that you think provide the best reason why chiropractic is not accepted by the public.
(You may mark more than one)

| | |
|---|--|
| LACK OF AWARENESS OF CHIROPRACTIC | |
| LACK OF UNDERSTANDING OF HOW CHIROPRACTIC WORKS | |
| CHIROPRACTIC TREATMENT CAN BE HARMFUL | |
| INADEQUATE MARKETING OF CHIROPRACTIC | |
| CHIROPRACTIC ARE NOT WELL TRAINED | |
| ITS AFFECTIVENESS IS UNPROVEN | |
| CHIROPRACTIC IS UNAFFORDABLE | |
| CHIROPRACTIC DOES NOT WORK | |

| | |
|-------|--|
| OTHER | |
|-------|--|

If other, please specify:

5. Chiropractic treatment can be useful in which of the following complaints?
(You may mark as many as you choose)

| | |
|-----------------------|--|
| ANY DISEASE DISORDER | |
| HEADACHES | |
| MECHANICAL INJURY | |
| EMERGENCY CARE | |
| INFLAMMATORY DISORDER | |
| HIV/AIDS | |
| TURBECULOSIS (T.B.) | |
| MUSCULAR PROBLEMS | |
| SPORTS INJURIES | |
| DON'T KNOW | |
| OTHER | |

6. Is there a difference between chiropractic and

| | YES | NO | DON'T KNOW |
|-----------------|-----|----|------------|
| MEDICINE | | | |
| PHYSIOTHERAPY | | | |
| ACUPUNCTURE | | | |
| SOMATOLOGY | | | |
| MASSAGE THERAPY | | | |

THANK YOU FOR PARTICIPATING IN THIS STUDY

Appendix F**Post Focus/ Prepilot group questionnaire****PERCEPTIONS TOWARDS CHIROPRACTIC QUESTIONNAIRE**

(Modified from Marcquet, 2007 and Small, 2004)

Instructions to all participants on how to complete the questionnaire

Questions on DUT students' perceptions of chiropractic

Instructions:

1. This questionnaire consists of 10 pages. Please answer all the questions on all the pages.
2. Please read each questions carefully before you answer it.
3. Please mark the appropriate box in each question that best describes your answer with an X or a tick (✓).
4. Your answers will be regarded strictly and confidential.

NB: Only South African students are allowed to take part in this study.

SECTION A: PERSONAL INFORMATION

1. Gender

| | |
|--------|------|
| FEMALE | MALE |
|--------|------|

2. How old were you at your last birthday? _____ years.

3. Ethnicity (For statistical purposes only)

| | | | | |
|---------|----------|--------|-------|-------|
| AFRICAN | COLOURED | INDIAN | WHITE | OTHER |
|---------|----------|--------|-------|-------|

If other, please specify _____

4. What is your principal home language?

5. Rate your level of English, for understanding and speaking it?

| | | | |
|------|------|------|-----------|
| POOR | FAIR | GOOD | EXCELLENT |
|------|------|------|-----------|

6. Where do you come from?

| | | |
|------------|----------|--------|
| RURAL AREA | TOWNSHIP | SUBURB |
|------------|----------|--------|

7. Where are you staying while you are studying?

| | |
|-------------------|--|
| Flat | |
| Home | |
| DUT Residence | |
| Private Residence | |
| Commune | |

8. How do you get to DUT?

| | | | | | |
|------|-----|------|--------------|---------|-------|
| WALK | CAR | LIFT | TAXI/ BUS | BICYCLE | OTHER |
|------|-----|------|--------------|---------|-------|

9. Which of the following qualification are you registered for?

| | | | | |
|--------------------------------------|--|----------------------------------|----------------------------------|--------------------|
| 1 YEAR NATIONAL CERTIFICATE | 2 YEAR NATIONAL HIGHER CERTIFICATE | 3 YEAR NATIONAL DIPLOMA | BACHELOR'S DEGREE (B.Tech) | MASTER'S DEGREE |
|--------------------------------------|--|----------------------------------|----------------------------------|--------------------|

10. Did you go to a career fair while at school? **If NO please proceed to question 12, if YES proceed to question 11.**

| | |
|-----|----|
| YES | NO |
|-----|----|

11. If yes, where was the career fair?

| | | | |
|-----|------|--------|-------|
| DUT | UKZN | SCHOOL | OTHER |
|-----|------|--------|-------|

If other, please specify _____

12. Which Faculty are you registered with?

| | |
|-----------------------------------|--|
| ARTS AND DESIGN | |
| HEALTH SCIENCES | |
| ACCOUNTING | |
| MANAGEMENT SCIENCES | |
| APPLIED SCIENCES | |
| ENGINEERING AND BUILT ENVIRONMENT | |

13. At which campus do you attend most lectures?

| | |
|-------------------|--|
| STEVE BIKO | |
| M L SULTAN | |
| BRICKFIELD CAMPUS | |
| CITY CAMPUS | |
| INDUMISO SITE | |
| RIVERSIDE SITE | |

14. Did you take part in DUT activities such as orientation helping or career fairs?

| | |
|-----|----|
| YES | NO |
|-----|----|

15. Do you have access to the DUT website?

| | |
|-----|----|
| YES | NO |
|-----|----|

16. Do you read the Conduit (DUT newsletter)?

| | |
|-----|----|
| YES | NO |
|-----|----|

17. Are your parents employed?

| | |
|-----|----|
| YES | NO |
|-----|----|

18. Do you have part time job?

| | |
|-----|----|
| YES | NO |
|-----|----|

19. Who pays your tuition fees?

| | |
|------------------------|--|
| PARENTS | |
| EDU-LOAN | |
| NFSAS | |
| FULL-COVER BURSARY | |
| PARTIAL- COVER BURSARY | |
| SELF | |
| OTHER | |

If other, please specify, _____

20. Are you covered by medical aid?

| | |
|-----|----|
| YES | NO |
|-----|----|

21. In your opinion, which health care provider is best suited to treat the following conditions?

| CONDITIONS: | DENTIST | CHIROP- RATOR | GP | HOMOE- OPATH | PHARM- ACIST | PHYSIOTH- ERAPIST | SPECIALIST | TRADITIONAL HEALER |
|---|---------|------------------|----|-----------------|-----------------|----------------------|------------|-----------------------|
| ALLERGIES | | | | | | | | |
| APPENDICITIS | | | | | | | | |
| ARTHRITIS/ PAINFUL JOINTS | | | | | | | | |
| ASTHMA/ WHEEZING | | | | | | | | |
| CHRONIC (LONG TERM) PAIN | | | | | | | | |
| COLIC IN BABIES | | | | | | | | |
| DIABETES MELLITUS/ SUGAR PATIENTS | | | | | | | | |
| FRACTURES | | | | | | | | |
| GASTRO INTERSTINAL PROBLEMS/ STOMACH PROBLEMS | | | | | | | | |
| HEADACHES | | | | | | | | |
| LIGAMENTS/ JOINT SPRAINS | | | | | | | | |
| LOW BACK PAIN | | | | | | | | |
| MUSCULAR PAIN | | | | | | | | |
| NECK PAIN | | | | | | | | |
| OSTEOPOROSIS | | | | | | | | |
| PINS AND NEEDLES NUMBNESS IN YOUR ARMS | | | | | | | | |
| VIRAL INFECTION (e.g. FLU) | | | | | | | | |
| SORE THROAT | | | | | | | | |
| SHOULDER PAIN | | | | | | | | |
| SPORTS INJURIES | | | | | | | | |
| POST JOINT INJURY REHABILITATION | | | | | | | | |
| WHIPLASH INJURIES | | | | | | | | |

22. Who would you consult for the following conditions?

| <u>CONDITIONS:</u> | DENTIST | CHIROP- RATOR | GP | HOMOE- OPATH | PHARM- ACIST | PHYSIOTH- ERAPIST | SPECIALIST | TRADITIONAL HEALER |
|---|---------|------------------|----|-----------------|-----------------|----------------------|------------|-----------------------|
| ALLERGIES | | | | | | | | |
| APPENDICITIS | | | | | | | | |
| ARTHRITIS/ PAINFUL JOINTS | | | | | | | | |
| ASTHMA/ WHEEZING | | | | | | | | |
| CHRONIC (LONG TERM) PAIN | | | | | | | | |
| COLIC IN BABIES | | | | | | | | |
| DIABETES MELLITUS/ SUGAR PATIENS | | | | | | | | |
| FRACTURES | | | | | | | | |
| GASTRO INTERSTINAL PROBLEMS/ STOMACH PROBLEMS | | | | | | | | |
| HEADACHES | | | | | | | | |
| LIGAMENTS/ JOINT SPRAINS | | | | | | | | |
| LOW BACK PAIN | | | | | | | | |
| MUSCULAR PAIN | | | | | | | | |
| NECK PAIN | | | | | | | | |
| OSTEOPOROSIS | | | | | | | | |
| PINS AND NEEDLES NUMBNESS IN YOUR ARMS | | | | | | | | |
| VIRAL INFECTION (e.g. FLU) | | | | | | | | |
| SORE THROAT | | | | | | | | |
| SHOULDER PAIN | | | | | | | | |
| SPORTS INJURIES | | | | | | | | |
| POST JOINT INJURY REHABILITATION | | | | | | | | |
| WHIPLASH INJURIES | | | | | | | | |

23. Does your medical aid cover chiropractic treatment?

| | | |
|-----|----|--------|
| YES | NO | UNSURE |
|-----|----|--------|

SECTION B: GENERAL KNOWLEDGE OF CHIROPRACTIC

1. Have you ever heard of Chiropractic? **If YES, please proceed to question 2. If NO, please answer question 3 ONLY and proceed to Section C.**

| | | |
|-----|----|--------|
| YES | NO | UNSURE |
|-----|----|--------|

2. If you have heard about it, where did you hear about it?

| | | | | |
|-------|---------|--------|--------|-------|
| MEDIA | FRIENDS | FAMILY | DOCTOR | OTHER |
|-------|---------|--------|--------|-------|

If other, please specify _____

3. Would you be interested in finding out more about Chiropractic?

| | | |
|-----|----|-------|
| YES | NO | MAYBE |
|-----|----|-------|

4. How would you rate your level of knowledge about chiropractic profession?

| | | | |
|------|------|------|-----------|
| POOR | FAIR | GOOD | EXCELLENT |
|------|------|------|-----------|

5. Have you ever been treated by a Chiropractor? **If YES, proceed to question 6. If NO, please proceed to question 10.**

| | |
|-----|----|
| YES | NO |
|-----|----|

6. If yes, state where? _____ and who referred you to the Chiropractor?

| | | | | | |
|-------------------|------------------------|--------|---------|-----------------------|-------|
| MEDICAL DOCTOR | CHEMIST/ PHARMACIST | FAMILY | FRIENDS | PERSONAL KNOWLEDGE | OTHER |
|-------------------|------------------------|--------|---------|-----------------------|-------|

If other, please specify _____

7. How satisfied were you with the care you received from the Chiropractor?

| | | | | |
|------------------|-----------|---------|-------------|---------------------|
| VERY SAISFIED | SATISFIED | NEUTRAL | UNSATISFIED | VERY UNSATISFIED |
|------------------|-----------|---------|-------------|---------------------|

If not satisfied, why? _____

8. Would you recommend Chiropractic to anybody else?

| | | |
|-----|----|-------|
| YES | NO | MAYBE |
|-----|----|-------|

9. Did the Chiropractor explain how chiropractic works?

| | | |
|-----------------------------|-------------------------------|------------|
| SATISFACTORY EXPLANATION | UNSATISFACTORY EXPLANATION | NOT AT ALL |
|-----------------------------|-------------------------------|------------|

If satisfactory why _____

10. Have other members of your family consulted with a chiropractor?

| | | |
|-----|----|----------|
| YES | NO | NOT SURE |
|-----|----|----------|

11. How satisfied were they with the care they received from the chiropractor?

| | | | | | |
|-------------------|-----------|---------|-------------|---------------------|-----|
| VERY SATISFIED | SATISFIED | NEUTRAL | UNSATISFIED | VERY UNSATISFIED | N/A |
|-------------------|-----------|---------|-------------|---------------------|-----|

12. Can you study chiropractic in South Africa?

| | | |
|-----|----|--------|
| YES | NO | UNSURE |
|-----|----|--------|

13. How many years of studying do you think it takes to qualify as a chiropractor?

| | |
|-----------|--|
| 1 YEAR | |
| 2 YEARS | |
| 3 YEARS | |
| 4 YEARS | |
| 5 YEARS | |
| 6 YEARS + | |
| UNSURE | |

14. What level of education is required to practice as a chiropractor in South Africa?

| | | | | | | |
|------|---------|--------|---------|---------|-----------|--------|
| NONE | DIPLOMA | DEGREE | HONOURS | MASTERS | DOCTORATE | UNSURE |
|------|---------|--------|---------|---------|-----------|--------|

15. Are chiropractors required to undergo any practical training program?

| | | |
|-----|----|--------|
| YES | NO | UNSURE |
|-----|----|--------|

16. Is there a Chiropractic Day Clinic at the following?

| | | | |
|------|-----|------|--------|
| UKZN | DUT | BOTH | UNSURE |
|------|-----|------|--------|

17. If you have an opportunity, would you consider coming to the Chiropractic Day Clinic as a patient?

| | | |
|-----|----|-------|
| YES | NO | MAYBE |
|-----|----|-------|

18. Is there a chiropractic training department at the following?

| | | | |
|------|-----|------|--------|
| UKZN | DUT | BOTH | UNSURE |
|------|-----|------|--------|

19. State if the following statements are **True or False**.

- Chiropractic profession is a legislation profession
- Chiropractors treat lower back pain
- Chiropractic and Medicine are the same
- Chiropractors are massage therapists
- Chiropractors can treat any disease
- Chiropractors do not do any surgical procedures
- There is no difference between chiropractic and homoeopathy
- Chiropractors are specialised medical doctors

| | |
|---|---|
| T | F |
| T | F |
| T | F |
| T | F |
| T | F |
| T | F |
| T | F |

| | |
|---|---|
| T | F |
| T | F |

SECTION C: PERCEPTION OF CHIROPRACTIC

1. Do you think Chiropractic is based on research?

| | |
|-----|----|
| YES | NO |
|-----|----|

2. Do you consider chiropractic to be recognised by the health department?

| | | |
|-----|----|-------|
| YES | NO | MAYBE |
|-----|----|-------|

3. Do you think that the general public accept chiropractic as a form of medical treatment? **If YES, please proceed to question 5. If NO, please proceed to question 4.**

| | |
|-----|----|
| YES | NO |
|-----|----|

4. Mark the block that you think provides the most reasons why chiropractic is not accepted by the public.
(You may mark more than one block)

| | |
|---|--|
| LACK OF AWARENESS OF CHIROPRACTIC | |
| LACK OF UNDERSTANDING OF HOW CHIROPRACTIC WORKS | |
| CHIROPRACTIC TREATMENT CAN BE HARMFUL | |
| INADEQUATE MARKETING OF CHIROPRACTIC | |
| CHIROPRACTIC ARE NOT WELL TRAINED | |
| ITS AFFECTIVENESS IS UNPROVEN | |
| CHIROPRACTIC IS UNAFFORDABLE | |
| CHIROPRACTIC DOES NOT WORK | |
| OTHER | |

If other, please specify:

5. Chiropractic treatment can be useful in which of the following conditions/aspects?

(Please mark in a appropriate box to indicate “True” or “False”)

| | True | False |
|--|------|-------|
| ANY DISEASE DISORDER | | |
| HEADACHE | | |
| JOINT INJURY | | |
| EMERGENCY CARE | | |
| INFLAMMATORY DISORDER | | |
| HIV/AIDS | | |
| TUBERCULOSIS (T.B.) | | |
| MUSCULAR PROBLEMS | | |
| SPORTS INJURIES | | |
| REHABILITATION | | |
| REPEATITIVE STRESS INJURIES | | |
| DRY NEEDLING TENDER POINTS | | |
| EXTREMITIES (i.e. shoulder, knee, elbow) | | |
| RADIOLOGY (i.e. X-RAYS) | | |
| SURGERY | | |

6. Is there a difference between chiropractic and

| | YES | NO | DON'T KNOW |
|---------------------|-----|----|------------|
| MEDICINE | | | |
| PHARMACY | | | |
| SOMATOLOGY | | | |
| TRADITIONAL HEALING | | | |
| MASSAGE THERAPY | | | |
| ACUPUNCTURE | | | |
| DENTISTRY | | | |
| PHYSIOTHERAPY | | | |
| HOMOEOPATHY | | | |

THANK YOU FOR PARTICIPATING IN THIS STUDY

Appendix G**LETTER OF INFORMATION AND CONSENT FORM****Title of the Research Study:**

The perception, knowledge and utilization of the chiropractic profession by Durban University of Technology students.

Principle Investigator/s: Melvin Ralekwa

Co- Investigator: Dr C. Korporaal

Brief Introduction and Purpose of the study:

The chiropractic health care profession is growing and becoming more popular in South Africa. This study aims to determine the knowledge and a perception of students of DUT towards chiropractic and you as a DUT students represent the future health consumer of our country. Your opinion is highly appreciated on this subject of complementary therapy.

Outline of the Procedure

Your participation in this study is highly appreciated and voluntary. If you decide to take part in this survey your answers will be completely anonymous and strictly confidential. Please complete the attached questionnaire fully, which should not take longer than **15 minutes**. Questions can be answered by placing an "X" in the block next to your answer.

Risk or Discomfort of the subject: NONE

Reason/s why the subject may be withdrawn from the study: NONE

Remuneration: NONE, participating in this study is voluntary.

Costs of the study: NONE, the participant will not be expected to cover any costs.

Confidentiality: This will be ensured as no names or any identifying information is needed on the questionnaire and the questionnaire and the informed consent will be collected in different boxes.

Research related injuries: NONE

Persons to contact in the Event of any problems or Queries: Prof N. Gwele, Dean of the Faculty of Health Sciences, Durban University of Technology: Telephone, 031 373 2404/ 2701

Statement of Agreement to participate in the Research Study:
(I,....., ID number.....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.....to my satisfaction. Furthermore, I fully understand that I may withdraw from this study at any stage without any adverse consequences and my future healthcare will not be compromised. I, therefore, voluntarily agree to participate in this study.

Subject's name (print)_____signature_____date_____
Researcher's name (print)_____signature_____date_____
Witness's name (print)_____signature_____date_____

Appendix H

Instructions to all participants on how to complete the questionnaire

Questions on DUT students' perceptions of chiropractic

Instructions:

1. This questionnaire consists of 10 pages. Please answer all the questions on all the pages.
2. Please read each question carefully before you answer it.
3. Please mark the appropriate box in each question that best describes your answer with an X or a tick.
4. Your answers will be regarded strictly and confidential.

Appendix I**Pre- test Evaluation**

1. What is your opinion of the subject matter presented in this questionnaire?
(Please mark appropriate box)

| | |
|---------------------------|--------------------------|
| 1.1 Extremely interesting | <input type="checkbox"/> |
| 1.2 Interesting | <input type="checkbox"/> |
| 1.3 Average | <input type="checkbox"/> |
| 1.4 Boring | <input type="checkbox"/> |
| 1.5 Very boring | <input type="checkbox"/> |

2. Do you think the topics raised in this questionnaire were adequately covered?

| | |
|---------|--------------------------|
| 2.1 Yes | <input type="checkbox"/> |
| 2.2 No | <input type="checkbox"/> |

3. What is your opinion about the covering letter?
(Please mark one box only)

| | |
|--------------------|--------------------------|
| 3.1 Very Clear | <input type="checkbox"/> |
| 3.2 Clear | <input type="checkbox"/> |
| 3.3 Adequate | <input type="checkbox"/> |
| 3.4 Unclear | <input type="checkbox"/> |
| 3.5 Needs revising | <input type="checkbox"/> |

4. How would you describe the instructions accompanying each of the questions?
(Please mark one box only)

| | |
|--------------------|--------------------------|
| 4.1 Very clear | <input type="checkbox"/> |
| 4.2 Clear | <input type="checkbox"/> |
| 4.3 Adequate | <input type="checkbox"/> |
| 4.4 Unclear | <input type="checkbox"/> |
| 4.5 Needs revising | <input type="checkbox"/> |

5. Was the questionnaire too long?

| | |
|---------|--------------------------|
| 5.1 Yes | <input type="checkbox"/> |
| 5.2 No | <input type="checkbox"/> |

6. What is your opinion of the wording of the questionnaire?
(Please mark appropriate box/es)

| | |
|---|--------------------------|
| 6.1 The meaning of all questions is very clear | <input type="checkbox"/> |
| 6.2 The meaning of most questions is clear | <input type="checkbox"/> |
| 6.3 There is too much chiropractic/medical jargon | <input type="checkbox"/> |
| 6.4 The questions will not be understood by lay persons | <input type="checkbox"/> |
| 6.5 The questionnaire needs to be revised because it is unclear | <input type="checkbox"/> |

If you had any difficulty answering any question/s, please write down the number/s of the question/s in the space below with a suggestion on how the question/s could be improved.

.....

.....

.....

Thank you for your most valuable time in helping me with my research project. Please be reminded that the topics discussed above are strictly confidential.

Appendix J**Letter of Permission- Vice Chancellor**

Dear Sir/ Madam

Re: Request for permission to interview students on campus during lecture time.

I am a Master's degree student of Chiropractic at Durban University of Technology. I am required to conduct a research dissertation in order to complete my Master's degree in Chiropractic. My topic is, "The perception, knowledge and utilization of the chiropractic profession by Durban University of Technology students".

I would like to request your permission to conduct my study at Durban University of Technology. My research, in the form of a questionnaire will help me establish factors that are thought to influence the perception and knowledge of this target group towards chiropractic. I require 15 minutes of lecture time during which the questionnaires will be handed out during a suitable and previously agreed upon lecture period. Completed questionnaires will be retrieved.

Participation is voluntary and refusal to participate will not result in adverse consequences of any kind.

Please contact me or Drs Korporaal and Ndlovu if require further information.

Kind Regards.

Thank you.

| | | |
|----------------------|---------------------------|---------------------|
| Researcher | : Melvin Rolekwa | 072 707 1087 |
| Supervisor | : Dr. C. Korporaal | 031 373 2611 |
| Co-Supervisor | : Dr. Z. Ndlovu | 031 373 2611 |

REPLY SLIP

I hereby grant permission for Melvin Rolekwa to perform abovementioned interview with your students at Durban University of Technology.

Signed: _____ Date: _____

Appendix K**Letter of Permission- Dean of Faculty**

Dear Sir/ Madam

Re: Request for permission to perform research in this Faculty.

I am a Master's degree student of Chiropractic at Durban University of Technology. I am required to conduct a research dissertation in order to complete my Master's degree in Chiropractic. My topic is, "The perception, knowledge and utilization of the chiropractic profession by Durban University of Technology students".

I would like to request your permission to conduct my study at your faculty. The research in the form of a questionnaire will help me establish factors that are thought to influence the perception and knowledge of this target group towards chiropractic. Upon your confirmation, 15 minute time slots will be requested and arranged with the lecturers involved and questionnaires will be handed out during a suitable lecture period and thereafter completed questionnaires will be retrieved.

Participation is voluntary and refusal to participate will not result in adverse consequences of any kind.

Your assistance in this regard is highly appreciated.

Kind Regards,

Thank you.

| | | |
|----------------------|---------------------------|---------------------|
| Researcher | : Melvin Rolekwa | 072 707 1087 |
| Supervisor | : Dr. C. Korporaal | 031 373 2611 |
| Co-Supervisor | : Dr. Z. Ndlovu | 031 373 2611 |

REPLY SLIP

I hereby grant permission for Melvin Rolekwa to perform abovementioned research on the students at Durban University of Technology.

Faculty: _____

Signed: _____ Date: _____

Appendix L**Letter of Permission- Head of Department**

Dear Sir/ Madam

Re: Request for permission to perform research at this Department.

I am a Master's degree student of Chiropractic at Durban University of Technology. I am required to conduct a research dissertation in order to complete my Master's degree in Chiropractic. My topic is, "The perception, knowledge and utilization of the chiropractic profession by Durban University of Technology students".

I would like to request your permission to conduct my study at this department. The research in the form of a questionnaire will help me establish factors that are thought to influence the perception and knowledge of this target group towards chiropractic. Upon confirmation, 15 minute time slots will be requested and arranged with the lecturers involved and questionnaires will be handed out during a suitable lecture period and thereafter completed questionnaires will be retrieved.

Participation is voluntary and refusal to participate will not result in adverse consequences of any kind.

Your assistance in this regard is highly appreciated.

Kind Regards,

Thank you.

| | | |
|----------------------|---------------------------|---------------------|
| Researcher | : Melvin Rolekwa | 072 707 1087 |
| Supervisor | : Dr. C. Korporaal | 031 373 2611 |
| Co-Supervisor | : Dr. Z Ndlovu | 031 373 2611 |

REPLY SLIP

I hereby grant permission for Melvin Rolekwa to perform abovementioned research on the students at Durban University of Technology.

Faculty: _____

Department: _____

Signed: _____ Date: _____

Appendix M**Letter of Request- Lecturer**

Dear Sir/ Madam

Re: A request for 15 minutes of your lecture period.

I am a Master's degree student of Chiropractic at Durban University of Technology. I am required to conduct a research dissertation in order to complete my Master's degree in Chiropractic. My topic is, "The perception, knowledge and utilization of the chiropractic profession by Durban University of Technology students".

I request 15 minutes of your time during your next lecture period to hand out a questionnaire to students and thereafter retrieve completed questionnaires for the use of my study.

Your assistance is highly appreciated in this regard.

Kind Regards,

| | | |
|----------------------|---------------------------|---------------------|
| Researcher | : Melvin Ralekwa | 072 707 1087 |
| Supervisor | : Dr. C. Korporaal | 031 373 2611 |
| Co-Supervisor | : Dr. Z. Ndlovu | 031 373 2611 |

REPLY SLIP

I hereby grant permission to Melvin Ralekwa to perform abovementioned research in the following lecture period.

Faculty: _____

Department: _____

Venue: _____

Time: _____

Signed: _____ Date: _____

Appendix N**Letter of approval by Ethics Committee**

DURBAN
UNIVERSITY of
TECHNOLOGY

Faculty of Health Sciences**ETHICS CLEARANCE CERTIFICATE**

| | | | |
|-------------------------|---|-----------------------------|------------|
| Student Name | Melvin Ralekwa | Student No | 20412426 |
| Ethics Reference | 043/09 | Date of ERC Approval | 04/09/2009 |
| Qualification | M-Tech Chiropractic | | |
| Research Title: | The perception, knowledge and utilization of the chiropractic profession by Durban University of Technology students. | | |

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 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| ❖ Potential psychological and physical risks have been considered and minimised | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| ❖ Provision has been made to avoid undue intrusion with regard to participants and community | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| ❖ Rights of participants will be safe-guarded in relation to: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| - Measures for the protection of anonymity and the maintenance of Confidentiality. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| - Access to research information and findings. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| - Termination of involvement without compromise | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| - Misleading promises regarding benefits of the research | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Appendix O

Permission to use a Questionnaire

Re: Request
Tuesday, October 26, 2010 1:00 AM
From:
This sender is DomainKeys verified
"tom macquet" <tom_macquet@yahoo.co.uk>
Add sender to Contacts
To:

"melvin Ralekwa" <ikobengralekwa@yahoo.com>Hello Melvin

I am happy for you to use my questionnaire for your master's degree research.
Good luck. I hope it makes your life easier.

Regards
Dr Tom Macquet

--- On Mon, 25/10/10, melvin Ralekwa <ikobengralekwa@yahoo.com> wrote:

From: melvin Ralekwa <ikobengralekwa@yahoo.com>
Subject: Request
To: tom_macquet@yahoo.co.uk
Date: Monday, 25 October, 2010, 16:29

Dr. T. Macquet.

I humbly request your permission to use the questionnaire of your research study.
My research topic is "The knowledge, perception and utilization of chiropractic profession by DUT students".

Your help is greatly appreciated,

Sincere,
Melvin Ralekwa (researcher)